MASTER THESIS

Actor network theory analysis of sport climbing tourism

The case of Siurana, Catalunya

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Introduction

Rationale

The sport of rock climbing is growing rapidly all around the world. The Outdoor Industry Association's Outdoor Participation Report for 2013 suggested that over six-and-a-half million people had participated in rock climbing in that year in the United States alone (Outdoor Industry Association, 2013). The International Federation of Sport Climbing (IFSC, 2016)—who is the leading authority and organizer of international climbing competitions—estimates that over 25 million people are climbing regularly around the globe (IFSC, 2016). Rock climbing will be featured as a trail sport at the 2020 Tokyo Summer Olympic Games, which will undoubtedly expose the sport to a wider audience than ever before.

As the sport of climbing is becoming increasingly popular, the author wonders, what impact this may have on rock climbing tourism destinations. Already, there are issues related to rock climbing tourism in the larger and more famous destinations. Siurana, in the autonomous province of Catalunya, Spain, is one such destination. Climbing tourism, and climbing tourism destinations such as Siurana, tend to fall outside of the realm of important issues to be researched, discussed, or managed by academics, or public/private sector.

This paper will attempt to show that climbing destinations that research into the management of such destinations is extremely important for the future development of not just the sport, but also the communities centred around climbing. Climbing, in a rural development context, is an extremely important economic activity, and while it will never muster the level investment as beach tourism in Barcelona, this certainly does not mean that the issues are not pressing.

This study has chosen to use the Actor Network Theory as a methodological tool to analyze the social world of sport climbing in Siurana, Catalunya. This theory has been chosen for its ability to reveal global connections between seemingly disconnected objects. The author has used this theory in an attempt to show 'how' the world climbing functions, and what are the particular implications which occur as a result of this 'how'.

Research Questions

"How can the Generalitat de Catalunya, and Visit Catalunya, positively influence the rock climbing tourism network in Catalunya?"

This question requires an understanding of the network (its actors, stakeholders, issues, an influences). Preliminary sub questions have been developed, these may evolve during the research process. These questions are subject to change as information arises.

- What 'actors' have contributed to Catalunya becoming a climbing destination?
- What roles do these 'actors' play?
- Who are the stakeholders to climbing tourism in Catalunya?
- What are the positive and negative impacts of climbing tourism in Catalunya?

- How is the supply of recreational assets developed and managed?
- What are the origin markets for climbing tourism in Catalunya?
- What is the relationship between these markets, the case study destination, and global climbing industry (equipment manufacturers, media, etc.)?

Structure

This paper will begin with a discussion of the relevant academic material which has covered the topics of rock climbing tourism, and the actor network theory (ANT). Following the literature review, the author has included a chapter about Latourian ANT, further defines ANT and clarifies the types of processes the author is looking for. A discussion of the methodological design of this study occurs after the introduction to the framework, where the authors paradigmatic stance is established, methods of data collection are covered, and the method of analysis is provided for the reader.

Following this, the author has provided a presentation of his gathered empirical material. Effectively, this section is a presentation of the work the author has performed while trying to reveal the networks which are prevalent in Siurana. This section especially reveals some of the pressures of climbing related tourism, and the issues that Siurana faces as a destination. The author uses the local actors own words and theories to present these issues based on how they see them, and asks the important question of what can be done?

Beyond this, the discussion section uses ANT specific language to analyze the gathered empirical material. The paper concludes by tying together all of the work performed by the researcher, and makes a set of recommendations based on his findings, and the suggestions made by actors about how to manage climbing tourism in Siurana.

1 Literature Review

1.1 Rock Climbing

Rock climbing is in many ways related to mountaineering, and finds its beginnings as a break off activity from mountaineering (Pomfret, 2006; Moa et al., 2002; Rickly, 2017). Rock climbing is practiced in four distinct disciplines: traditional climbing, sport climbing, aid climbing, and bouldering (Kulczycki, 2014). This paper will specifically discuss sport climbing. Rock climbing, thus far, has been investigated as an adventure tourism and recreation activity in tourism and travel literature (Albayrak & Caber, 2016). Outside of tourism literature, it has primarily it has been investigated within the context of climbing related injuries. Albayrak and Caber discuss that climbing has predominantly been grouped under "'behavioral', 'medical', and 'destination-based'" research (2016, emphasis in original, p. 282). However, this researcher finds that within the context of rock climbing and tourism, no study—to date—has shown a strong understanding of rock climbing tourism destinations and the peculiar ways in which they develop, and become popular tourist destinations. Rock climbing can be considered a 'hard' adventure activity, which involves high levels of risk, advanced skills and commitment (Schott, 2007, in Albayrak & Caber, 2016). It could also be considered a form of Special Interest Tourism (SIT) or Serious Leisure tourism (SL) (Trauer,

2004) given its 'hard' and 'specialized nature. Trauer defines serious leisure tourism as "the pursuit of an amateur, hobbyist, or volunteer activity, that is sufficiently rewarding despite the costs, such that participants find a career in the acquisition and expression of its special skills and knowledge" (2004, p. 189). Truaer (2004) describes that part of the defining features of serious leisure are that participants will show high investment, and sustained commitment to developing new skills.

The most recent and relevant works on rock climbing tourists originate from consumer-theory perspectives with motivation and attributes being the primary units of analysis (Ackerman, 2004; Cayber & Albayrak, 2016) place meanings (Kulczycki, 2014), place preferences and place meaning (Gerard et al., 2004), place attachments (Gerard et al, 2004), conditions for site selection (Attarian et. Al, 2012) for example. Place meanings have been described as the collective thoughts, feelings and emotions which individuals have towards a place (Kulczycki, 2014). Kulczycki goes further to describe a 'place' as something which is "associated with meanings that are created, explained and interpreted by people using those spaces" (Kulczycki, 2014). An ethnographic approach to understand the conflicts between groups of climbers who followed different philosophies, was applied by Bogardus (2012). Her study aimed to understand the conflicts related to the treatment of climbing resources (cliff faces) by different interest groups. Bogardus provides one of the few studies which shows a fundamental understanding of the internal ethics of climbing destination developers, yet does not go into great lengths to discuss tourism in relation to her research.

Economic theory has been applied to rock climbing recreation, although not always within a tourism context. Examples of this are Scarpa et al. (2004) destination choice modelling, non-market valuations of access to climbing sites (Grijalva et. Al., 2002) and contingent-behaviour methods applied to understand hypothetical scenarios which affect access to climbing sites (Grijalva, et. Al., 2002), and the concept of 'rationing' resource access to mountaineering sites in Scotland (Hanley et al., 2002) due to their immense popularity. Many other studies have been performed similar to the above, what exists here merely serves as a provisional sample.

Two major economic impact studies using the Travel Cost Method, have been performed to date. Morris (2007) conducted a study surrounding rock climbing tourism's contributions to the local economy in Squamish, BC, Canada—finding the overall impact of visitor spending to be roughly $1.4 million Canadian for the 2004 summer season. While Maples et al. (2015), found that climbing tourists to the Red River Gorge in Kentucky, contributed $3.6 million US to the local economy, and provided 39 full time jobs each year in a rural area with high poverty rates. They recommend using rock climbing as a "renewable economic resource" and "strongly recommend that local policy increase access to climbing areas to further increase climbers' economic impact" (2015, p. 11). Both of these are unpublished studies; however, they reveal a common thread in rock climbing tourism studies—climbing has a powerful impact on rural communities, and often provides an important and vital source of income for the community.

Concerns about the negative impacts of rock climbing on the local environment have been explored more recently. Clark & Hessl (2015) investigated the impacts of rock climbing on cliff face vegetation, while Holzschuh (2016) calls for an urgent need for future research in this growing area of concern.

Environmental perspectives of climbers in relation to the impacts of climbing have been explored by researchers (Thompson et. Al., 2008), reactions to proposed regulations stemmed from such impacts (Siderelis & Attarian, 2004), and attitudes of climbers towards impacts on the resource base (Monz et al., 2005), are further areas of investigation in relation to environmental issues. However, no tourism study has discussed some of the most pressing issues in climbing today—the reality of outdated fixed hardware in cliff faces that is in dire need of replacement. Beyond this, studies have shown the concerns surround rock climbing access to natural spaces, and spaces on private land (Shaw & Jakus, 2006). There has been a major effort to protect access to climbing areas by groups such as the Climbers Access Fund in the US, and in Europe such duties are primarily performed by national climbing federations or alpine associations (Mao et al., 2002).

Siderelis & Attarian (2012) investigated primary factors which led to the climbing sites being 'desirable'. They note four elements in particular: environmental and natural conditions (climate and weather), climbing site conditions (variety, number and difficulty of climbs), social conditions such as crowding, and finally management conditions (regulations, access, facilities). This opens an interesting topic which, thus far, has been missed by the academic community—management conditions particularly. Rock climbing destinations do not always have 'management conditions' or management groups, in fact, the threat of regulations and the need to 'manage' climbers or climbing resources are new challenges which climbing destinations face today as a result of tourism. They further note that 'practitioners' "(e.g. climbers, guides, university/college outdoor program providers, climbing gyms, and other leisure service organizations)" have normally shared in management responsibilities (Siderelis & Attarian, 2012, p. 57). They note that practitioners contribute by writing guidebooks, creating websites, building trails, etc. While such groups may help in some way to 'manage' the resources, we still do not understand who develops the resources in the first place. Furthermore, from a tourism perspective, it is essential to understand how participants are being recruited into the climbing community to even become climbing tourists in the first place. Why are there so many climbing tourists?

Siderelis and Attarian (2012) mention the 'community' or social elements related the choice of a destination, however in this category they only mention 'crowding'. What they miss in the social category, are the social elements of a place such as reputation, or as the climbing community would refer to it as—style. Destinations have a certain reputation, or style, which is a combination of the local rock features, as well as the social ethics, or practices of the local climbing developers (e.g. preference for producing scary routes, or emotionally committing routes). They also note that the 'difficulty' of a climbing route is "an important characteristic that attracts climbers to a particular area" (2012, p. 47), the author would go one step further to suggest that the desire to achieve a new technical ability level, can even be a motivation for the entire trip itself.

Moa et al., (2002) have broadly described five major trends occurring in mountain sports tourism (including climbing) today. The trends they discuss are 1) increased development of individual sports which they called 'neo-individualism', 2) the diversification of participation models, 3) exaggeration of segmentation of disciplines e.g. mountaineering splintering into multiple distinct disciplines or 'subworlds' (Bogardus, 2012), 4) adaptation of sports to urban life e.g. indoor climbing

centres, 5) the development of mythology of adventure—images of performance, dynamism, and challenge (Moa, et al., 2002, p. 27). The impacts of 'urbanization' of mountain spaces is indeed an interesting process. They discuss that urban climber's attitudes are more oriented towards athletic performance, rather than adventure or risk. As urban climbers have demanded more safety requirements and predictability this has in turn demanded increased management and climbing destinations are evolving in relation to this new reality, in a "gradual recomposition of the mountain tourism landscape" (Moa et al., 2002, p. 29). Beedie & Hudson (2003) described this phenomena in mountain spaces as 'tourism enclaves', the process of mountain spaces becoming increasingly urbanized to suit the needs of tourists.

Albayrak & Caber published twice in 2016 while researching the destination of Geyikbayiri in Turkey. They covered 'push' and 'pull' motivations for climbers, and site attributes which influence destination choice. Both studies build upon the academic understanding of climbing tourist's consumer behavior, however in some senses lack a serious 'insiders' understanding of the world of climbing. For example, they missed the influence that groups have on climbing tourism (e.g. a group of climbers traveling together). One participant from Kulczycki's research reveals the role of the group in making travel decisions.

> "my friend kind of said he wanted to go to Joshua Tree but then he's like 'You guys, I'm not going to Joshua Tree anymore, I'm going to go to Bishop' and then my other friend Ritchie was just like 'You're thinking of going to Bishop when?' and he's like 'In January that's when I'm going to Bishop' and I was like 'Oh man if you guys are going then I'm… going too'…" (Kulczycki, 2014, p. 12).

Such a comment shows how influential groups of climbing friends can be on travel decisions, which is something that other studies thus far have failed to capture. Caber & Albayrak also seem not to have a firm grasp on 'who' does the managing of the destination often referring vaguely to 'authorities of destination management' (2016, p. 292). Who are these mysterious 'authorities' to which they refer?

Nonetheless, Caber and Albayrack do bring vital statistics into understanding how climbers consumer climbing vacations. For example, they found the average trip length was 8-14 days (46.9%), and that up to 33% of climbers had visited the destination before (Albayrak & Caber, 2016). However, in a somewhat contradictory manner, they then go on to say that "rock climbers are not keen on revisiting the same destination" (2016, p. 83). As a climber himself, the author can refute such a claim, as most climbers tend to be repeat visits to a destination for a variety of reasons (as it will be shown). Rickly (2012) has similar findings with her interview participants, and discusses that some climbers have annual 'circuits' which they repeat year-in and year-out. These climbers, however, are self prescribed 'dirtbags' an endearing term used in the climbing community to signal a dedicated climber who prescribes to a full time climbing lifestyle, often living in camperized vehicles to facilitate year round travel. She notes that some of her interview participants have been living with such arrangements for over five years. This is an issue in climbing tourism which is awfully peculiar to climbing. It is becoming increasingly popular for climbers to completely check out of society, to live full time as a climber. Climbing destinations are full of camperized vehicles,

which are extremely difficult to manage and control, were these people camp, how they manage their waste, and so fourth.

Ackerman suggests six motivational components for climbing participation: sensation seeking, self-efficacy, control, escape, social and finally competition (Ackerman, 2004, p. 12). While Kulczycki (2014) found that climbers tend to associate eight different themes or meanings with climbing areas: mecca, variety of climbs, social interaction, destination attributes, access, exploration, the opportunity for learning, and finally escapism. Woratschek (et al., 2007) performed a study on rock climbing tourists, and divided their climbers into four groups: 'loyal scene climbers' (loyal to the destination), 'adventure climbers' (preference for travel and new places, driven by adventure), 'novelty seeking tourists' (seeking novel destinations, status, recognition), and 'sport and leisure tourists' (not necessarily climbers). They found eight different motivations which they theorized were primary motives for climbing tourism; destination novelty seeking, climbing tourism infrastructure, non-climbing sport and leisure activities, climbing scene venue, climbing novelty seeking, climbing conditions, quietness and recreation, and reclusiveness (Woratschek et al., 2007, p. 14). Shuster (et al., 2001, in Ackerman, 2004, p. 6) note that climbing participation in the US has increased four-fold over the last 15 years. However, no discussion is given as to why this is happening. In order to fully understand climbing tourism, academics need to understand why so many people are "becoming" climbers, after all is it impossible to be a climbing tourist, unless you "are" a climber in the first place.

Caber and Albayrak (2016) also conclude that rock climbing tourists' 'recognition' push motivation is low, which they suggest shows that these tourists are not attempting to 'prove' anything to others. However, this is a finding which the author will also call into question. Entire websites (such as www.8a.nu) exist where climbers can 'compete', compare, and discuss routes they've climbed, furthermore, any dedicated climber will know that the most widely discussed things in climbing are grades, bolts/ethics, and climbing achievements. 'Sensation seeking' and the 'need for achievement', as well as 'physical self-perception' have been discussed as main motives for participation in climbing tourism (Caber and Albayrak, 2016). From a 'performance-turn' perspective (Edensor, 2000; Bærenholdt & Haldrup, 2006; Crouch, 2000; Rickly, 2017), rock climbing tourism is an especially interesting area of investigation due to the embodied, sensuous experiences of climbing tourists (Crouch, 2000). As will be discussed, climbing tourists, must repeat the experiences memorialized on routes by the developers, causing the physical sensations of fear, anxiety, heightened awareness, or excitement as intended by the developers. The 'performance-turn "has shifted the focus of research away from one-dimensional narratives" (Johanesson, 2005, p. 136) realizing that tourism destinations are not tourism destinations are not merely 'containers' of consumable objects, which are all experienced in the same way. Rather, tourism destinations are perceived in different ways, by different groups with internal subjectivities. Rickly (2012) discusses 'authenticity' in climbing, and debates that authentic experiences arise out of a multiplicity of subjective sensations, and intersubjective relationships between the elements which make climbing happen (bodies, social space, the physical environment, etc.).

Caber and Albayrak have increased our academic knowledge in regard to climber's travel consumption behavior. Yet, a more in-depth description of the climber could help us to understand more succinctly, the fanaticism of this group. Climbers train extensively in preparation for their holidays, that they may achieve the loftiest goals possible while traveling (in terms of technical grade achievements). Here Heywood (2006) provides a description of such fanaticism shown by top climbers in the climbing documentary film Hard Grit. This author will note, however, that the description below cannot only be limited to 'top' climbers, as such regimes have become normalized within the climbing community across a wide range of ability levels.

> "What we do not see or hear much about in the film is the systematic, sometimes obsessive training, dieting, and flexibility regimes in which almost all of these top climbers engage: the use of indoor climbing and bouldering walls, campus boarding, weights, the rigorous control of calories, backed up by both 'scientific' training ideas (emanating from athletics and gymnastics) and more 'spiritual' or 'alternative' beliefs about the body and its performance, for example, yoga, tai chi, martial arts, and so on." (Heywood, 2006, p. 460, emphasis in original).

Much of a climber's day in the destination is not spent climbing (Rickly, 2017). Yet climbers are continuously immersed in the social world, and thus spend a great deal of time conversing about climbing. Climbers will discuss how to overcome difficult sections of a climb via verbal descriptions and mimicking movements which climbers refer to as 'beta' (Rickly, 2017). They will also discuss 'projects', climbs which require multiple attempts. Climbers can often remember every hand hold, foothold, and movement from the beginning to the end of a climb which they are 'projecting'. They develop a specific choreography to the movements which they discover while repeatedly trying a climb in a process known as 'working the route' (Rickly, 2017). Climbers will continue to try their projects until they are able to climb the entire route without falling, or resting on the rope. Once completed, they will be able to claim an ascent of the route. Climbers have names for specific types of holds and movements, technical practices, rock features, or equipment such as: 'a drop-knee', 'crimp', 'sloper', 'chains', 'gri-gri', and so fourth. Such 'infralanguage' (Rossiter, 2007) allows climbers to transmit information about climbs amongst each other. The desire to find and climb hard projects, is one of the most important motivators for sport climbing tourism.

Rossiter (2007) has used the Actor Network Theory to describe some of the inner social workings of the world of rock climbing.

> A cliff is transformed into climbs through culturally specific ways of imagining (self and nature) enacted by historically emergent bodies […] and then document their attempts in guidebooks and magazines that circulate as authorised knowledge […] It is argued that rock climbing may be fruitfully understood as a network of interrelations between humans, within humans, between humans and nonhuman natures (the latter including rocks, cliffs, vegetation, water, and animals), and between humans and other nonhumans (e.g., technologies, objects, and texts). Rossiter, 2007, p. 293.

Rossiter discusses how the climbing community claims objects, such as a cliff face, for their own subjective practices "after new cliffs are discovered and developed and named, they officially become a new area" (Rossiter, 2007, p. 296). She discusses how route developers, in the desire to be memorialized in guidebooks as the first ascensionist, may be secretive about new routes or areas they are developing in fear that someone may climb them first.

Rossiter (2007) and Bogardus (2012), provide the greatest insight into the culture and ethics of new route developers in the climbing community. A description of the process of new route development, and some of the ethical considerations can be found below:

> "New climbs may require "cleaning"—plants ripped out, moss or fungus wire-brushed away, for example. Sometimes bolts are drilled into cliffs to provide protection. The initials of a climb (each climb is named by the first ascensionist) are sometimes painted or otherwise marked at the bottom of the climb. Occasionally rocks are chipped to make artificial holds, although this practice is usually strongly condemned […] Modes of defacement are something that climbers debate; they question each other about the use of chalk and bolts and understand this as the intracommunal determination of climbing ethics." (Rossiter, 2007, p. 298).

This discussion shows the tremendous preparation and work that goes into developing new climbing areas/routes. This is normally done by ambitious local climbers who donate their own time to develop the route, money to purchases the necessary fixed hardware, and finally to take the 'risk' to be the first. Because of this huge burden, the 'style' in which the 'first-ascensionist' (as they are referred to in the climbing community, or also 'developer/s') is memorialized on the cliff. According to Bogardus a 'first-ascent' "ranks as one of the most prestigious achievements in rock climbing" (2012, p. 289). The climbing community respects 'how' the climber developed the route and climbed it first, and will not change or alter the route unless the developer agrees. This may not seem important, however, when a developer chooses to make a route risky and dangerous (by placing fewer or no expansion bolts for example) this decision means that all climbers who follow must take, and perform the same risks. Often, a core group of developers will be responsible for the majority of the routes in a destination—creating a collection of routes all developed with similar ethics. The ideologies, and attitudes this group has towards, risk, and acceptable levels of defacement of the rock (among other things), can create entire destinations based on this particular brand of ethics or values which the developers paint the landscape with. Such values and ethics give a climbing destination its character, or 'style' as climbers often refer to it as, which effectively is the destinations reputation. Climbing destinations become known as 'scary', 'bold', 'run-out', etc., based on such internal cultural ethics of the local climbing community.

Climbing can be understood as "the production of new spaces" (Rossiter, 2007, p. 303). Rossiter's work helps to reveal some of 'how' a climbing destination develops, and the internal ethics of the developers themselves—which as both her and Bogardus (2012) discuss are often the 'hard-centre' of a destination providing both the production of the spaces, yet also defining local traditions, ethics, and practices in the destination. Bogardus discusses some of the attitudes towards risk, safety and the growing trend towards accessibility in climbing noting that there is an ever present "tension between accessibility and exclusivity" as old and new ethics of practice clash with one another (Bogardus, 2012, p. 284).

Rossiter comments, that, although it may seem climbing is about purely connecting with nature, "these relationships are thoroughly mediated by other nonhumans: ropes, boots, helmets, protection devices, chalk, special clothes, and so on" (2007, p. 301). The rock itself has agency, creating a set of conditions which climbers must overcome either physically/mentally or with the use of material components (or materialities) which have been designed specifically to tackle such realities, e.g.

bolts, ropes, and other such equipment (Rickly, 2017). Such objects allow climbing to occur. In another sense, climbers are not merely engaging with nature, they are also engaging just as much with the cultural elements of the activity, and especially with metaphysical objects central to the community such as technical climbing grades, language and so fourth. Rickly writes that the bodies of climbers are both "active in the production of space and produced by space, and as a result, subject to the determinants of space" (2017, p. 71). Climbers both shape the space physically by altering the nature of the cliff face, and also conceptually, by subjectifying the cliff faces, giving names, grades, and histories to a cliff face, incorporating it into the world of climbing as an important physical, and metaphysical object. In turn, climbers themselves are also produced by the space, the very peculiarities of the mountain environment, has demanded that climbers develop certain techniques, abilities, and ethics made to suit the realities of climbing spaces. She further notes that through spatial practice, a society produces its space through processes of production and reproduction, characteristics emerge out of such patterns and space eventually comes to be perceived in relation to the subjectivities of the social formation, leading to the 'conceptualization' of space (Rickly, 2017). She further describes how the body contains 'sensuous knowledges', of movements, techniques, but also of something like climbing grades—a climber's body is familiar with how difficult a climb of a certain grade may 'feel'. Climbers debate grades ceaselessly, and entire website are dedicated to such debates about whether some climbs are 'hard' (difficult) or 'soft' (easier) for the assigned technical grade.

Climbing areas are "complex spaces that are at once technocultural, material, natural, disciplinary, resistant, and discrete yet constantly changing" (Rossiter, 2007, p. 303). The world of climbing is trending generally towards ideologies centred around accessibility. This is in part due to the activity becoming increasingly commercialized driven mostly by outdoor brands (Bogardus, 2012; Moa et al., 2002). The transition has not been peaceful as the activity finds its roots in the stoic and bold ethics of mountaineering. Bogardus notes that older, more traditional climbing developers tend to prefer and celebrate 'bold' and risky climbing ethics (2012). However, the trend is changing, and it is important, for the sustainable practice of this activity, to understand why. This trend in climbing is in part due to tourism pressures, as climbing consumers are not willing to accept the same degree of risk as those 'hard centre' developers. Yet there are other drivers of this trend, which will be discussed in time.

Bogardus describes the discussion in the climbing community around 'bolts' (expansion bolts), presenting a term used in the climbing community 'Bolt Wars'.

> "In effect Bolt Wars are a battle for control of cliffs, most of which climbers do not own. Bolts are a type of safety equipment that climbers permanently place in holes drilled into the rock so that they can clip their safety rope into an eye or ring on the end of the bolt to hold them in the event of a fall. The Bolt Wars comprise ideological disagreements over where, how, and when bolts should be placed, replaced, or removed and whether bolts should be used at all on cliffs." Bogardus, 2012, p. 284.

Bogardus quotes Taylor (2010, p. 270), "no sport has had an issue that matches "climbers' fixation with bolts." (in Borardus 2012, p. 286). Bolts are the central and most important object to the world of sport climbing, and their use combined with the modern ethics in sport climbing development, are

key controversies which helped to create the distinction between 'sport climbing' and all other forms of climbing.

Moa et al., (2002) described the outdoor adventure sporting communities as 'tribes' alluding to the groups sharing distinct cultural/ethical values idiosyncratic to their practices. While Bogardus (2012) used the 'social worlds' perspective to describe climbers. There are, according to Bogardus, three processes which social worlds are characterized by: intersections with other social worlds, segmentation into subworlds, and authenticity and legitimation (2012, p. 287). She shows how the technological advancements of sport climbing disrupted traditional ethics:

> "The development of different styles and practices […] conflict with those of the older sport. In rock climbing, new styles and ideologies arose from technological improvements in climbing gear [e.g. bolts] Nearly every significant development in equipment led to vigorous debates […] Climbers' ideological differences over the effects of technology led to the segmentation of the rock climbing social world into subworlds of different forms of climbing." (Bogardus, 2012 p. 289/290).

Rock climbing is split into the subworld of different practices such as trad climbing, sport climbing, and bouldering (Kulczycki, 2014). Climbers will self identify along those lines as a member of one of these groups—based on the type of climbing they practice most. Bolts gave birth to a whole new practice in climbing, and this form of climbing (sport climbing) is the most popular form of outdoor climbing today, and is the most widely practiced type of rock climbing tourism.

The controversies surrounding bolts have existed since climbers began using expansion bolts to protect climbs. This master thesis will discuss the historical development of sport climbing in later sections, as it will be important to understand such controversies in the climbing community. This conversation surrounding 'bolts' is part of the general debate in climbing over accessibility, safety concerns, increased commercialization, and increased regulations and institutionalization in climbing (Bogardus, 2012; Moa et al., 2002), or 'mainstreaming' (Ackerman, 2004) marking its departure from being viewed and practiced as an extreme sport. Understanding what drives and influences these trends can provide insight into the future of sustainable management of climbing destinations.

Rock climbing routes, similar to the tradition found in mountaineering, until the 1970's were almost always developed from the 'ground-up'. Meaning that climbers would start on the ground and push bravely into the unknown above them, a style which involved a great deal of uncertainty and risk. Many climbers created routes that are bold (the term climbers favor to describe high risk), a quality traditional climbers valued" (Mellor, 2001, in Bogardus, 2012, p. 290).

Everything changed in the 1970's when the 'style' in which routes were developed was changed. French climbers began rappelling (descending with ropes) down the cliff faces to 'investigate' climbs first. Such an ethic was seen by staunch traditionalists as "killing the impossible" effectively removing the adventure from climbing. However, such a critical step caused a spur of innovation and evolution in the world of climbing. A discussion of the impacts of this tactic will be included deeper in the paper. What is important to note for now, is that this "top-down" ethic is one of the many contributing factors to the rise in popularity of outdoor climbing, and it is especially one of

developments which as helped climbing destinations become what they are today—vast cultural resources to the climbing community.

Despite top-down ethics being negated by staunch traditionalists, the practices spread throughout Europe and eventually to America. Bogardus discusses:

> "French climbers, however, valued gymnastic athleticism rather than risk and practiced a different form of climbing called sport climbing. Sport climbers exclusively use bolts for protection because their goal is to climb the most difficult routes possible with relative safety. Instead of leading from the ground up, sport climbers rehearse a route prior to attempting to lead it and then lower from the top on a rope (rappelling) to place bolts (rap-bolting)" [bolting while rappelling down a climb] (Bogardus, 2012, p. 290).

French climbers began outpacing the physical capabilities of other climbers around the world, because sport climbing and top-down ethics made climbing safer, which allowed them to focus more on the physical and technical aspects of climbing. Also, by applying 'top-down' ethics, developers where able to explore areas of the rock face where traditionalists never dared to go "because of the type of rock or overhanging cliff lines, traditional climbing was not possible" (Rickly, 2017, p. 70). Such a simple change in ideology, and the introduction of new technological advancements to climbing, caused major development booms of sport climbing areas throughout Europe and America in the late 80's and early 90's. Lewis (2004, p. 73) wrote that, "Technology is seen as to be both an enabling and democratizing force as it provides 'mass' access to otherwise exclusive areas" which is one of the reasons the development of such practices was heavily debated. Climbing traditionalists always fought to protect their 'exclusive access' from such mass movements.

Yet climbing has become increasingly popular, and today climbing destination stakeholders have needed to 'legitimize' their activities forming management groups, and creating agreements between sporting federations and private or public land owners, and even going as far to rent in in some cases purchase outright lands which are important to the practice of the activity (Moa et al., 2002). A great deal of the reason for this, is tourism. As more people climb, and participate in climbing tourism, the need for proper management is becoming increasingly critical to protect future access to important areas of cultural production.

Heywood also echoes Bogardus and others who show that climbing is growing in popularity, however faces "considerable commercial exploitation by companies manufacturing and marketing equipment and clothing" (2006, p. 457). While climbing may have been growing in popularity during the late 80's and early 90's, it was the invention of indoor climbing facilities, which stratified the sport both commercially and in terms of popularity. Around the early 1990's this began occurring, and such a reality has had numerous consequences for the development of the sport, and for climbing destinations in general. Harding and Borrie (2002) found a high degree of variance between climber's relationships with the natural environment based on how they were introduced to the sport (in a club, informally, or via an indoor climbing facility). This study was conducted in 2002, today, the dramatic expansion of indoor climbing facilities is introducing more people to the sport than ever, and has today become the most prevalent form of climbing in general. Most climbers

today are 'socialized' in indoor climbing gyms, and learn the particulars of the activity through this medium (Kulczycki, 2014).

Heywood (2006, p. 463) likens climbing to "a compulsive struggle against timidity, the instinct for self-preservation or inadequate physical resources [and] a specific way in which aspects of nature, human and non-human, show themselves". Heywood used the cult film Hard Grit as a subject of his research. Hard Grit is a film about a group of young climbers attempting Britain's most daring rock climbs. However, it is also about the culture and ethics of British climbing, which mostly uses traditional equipment and refutes the use of bolts almost entirely. Such ethics result in a practice which is both 'bold', yet also extremely dangerous. While bolts could be placed, the ethic is not to bring the level of the rock down to the climber, but rather demand that the climber's abilities (mental, physical, technical) be raised the level of the rock (Heywood, 2006). However, he notes that in climbing, the community feels "external social pressures for safety, predictability and uniformity, as well as for the commodified or standardised accessibility of the 'climbing experience'" (Heywood, 2006, p. 462, emphasis in original).

A feature of the adventure sporting community yet to be widely discussed in tourism academia, is the role of brands, sponsored athletes and media which indirectly promote adventure sporting destinations. Heywood discusses that the film Hard Grit "had sold 12,000 video copies, somewhat to the surprise of its makers […] products that a climber could easily recognise are the 5.10 climbing shoes worn by several activists and some items of Ben Moon's S7 clothing range" (2006, p. 459). In 2006, climbing related media, such as climbing films, had yet to take off, however today there are widely successful full documentary climbing films. Climbing movies have exposed destinations to international audiences more effectively than any other form of promotion. Yet, the destination is usually no more than a backdrop to the exploits of famous climbers who visit to climb, or develop/establish new climbing routes. Dumont (2016, p. 443) writes about the "need to produce and disseminate new media to gain exposure, demonstrate personal achievements" as a method for professional, sponsored athletes to maintain their relationship with sponsors, who are often equipment manufacturers or media-related. While film-induced tourism is becoming a popular topic in academia today, such observations in regard to outdoor adventure documentaries, has yet to be discussed. Of particular interest to the author, is the relationship that brands have with destinations. Outdoor brands, climbing brands especially, indirectly sell the outdoors, what they sell are products made to access the outdoor environment. However, as it will be shown in this research, while they do a great deal to promote destinations (indirectly through films and media sponsorship) they do little, if anything, to assist local destination managers in managing the impacts resulting from such an increase in tourism.

Rickly (2017, p. 74, emphasis in original) writes that "[climbing] destinations develop reputations, referred to as 'scenes', that circulate across climbing media (magazines, web-sites, and films)". Moa et al., (2002, p. 24) discus a similar promotional method to climbing sites "site promotion, is provided in a very coded way through their [climbers] own networks of participants and via different media: by word-of-mouth, but also through specialised magazines, popular guides (describing the sites and itineraries), films, etc." Again, they find that media is a key disseminator

of cultural repertoires and helps to initiate participants to the "techniques, equipment, cultural codes and languages which lay the foundations for the identity of the sports 'tribes'" (Moa, et al., 2002, p. 27). Kulczycki's (2014) found that climbers will often refer to the accomplishments of climbing celebrities as their reference point for destinations. One of his interview participants describes the impact of media on his choice of travel destinations:

> "You read climbing magazines and everything about bouldering is about Squamish, and everyone who's gone to Squamish comes back [and] says amazing things about it, so it was pretty much the only choice" [one participant referring to Squamish, Canada as THE Mecca] (In Kulczycki 2014, p. 12).

Academia has yet to explore how climbing media imagery effects the expectations and behaviours of climbers in the destination or their travel decisions. However, the concept has been explored by many authors, perhaps the most classical of which is John Urry's "The Tourist Gaze" (1990). In The Tourist Gaze 3.0, he writes that "commercial photographs are desire-producing power-knowledge machines implicated in the post-Fordist consumer capitalism" (2011, p. 173). And later in regard to the 'performance' of tourism and 'embodied-gazing' that tourism objects are "structured around visualism" (2011, p. 195)—from photographs and advertising. That is, visual, promotional material, affects in some way, the way in which tourists perform their travel experience in a destination.

Heywood (2006) discusses that, in the past, British guidebooks played a central role in disseminating the 'ethics' of British climbing culture. He noted that climbers widely understood the 'rules' of climbing which created norms and values within the community leading to an 'authentic' climbing culture. He writes that guidebooks and specialist magazines help to create a "popular awareness of climbing's history and values" and that they contribute "to communicating, shaping and modifying this aspect of climbing culture" (Heywood, 2006, p. 463). Climbing related publications can be seen as important mediums of communication in the climbing community, and hence can (and do) play an important role in terms of promoting ethical climbing practices.

This, to date, shows some of the discussions surrounding the topic of rock climbing and tourism. It can be seen that rock climbing destinations struggle with similar issues as other types of tourism destinations such as crowding or environmental impacts. However, rock climbing destinations face unique issues of their own related to access, commercialization, and ethics surrounding the development of climbing resources. The climbing community has been referred to by Bogardus (2012) as a social world. Climbing spaces involve both physical features as well as metaphysical features which are developed by the community (Rickly, 2017; Bogardus, 2012; Rossiter, 2007). 'Bolts' are some of the most important and central objects to the community of sport climbers, as well as grades (Bogardus, 2012). Many technological advancements, advancements in practices, media, and the invention of indoor climbing facilities has allowed climbing to become increasingly mainstream and popular (Mao et al., 2002). Climbing media is a driver and creator of culture and plays an important role in disseminating information about ethics, and destinations, among other things (Heywood, 2006).

While the research performed by academics has covered many topics, as of yet, nothing has tried to discuss the global picture in climbing. What is needed in academia, is to tie together the global

and local dichotomies, in order to understand the interconnected networks of climbers, climbing industries, media, and destinations to reveal how these elements affect one another. Climbing destinations are influenced by the flow of evolutions and revolutions in climbing and, as Rickly notes the production of their space and the social world which creates the space is always ongoing, becoming, and entangled in spatial practice that is both conceived and performed (2017, p. 84/85).

1.2 Actor Network Theory & Tourism

The Actor Network Theory (ANT) has become increasingly popular in recent tourism studies (Mol, 2010; Beard et al., 2016). The inclusion of ANT and other theories borrowed from the field of sociology has been dubbed as the 'critical turn' in tourism studies as researchers search for innovative methods of investigating the nuances of tourism (Van der Duim, 2007). Although, it is perhaps one of the more widely contested theories arising today. There seems to be a great deal of confusion surrounding what exactly ANT is. Some of the principal proponents of ANT (Latour, Callon, Law) would say that ANT is not actually a theory (Latour, 2005; Mol, 2010), but rather it is a 'list of terms' or a 'set of sensitivities' (Mol, 2010). In effect, ANT is a set of terminologies, a language which helps to describe processes. If applied correctly, it will allow the researcher to view and describe complex entanglements of social assemblages in a new and different ways. Mol, perhaps does a better job at introducing ANT:

> "If ANT is a theory, then a theory helps to tell cases, draw contrasts, articulate silent layers, turn questions upside down, focus on the unexpected, add to one's sensitivities, propose new terms, and shift stories from one context to another." (Mol, 2010, p. 265).

The primary focus of ANT is to describe 'how' social arrangements are accomplished and stabilized (Van der Duim et al., 2013). Society, or "the social" as Latour (2005) would call it, is anything which endures time and space. Contradictory, erosional pressures always threaten to dissolve the social world, so this question of 'how' becomes important to show how something endures such forces. ANT studies are not so much interested in what exactly tourism 'is' but rather "how tourism works; how it is assembled, enacted, and ordered; how it holds together; and how it may fall apart" (Van der Duim et al., 2013, p. 5). As Rodger (et al., 2009) notes, networks can break down or take new form for various reasons if they are not regularly (if not aggressively) maintained. In Rodger's research of a networked, multidisciplinary group of researchers investigating the impacts of wild life tourism in Antarctica (to view penguins), she shows how the group folded to external pressures, as they failed to "promote their science where it mattered" (Rodger et al., 2009, p. 661).

Early ANT studies by authors such as Law, Callon, and Latour (1990; 1986; 1987) were used to trace physical networks. Yet the principle ANT authors, (Latour, Callon, and Law) were mainly concerned with "the deconstruction of scientific facts and how scientific knowledge is locally derived and applicable rather than being universal in any sense" (Johannesson, 2005, p. 137). ANT studies today primarily aim to trace associations, in an effort to discover processes of conceptualization—which have been referred to as 'ordering modes' (Povilanskas & Armaitien, 2011). 'Ordering' looks as the processes of 'translation' that actors go through as they incorporate artefacts

(objects) into an ever-evolving conceptualization of space. ANT studies draw a distinction between that which is 'ordered' or has order (i.e. included in networked space), and that which is not.

The concepts of 'ordering processes' are derived from sociology research surrounding 'social topography' (e.g. social rank or status). Law and Mol (2001) suggest that the social world is achieved via four different kinds of space: regions, networks, fluids and fire. Regions are also referred to as Euclidean space, basically meaning that something is 'geographical' in character, a region fits our common notions of space—e.g. a mountain range (Law, 2002). While networked space is different. Latour's term 'immutable mobiles' introduced to sociologists the concept that objects moving through Euclidean space, could be networked. A mountain, is immobile, it does not move, but may have multiple networks moving 'through' its space such as tourism firms, or a political body. Networks are viewed as mobile, in that they have the propensity to expand. Yet objects within a network can be viewed as both immobile, and mobile. Law, (2002) gives an example of Portuguese vessels venturing out to explore the globe. What he notes is that the ships themselves may move between different Euclidean spaces, yet they are 'immobile' within the network, they never leave the network of the Portuguese navy, or the purpose and duty which was assigned to them. This is networked space, it could be viewed in terms of a business, a university, a political party, etc. In Law's example of the ship, he discusses that the vessel is both "spatially or topologically multiple, inhabiting both Euclidean and network spaces" (Law, 2002, p. 95). A vessel may leave its original Euclidean space, Lisbon, in which it is 'displaced' out of such space, yet it remains 'immobile' within the network.

This concept of 'displacement' helps to build upon the alternative topology of 'fire'. Fire, is a networked space that is achieved through displacement or discontinuity (Law & Mol, 2001). Such networks are achieved or rendered 'durable' in "sudden and discontinuous movements" (Johannesson, 2005, p. 146). As one network fails, another may rush in to fill the void, or networked 'order' may appear suddenly in relation to an external event. The fire metaphor for space, helps the researcher to look at the object of study "as an effect of discontinuous relations; of relations between presence and absence" (Johannesson, 2005, p. 146) or between movement and displacement. When something moves out of a space, because everything on our earth exists in a partial vacuum, something else must occupy that space—there is no such thing as empty space. Think for example of how wind is formed, as the sun heats the surface of the earth, hot air rises, causing a void, or 'negative pressure' and cold air will rush in, or rather be 'sucked' in to fill the void. The social world can be thought of in the same way. For example, after the US attacked Libya taking down the Gaddafi regime, this created a 'vacuum' of negative social space, and rushing in to fill the void were radicalized Islamic fundamentalists. This is a profound example of a 'fire' networked space, where a network is formed out of the sudden 'displacement' of one entity, causing negative space which needs to be filled (Law, 2002).

Fluid networks are always evolving and changing shape, they may appear to be 'failed networks' (Johannesson, 2005), and have been described as 'shape shifters' (Law & Mol, 2001). Where as the fire metaphor describes sudden and abrupt changes, in order for constancy to be achieved, fluidity depends on gradual change and adaptation (Law & Mol, 2001). Mol & de Laet (2000) describe such a

network in their research of the Zimbabwean bush pump. They describe how different networks of organizations are responsible for drilling water wells, measuring E.coli levels, or even connecting global aid funding for future development. NGO's, international project funding, management groups, all change over time, yet the bush pump remains while different networks are mobilized around it. The nature of the pump itself is fluid, no two pumps are the same, as over time parts are replaced or fixed with objects readily available to the local community—"The 'object' holds itself in the space in a fluid manner" (Law, 2002, p. 99). Law, (2002) gives four conditions of fluid spaces: their structure of relations will change, such changes will occur 'bit-by-bit', the boundaries around an object and of the networked space are not fixed, finally, such mobile boundaries are necessary in a fluid networked space. These preceding ordering modes have also been described in different ways as: 'immutable immobile' connections (regions), 'immutable mobile' connections (networks), 'mutable mobile' connections (fluid), and 'mutable immobile' ones (fire) (Povilanskas & Armaitien, 2011).

Networks are essential apparatuses for expanding the social world of any group to the 'global' context. ANT describes how networks are responsible for the movement of ideas, technology, practices, and so fourth. Networks are also responsible for agency itself. When an actor embedded in a network acts, he does so because of a chain of 'mediations' causes them to act. Mol (2010), discusses:

> "Instead, actors are afforded by their very ability to act by what is around them. If the network in which they are embedded falters, the actors may falter too. If they are not being enacted, actors are no longer able to do all that much themselves. They stop "working" (Mol, 2010, p. 258).

So ANT studies, in their discussions of agency, will always pay attention to the effects that networks have on actors (and vice-versa). It is important to realize that networks are not all encompassing, in fact, there may be multiple networks present in any given 'space' some of which will coexist harmoniously, others of which can form contradictory pressures against one another (Latour, 2005). They may be "simultaneously interdependent and in tension" lured into a coexistence, or utterly in friction (Mol, 2010, p. 259). Mol (2010) notes that actors enrolled in a single network, can over time begin to form different ideologies, discourses, logic, practices, etc., and begin to differ from one another. Such controversies can lead to the formation of a new groups entirely splitting once nuclear groups into different factions. The network, or collective (Latour, 2005) is not an assemblage merely of people who have decided to consciously join forces, but rather something that 'emerges' as a result of the interactions between its heterogeneous parts (Van der Duim, 2007). Often, no one person or group is in charge, or globally responsible for assembling the collective, this is especially the case where multiple networks converge to form a broader concatenation creating a somewhat disconnected, yet fluid, social world (e.g. the bush pump). Spaces may be subject to the claims of multiple groups as networks converge to enact different interpretations of the space—in this sense, it is easy to see how space may have multiple spatial identities which are woven through it (Van der Duim, 2007), and could be seen as 'relationally mobile' (Johannesson, 2005). Networked spaced does not have a frictionless existence, there may be 'incompatible modes of order' which compete for space. Here Van der Duim in his discussion of 'tourismscapes' stresses

that managers of such projects should aim to incorporate divergent modes of ordering in a practice he describes as 'interweaving' (2007).

This study will resemble early ANT studies in that it will attempt to trace a physical network of actors, John Law has referred to such studies of networks as "ANT 1990" (Law, 2009). He gives the ingredients for such a study, which can be found below:

> "There is semiotic relationality (it's a network whose elements define and shape one another), heterogeneity (there are different kinds of actors, human and otherwise), and materiality (stuff is there a-plenty, not just 'the social'). There is an insistence on process and its precariousness (all elements need to play their part moment by moment or it all comes unstuck). There is attention to power as an effect (it is a function of network configuration and in particular the creation of immutable mobiles), to space and to scale (how it is that networks extend themselves and translate distant actors). New for actor-network theory, there is an interest in large scale political history. And finally, a description of how it all holds together" (Law, 2009, p. 7).

ANT attempts to unpack complex social arrangements by "paying attention to relational elements referred to as associations" (Arnaboldi & Spiller, 2011, p. 645). Social assemblages, such as cultural repertoires, come in a package of 'associations'. ANT is about breaking down these associations and 'reassembling' them (Cohen & Cohen, 2012). The purpose of which is to understand 'how' they came to be in the first place. Latour (2005) would warn that the research cannot take anything for granted, since everything occurs as a result of relational practices, the researcher must be prepared to 'unpack' "the recursive processes of networking or translation" (Law, 1994, in Van der Duim et al., 2013, p. 5) to investigate how symbols, practices, gestures, language, etc., gather meaning.

ANT has been used in a number of recent tourism case studies to investigate, especially, economic revitalization and tourism development programs (Arnaboldi & Spiller, 2011; Bærenholdt & Haldrup, 2006; Povilanskas & Armaitien, 2011; Van der Duim, 2013) and others. ANT has been used to describe 'tourismscapes' (Van der Duim, 2007) 'cultural districts' (Arnaboldi & Spiller, 2011) 'Destination Viking' (Johannesson, 2005) or a 'hinterland nexus' (Povilanskas & Armaitien, 2011). The commonality such projects have, is their investigation into the conceptualization of space, and especially the role that 'actors' play in the gathering of historical, cultural, physical, and metaphysical objects for the purposes of tourism commercialization. Yet also there is a focus on "the ontological politics of tourism development" (Beard et al., 2016, p. 97). Such projects involve the enrolling of actors, extending translations and mediations, building and constructing 'facts' made to build support for the project, and the extensive networking of objects; material resources, media, machines, etc. (Van der Duim, 2007).

ANT is particularly useful at researching cases that involve innovation and conceptualization, "with fuzzy boundaries, complicated relationships and rapidly changing conditions" (Povilanskas & Armaitien, 2011, p. 1158). It offers the researcher a practical methodology for studies that are 'field-work' based (Johannesson, 2005). ANT aims to understand processes of translation "by which a vague initial idea is shaped, diverted and consolidated, [where actors] build up a network of allies who believe in, test, and carry forward the development of the innovation" (Arnaboldi & Spiller, 2011, p. 641). Tourism has such 'fuzzy' boundaries, often referred to as 'mess' in ANT studies (Beard et al., 2016). By fuzzy, what is meant, is that it is difficult to conceptualize the boundaries, as tourism is a

practice which involves extremely complex "networked orderings of people, natures, materials, mobilities and cultures" which are both global and local in nature (Johannesson, 2005, p. 141). Due to this reality of 'fuzzy' boundaries, it can be shown that a destination, as an object, is affected by 'dislocated' agencies of non-local actors. Such a reality makes innovation, and conceptualization of spaces (e.g. branding efforts) an interesting task, as it involves the bundling of heterogenous components into a rational product offering, which is full of 'associations'.

This process of bundling components has been referred to as 'material-semiotic translation' (Van der Duim, 2007; Povilanskas & Armaitien, 2011; Johannesson, 2005). For example, Povilanskas & Armaitien (2011), found that tourism to Palanga, Lithuania, was associated with 'cheap sun' or a 'robust environment'. Yet such an identity changes over time, as the political and economic or environmental structures around the resort collapse, erode, or evolve (e.g. Soviet Union) which can lead to new political influences who perpetuate alternative conceptualizations for the space, and begin again processes of innovation and revitalization. ANT studies these mobile conceptualizations of space, calling them 'spatialities of translation' (Johannesson, 2005). But how do such conceptualizations travel? This is an important feature of ANT research, is that it attempts to explain 'how' concepts are mobile. They are both mobile in the sense that they change and evolve over time, but also in the sense that they need to be physically transported, somehow, from one space to another. How does something such as an immaterial concept, or innovation, ideology, etc., become mobile?

ANT has been called the "sociology of translations" (Callon, 1986), where a translation is the process by which ideas are or innovations spread. Innovation is not a "rational or predictable achievement", but could be viewed rather as a "fluid and erratic translation" (Arnaboldi and Spiller, 2011, p. 646). Translations and mediations are the central components of the ANT. It is the objects disseminated through a network which allow the spread and influence of ideas, ideologies, etc. Projects, such as a development project require planning documents, business plans, policies, etc. A steering group 'translates' their intentions into a physical form (e.g. planning document) which is then disseminated to 'format' the social world into such specifications, giving physical form to the project and the contents which the project intends to incorporate into the network such as a landscape (Latour, 2005). Translations are a series of 'successive movements' of transformations, where actors in a network are mobilized (Cohen & Cohen, 2012). It is a process where actors attempt to "characterize and pattern the networks of the social" (Van der Duim, 2007, p. 966). Law, however, would describe that when a 'message' is translated, it is deformed, or distorted in some way to fit the properties of the object which will carry it. In this sense, Law describes that translations are always 'a betrayal' (Law, 2009).

Actors embedded in a network, will feel and experience the agency of the social fluid in different ways. The network could be described as a massive apparatus of cause and effect, strung together by chains of mediations which directly connect actors within the network—e.g. a 'tourismscape' (Van der Duim, 2007) or a 'cultural district' (Arnaboldi & Spiller, 2011). Latour (2005) calls the space and objects not included in the network 'plasma', and describes that elements not inside the network should be ignored. However, the process of incorporating things into the network is important.

Surprisingly, the author has yet to find Latour's theory of 'plug-ins' being used by academics. Latour (2005) uses the plug-in metaphor to describe a process of socialization where people are trained to be part of the network. Plug-ins play an important role, his question is—how do people learn to participate in the network, where do they gain the skills necessary to be part of the social world. As this study deals with a type of SIT tourism, it is important to understand 'how' climbers are becoming climbers, where do they go to be socialized, or 'transformed' into climbers?

As Mol (2010) describes ANT has sensitivities, which some authors refer to as 'rules'. These rules are primarily methodological rules as to how the researcher should perform an ANT study. However, authors seem to pick and choose between which ANT rules they prefer the most. For example, Arnaboldi & Spiller (2011) use three ANT rules to proactively develop their 'cultural district' (in an 'action research' project). They did so by: 'enrolling actors', 'fact-building' and 'circulating translations'. Two of these rules are derived from Latour's "five uncertainties" (2005), however three other rules are seemingly ignored. Beard et al. (2016) uses Latour's five uncertainties as a methodological framework for their research, yet do not include a discussion of global and local sites, 'localizers', 'articulators' or other such rules derived from Latour's work. Johanesson (2005, p. 136) observes that the "global and tourism can be seen as inseparable from one another". Tourist destinations are local, yet globally distributed by media, for example. In SIT types of tourism, the global and the local are perhaps most closely entangled, as SIT destinations would not exist without the group which consumes them—e.g. a climbing destination cannot exist without climbers.

One of the central tenets of ANT is the 'principle of general symmetry' which give symmetrical treatment to human and non-human actors, such as social and technical elements (Latour, 2005; Law, 2009; Van der Duim, 2007). Another important and widely discussed ANT rule (Arnaboldi & Spiller, 2011; Van der Duim, 2007; Beard et al., 2016; Johanesson, 2005) is that researchers should 'follow the actors'. Again, we must remember that an actor can be both human and non-human, and is broadly defined as anything which makes a difference, or changes a state of affairs (Latour, 2005). A network is described as "a concatenation of actors and non-human entities" which are embedded in a system (Cohen & Cohen, 2012), and the social world, "is treated as 'patterned' networks of heterogeneous materials" (Johannesson, 2005, p. 138). 'Following the actors' as a rule, is meant as a methodology for understanding how actors go about creating and defining the network itself. Central actors, called 'spokespersons', "will map the social context" (Latour, 2005, p. 32). They will in their own words reveal 'scale or spacing' of the network, they will define and disseminate standards, evoke rules, enroll new group members, and especially go about incorporating new elements into the network (Latour, 2005)—effectively 'transforming' the material world into a format better suited to group needs. In following the actors, we should "map the chain of actors and their statements […] as well as the transformation of actors" (Povilanskas & Armaitien, 2011, p. 1160).

This author will argue that, beyond its uses to investigate innovative projects, or tourism development projects, where the meaning of 'tourism spatialities' (Johanesson, 2005) is constantly re-negotiated, it can also be very useful to research forms of SIT tourism. Participants in SIT tourism, such as rock climbers, have objects, practices, language, etc., which are peculiar to this group and

this group alone. ANT has been celebrated as a method to deal with the 'relational materiality' of the social world (Johanesson, 2005). For example, objects central to climbing, be they physical material, or metaphysical material, taken outside the context of the social setting, are utterly meaningless, as their meaning has 'associations' based on their 'relationship' to the network or group itself.

Social sciences, have predominantly treated subjects and objects as juxtaposed entities (Latour, 2005). The reason ANT has caused such a stir in the academic community, is the conscious departure from such subject/object dichotomies, by assigning equal importance to the role of the object. The assumption behind the 'principle of general symmetry' (PGS) is that humans, are shaped equally as much by the objects that surround them, as they themselves shape the objects important to them. Sayes (2014) argues that, often non-human elements can outlive the interactions which formed them, due to their construction with durable materials. He discusses that objects, non-humans, are deployed in a group as necessary and important stabilizers of the human collective. The production of 'the social' is viewed as inseparable from the material in society (Johannesson, 2005), and what ANT aims to do with the PGS is to break down "well known dichotomies of modern ontology, such as nature–society and subject–object" (Johannesson, 2005, p. 138). When performing ANT research, we cannot treat objects, as not merely things which act as 'substitutes' on behalf of some human actor, while bestowing all agency to human intelligence (Sayes, 2014). Rather, we should aim to understand what agency an object has, and how it changes a state of affairs.

This is what ANT helps to reveal, is the interesting roles that objects can play. For example, Johannesson, discussed how the project Destination Viking in Iceland, brought together a string of actors to form a network around the production of traditional clothing in the village of Þingeyri. He notes that "the past was folded together with the present as ideas about material culture in the commonwealth period (the clothes), knowledge of the Saga and the landscape and various relations between participants were woven together with ideas about tourism development in the area (Johannesson, 2005, p. 143). He discusses how the clothing itself, brings together the network which helped Þingeyri become a tourism place.

Language, culture, tradition, ethics, are all such objects which have a fluid and evolving nature, the group both influences, and is influenced by such objects. While not all ANT studies deploy the concept of the 'token', this study finds the concept to be useful. Tokens can be seen as the most powerful type of mediator, and thus have "a strong performative capacity" (Povilanskas & Armaitien, 2011, p. 1161). Tokens both help to define the network itself, and are also simultaneously created by and for the network specifically, they are 'key mediators' (Beard et al., 2016). Latour explains that tokens are 'quasi-objects' as their use is both physically, and socially constructed (2005). Considering their power to shape the group itself, the token is therefore defined as "a semiotic representation of an actor network, which circulates and is translated in the course of circulations performing the actor-network" (Povilanskas and Armitiene, 2011, p. 1161). This study will aim to understand what such tokens may be. The most important concept in the principle of general symmetry, is that objects have agency, which make actors act in a certain way, which can help explain why certain evolutions or innovations occur.

Tourists themselves can be viewed as both translators and translated within a tourism destination. Johannesson discusses:

> "In the context of tourism, tourists can be conceived as being both translators and translated within different space-times. They translate tourist places through their performances, for example by taking photos and buying souvenirs, thus translating the place into their networks, that is, establishing and enacting communication between networks" (Johannesson, 2005, p. 140).

Considering activities that have highly performative properties, such as rock climbing, it should be easy to see how tourists translate the meaning of the space through consumption, but also through embodied production (Crouch, 2000). As the literature review on rock climbing revealed, tourists, as well as developers, are constantly involved in the production of the social as well as the physical space where they perform their deeds. Places are sites of production and consumption, and need to be 'produced' by both tourists, and by local networks (Bærenholdt & Haldrup, 2006; Bærenholdt, 2016). The tourism industry needs production sites which enable certain tourist practices and are by definition local. According to Latour, no place can be seen as 'non-local', and through relational practices, places are continuously 'placed' (Latour 2005). What he means is that places are enacted by those things, objects, people, etc., which produce them. So, again we can see how tourists are co-producers and implicit in the production of cultural spaces (Bærenholdt, 2016). In the destination, tourists perform their 'distraction' of choice (drinking, museums, beach time) 'touching' active layers of the environment, engaging with the local environment both sensuously, and emotionally (Bærenholdt, 2016). Rock climbing tourism, again, provides an interesting study topic, as tourists engage with the physical/social environment and their emotions in such an extreme way, yet also engage with the cultural elements of the mobile social world which they are a part of.

Power is discussed in ANT, however, it is always represented as something that is felt as a result of the social apparatus. Power, "is not a 'thing' nor is it some-thing that people have in a proprietary sense: they 'possess' power only in so far as they are relationally constituted as doing so" (Van der Duim, 2007, p. 966/67, emphasis in original). The example of a police officer can be drawn, their power resides in their relational association to the power of the state, through this example it should be clear how power resides in relations (Rodger et al., 2009). Power is mostly discussed in ANT studies, as something political. Latour (2005) discusses how facts are constructed in a 'political' way, even in a scientific setting, power plays a role as to whose opinion is most widely respected (e.g. senior researchers). ANT discusses how power occurs through the construction and maintenance of networks (Rodger et al., 2009). Power, is itself, one of the very reasons for a network to exist in the first place, as the network is an apparatus which allows power to be extended.

The above discussion provides an analysis, thus far, of the concepts associated with, and popular uses of the Actor Network Theory. While this literature review is not an exhaustive list of ANT related research and terms, it bundles together the concepts that are at the heart of ANT. The following section will introduce the reader to the authors conceptual model of the ANT theory, which has been largely informed by Bruno Latour's 2005 book, Reassembling the Social.

2 Latourian ANT

In addition to the material discussed thus far in the literature review, the author understanding of ANT has been largely informed by Latour's 2005 book, Reassembling the Social. The chapters presented in this book, give a somewhat linear presentation of the ANT, and thus it has been presenter here to clarify what exactly the author is looking for. From a methodological standpoint, this book has given the author a list of items to look for, and checklists to ensure they are performing a worthwhile study. The checklists have been included in the methodology section.

The Latourian version of Actor Network Theory, as the author understands it, is about the study of things which hold any social world together. It is not a framework, but rather a method of investigation, and a language which allows the researcher to describe the complex set of transactions which allow for the formation of a group. ANT is about finding 'the practical ways and methods used to create social formations' (Latour, 2005). An ANT study, is a study of things, things which are central to a group, which are passed within a group from site-to-site.

It is important to note that the word group is not used in a definitive sense. For example, one person may be part of many groups simultaneously and belong to many different social worlds. So, when the word group is used, or the social world, or social ties, or simply "the social", this implies only that which is being investigated for this study—rock climbing tourism in Catalunya. While climbers in Catalunya may be many things and prescribe to many groups simultaneously (nationalities, professions, etc.), these other groups are not the matter of investigation unless explicitly stated that this somehow helps to define the research group in question. This is the language which is idiosyncratic to Latourian ANT.

Society is that which is already assembled. Seemingly there is no point in attempting to breakdown, retrace and reassemble the origins of any social world, rather taking its assemblage at face value. Understanding how a group goes about assembling itself is not just some mere academic abstraction with little overall purpose. Such a study can reveal profound relationships between different locations, and the diffusion of practices, energy, things or ideas between these locations. Such a study will allow the researcher to translate, as is this researchers case, to an important audience (Generalitat de Catalunya) how exactly this network functions, and how it could be influenced.

The social world is a movement, a spreading of ideas or things throughout time and space. In order to ensure the continuity of such 'things' a great deal of energy must be spent. This study is about capturing that energy that has allowed the social world of rock climbing to take the provisional shape of which it appears today. Such a shape is sure to change, as practices are only ever temporary.

In Latour's exact words (2005, p. 240):

> "This type of research should be costly, reflective, slow—to register the multiplicity of objects and objections. It should be as reflexive, articulated, and idiosyncratic as the actors collaborating in its elaboration."

In short, the study should reflect the world which it studies. The quality of the study will be judged not by what the researcher assumes, hypothesizes, or interjects himself, but rather by the degree to which the narrative accurately describes the social world under study. A metaphorical example would be a botanist accurately sketching leaves, or describing their uses. The challenge to the ANT researcher is to stay true to these narratives without diluting their originality, and to see how much of this social world can be described in one report (Latour, 2005). How much can the researcher capture the energy which is required to extend the boundaries of any social world? The degree to which this is done will define the quality of the study itself.

2.1 Part 1—The Five Uncertainties

Latour proposes five uncertainties concerning the construction of any group's social world. These uncertainties are what the researcher is to look for while in the field, and this section provides the researcher with specific language to describe the group under study.

2.1.1 Group Formation

Groups are formed based on controversies. A once nuclear group may split based on a fundamental differentiation of ideologies coming from inside the group. Groups will continuously attempt to define themselves by the 'digging out' (Latour, 2005) of boundaries related to their ideologies. However, the social world is a fluid which is never inert. Groups, concepts, ideologies are either growing, or decaying. In order to grow groups must constantly "enrol" new members, create standards, and disseminate their ideologies to the world. Group "Spokespersons", who are central actors in the network, are some of the main enrollers of new members. These spokespersons are constantly at work justifying the groups existence against the contradictory pressures of anti-groups that threaten to dissolve the social practice (Latour, 2005).

It is important to realize that the social world is performative, that is, this is not a concept some vague definition which holds groups together, but rather the ritual of performance and adherence to group traits which makes a wider group exist. Groups are not held together by some imaginary glue, but rather is done so by practical means to keep ties together. Mediators are what physically hold the group together, the group would fall apart without such central objects (be they ideologies, standards, physical items, practices, etc.). Researchers in the social sciences should always be referring to "something that has great trouble spreading in time and space, that has no inertia, and is ceaselessly renegotiated" (Latour, 2005, p. 66).

Important Terminology:

Spokespersons—central actors in a group. Their main roles are group definition, group enrollment, and to justify the groups existence against anti-groups. They invoke rules and precedents, and measure one definition against another.

Tracking Controversies—listing all of the components of a social aggregate is difficult, however, listing controversies central to the groups formation and the elements present in these controversies, is easier.

2.1.2 Action is Overtaken

Actors are made to act by the presence of 'things' which are derived from another place and time. While an actor's agency cannot be discounted, certainly there is no possibility of an actor acting in isolation without the tools, methods, or authority granted to them from other places and times. Hence, action is overtaken by such contributing 'global' agencies. An actor is one link in a long chain of mediations. As Latour says (2005, p. 72) things "may authorize, allow, afford, encourage, permit" agency. Any ANT project needs to investigate this agency which allows participants embedded in an actor network to act as a 'durable whole' (Latour, 2005, p. 72). This leads the ANT researcher to one of the central mottos of ANT research—'action is always dislocated'. Latour describes that actors will often leave, in their narratives, accounts of how such dislocated agencies have affected them. It is the researchers job to unpack such accounts.

Important Terminology:

Actors—actors are that which are made to act by another time and place. They are influenced by the swarm of entities which surround them, the social aggregates which make up the world they exist in. Actors will have their own theories of action. What makes them act, agencies of which they started or are part of—which are carried through them. They may have internal controversies about how an agency is making its influence felt. An actor is anything which modifies a state of affairs by making a difference.

Agencies—the influence an actor feels from another time and place. Agencies are always present in an actors account as *doing* something. Agencies take either the form of mediation (transformation AND translation) or intermediators (transportation only). ANT researches should always ask the question "who and what is really acting, and where is this action really coming from?" Is an actor merely 'transporting' a global agency to a site, without adding further transformation? Or does the object which transports the agency, transform the message to further alter a state of affairs? Mediators have transformative power, while intermediaries merely messengers which transport agency between sites.

2.1.3 Objects Have Agency

Objects make people do things. Hunters adapt to the methods of their prey, design specific tools based on trail and error. The prey may not be coercive in this development, however, its very ways of being changes the behavior of the hunters depicting what traditional types of tools they use, or how they migrate throughout the seasons. This example, just attempts to show that 'objects' make people in certain ways, develop certain techniques, and innovate.

Objects can be 'mediators' if they 'transform' any state of affairs. What Latour means by 'transform' is that such an object will give 'form' to the social world. An easy example could be city building codes, which 'transform' or give specific form to the appearance of a city. Mediators are objects that have the power to shape things, to dramatically alter any state of affairs, they are objects which are central to the evolution, adaptation and presence of any group behavior. This

study will be looking for such objects which are central to sport climbers. Where have they originated, who are their principle proponents, how have they been disseminated to reach the destination under study?

Objects which are central to a group, should be traced to an origin. By following the object (patterns of their circulation), the researcher should be able to trace something that has a "networky" (Latour, 2005) appearance in form. Latour would say that the social world itself is afforded by the dissemination of these objects, without which it would be impossible for the social world to exist—the objects literally makes the social happen.

Important Terminology:

Intermediary—something that transports meaning or force without transforming this meaning, merely passes the translation forward without alteration. Intermediaries carry mediation (mediators) from one site to the next. They are responsible for transferring mediators from their local origin to other localities, which gives rise to a global situation or behavior.

Mediators—objects, standards, concepts, which have the power to 'trans-form', that is to add form to something. E.g. Laws give a standardized format for interaction between citizens, building codes give a standardized format to a city. Mediators can translate, distort and modify the meaning, or the elements they are supposed to carry. They can be humans and non-humans. Another example: when a group goes about creating standards and rules: these 'rules' are a form mediation, they help create a standardized appearance to the group, these stabilizing features help to add further definition.

Stabilizing Features—stabilizing features are mediations which standardize group features. Specific examples would be standards, or official rules. They are designed to 'stabilize' controversies within the group, or related to the pressure form anti-groups.

2.1.4 Matters of Fact vs. Matters of Concern

Facts are fabricated. They are constructed by the group itself, these facts are part of a constant dialog within the group as it continuously defines itself. Latour suggests not to the use word fact, because a fact describes a common belief about something, which is almost always impossible to validate. Hence, he suggests using instead "matters of concern" to describe the constantly changing and ever evolving dialog within groups. This dialog itself is the subject of study. What are the topics actors are talking about? What are the new controversies being felt? How are facts 'constructed' within the group under study?

Calling something a fact is also a misleading statement, since it suggests something durable, solid, and unmoving. However, facts are usually in varying states of completion. Latour would call these matters of concern a "gathering" of ingredients, especially mediators. Actors embedded in a network, will constantly "compare, produce typologies, design standards, spread their machines and organizations, their ideologies, their states of mind". The work of the researcher is to "describe" the work that is done by the actors to expand, relate, compare, and organize (Latour, 2005).

Furthermore, Latour suggests that actors are "invoking rules, precedents, and measuring up one definition against another" (Latour, 2005, p. 31). These "rules" are part and parcel of what makes and defines any social world. These "matters of concern" are locally oriented, but can spread and be disseminated globally, giving rise to some type of standardized forms of global group behavior.

2.1.5 Writing Down Risky Accounts

When Latour began researching laboratory scientists in the late 1970's, he was interested in how they come to common agreements about debates in science. What he found, is that 'fact building' was often a very political process. In Reassembling the Social, he describes how senior scientists were often the most influential and had the last say while facts were transitioning from loosely defined theories to something more durable. Latour prescribes writing down what he calls 'risky' accounts, where an actor is making their political presence felt during the conceptualization phase of a theory, project, or so fourth. Such an example of a 'risky account' can be found in Povilanskas & Armaitien's work in Palanga where government and private businesses wanting to build mega-hotels enact their program "by enrolling powerful allies and spokespersons (media, politicians) to shape the public discourse and to isolate those opposing it" (2011, p. 1169).

In effect, what Latourian ANT is looking for, is a way to empirically prove how things spread. How a concept, such as political ideology, religion, or business, can spread from one space to another. He exclaims, that in order for something metaphysical, like a political ideology, to spread from one space to another, it needs to be transported somehow, physical energy needs to be spent to move the 'object' from one space to another. This is what a Latourian influence actor network study is to be about, describing empirically, the apparatus of social networks.

2.2 Part 2—The Three Moves

Now that the five uncertainties have been deployed, we begin to understand a great deal about how groups are formed, how the spread through out time and space, how objects can play a central role in their culture, and how the "facts" surrounding each group's social world are constructed. In short, the grand questions the researcher needs to answer is on "group formation, agency, metaphysics, and ontology" (Latour, 2005, p. 135).

It is critical, in following Latourian ANT, that the researcher does not jump from local interactions, to global context. Jumping, does not describe the effort that groups undergo to spread their ideas, technology, philosophy, etc. The idea is for the researcher to describe not what the ideas are, what a concept is, but rather, how it has physically spread. Latour proposes to do this in three moves, Localizing the Global, Redistributing the Local, Connecting the Sites.

2.2.1 Localizing the Global

Local and global contexts are always overlapping one another. It is important to realize that the "global" is always located somewhere. For example, laws are local to a country's constitution, which was developed in a certain time and space. The constitution, and its modern interpretations,

are constantly debated (matters of concern) as the context changes in parliament, which can be viewed as a **site of production**. These laws are local somewhere, there is an extensive apparatus, which reaches all they way into our homes and personal lives, which distributes the laws to create a global context. The apparatus itself is that which is under study.

In order to localize the global, according to Latour, researchers need to dig into the past, and attempt to find where the humble beginnings of the social world lie. Once the original site of production is discovered, the researcher should attempt to trace, how the ideas shaped in that environment, have diffused to other places. How does the idea transport itself? This tracing should reveal something 'networky' in shape (Latour, 2005). This is a process which Latour would call 'localizing', it is effectively a challenge to the researcher, to see how far they can dig.

'Articulators' can help researchers discover 'reference points' within the community. When ever an actor refers to some 'global' reference point beyond the edges of the local environment where they are situated, they are likely referring to an 'articulator'. For example, currency based on the gold standard is an articulator. The currency itself is meant to represent another thing which originates from another time and another place.

2.2.2 Redistributing the Local & Connecting the Sites (Moves 2 & 3)

Global movements, such as the world of sport climbing, began somewhere, and then moved to other spaces. When the ethics of some practice, diffuse, or are transported to other areas, this is a redistribution of 'the local'. The 'local' could also be viewed as a centre of power in the network. An example could be a corporation, the local centre of power if the CEO's office. From this space, it is possible for the CEO to see 'everything' or at least balance sheets, policies, and so fourth which are meant to describe the bigger picture. This is what Latour has named a 'centre of calculation'. Centres of calculation are places where the viewer can have a 'panorama' of the entire of the network, yet what they see is not the network itself, but rather a representation of the network. Centres of calculation have also been referred to as 'centres of translation' as it is from here, where the entire network (depending on how strong the connections are) can be manipulated. From this vantage point, it is possible dispatch other actors, and intermediaries and thus strengthen the actor-network (Latour, 2005), however, this is only possible if the centre remains connected to the theatre of operation. Depending on the type of network, such a centre may not exist, however, if it does, it would be from this place where it would be possible to dispatch an envoy of mediations to transform or maintain the network. When we 'redistribute the local' we are looking specifically for the vehicles which transport 'the social'.

Mediations come at a cost. Physical energy is required to pass an item, or an ideology from one site to another. This does not happen magically, there are distribution channels, *networks,* or lines of communication which afford the spreading of any ideology. Latour describes that a good ANT study is about capturing the energy, or the *costs* which have afforded the transportation of the social world. It should be expensive. A good ANT study is about capturing as much of this energy as possible to describe how groups have extended their boundaries. Latour wants the researcher to "follow the trail" left behind by actors who transport 'mediations' from one site to the next (Latour,

2005). He tells the researcher not to "jump" from one site to the next, but to literally create an empirically provable chain which links places together. Once the researcher has revealed the 'local' centre of translation or centres of production, and discovered the vehicles which 'distribute' 'the local', it should be possible to make a connection between different sites, from local, to global, and back to the 'new' local.

3 Methodology

3.1 Paradigm

ANT research is grounded in empirical case studies (Law, 2009). Paradigmatically, it is oriented in the social constructivism/interpretivism world of social sciences (Balen, Leyton, 2016). This paradigm suggests that multiple realities are present, and allows for an intersubjective, or emic—insider's—perspective to research (Jennings, 2012), the goals of which are to understand, or interpret the nature of reality. There is a preference in constructivism is towards the use of qualitative methods of gathering empirical material (Jennings, 2012). However, the author will employed a pragmatic approach in regards to the gathering of qualitative empirical material, or the use of quantitative data in this study.

The traditionally dominant 'objectivist' research paradigms in tourism studies value quantitative methods. This way of looking at research suggests that the foundation of knowledge is experience, and that it is only possible to obtain knowledge of things which are available to our senses (Xin et al., 2012). This estimation arguably excludes intangible concepts, which subjectivists would support. Subjectivists tend to think that meaning is not discovered, but rather it is constructed (Xin et al, 2012). The author tends to support this theology, that objects are not born with useful, meaningful intentions, but rather they gain usefulness or become what they are through a process of relation.

In relation to this study, the author feels that it is important to reveal the as much of the global world of climbing as has never been done before in an academic sense, and show how such global movements affect a destination. The motivation for which is that the author, as a climber himself, believes that the world of climbing world needs to be 'translated' to important audiences in order to manage the future implications arising from climbing tourism. In this sense, the author prescribes to Latour's 'duty of sociology'.

> "Sociology—the science of living together—is not complete with merely just describing the world under study! We must ask: how can we make things better? The situation more livable, tolerable, manageable?" (Latour, 2005, p. 259).

3.2 Gathering Material

As Jennings points out (2012) qualitative research employs a non-probability sampling approach. "Qualitative research is not about a specific set of numbers, cases or participants. It is about targeted research, which includes participants and other empirical materials, which have relevance to the research focus or foci" (Jennings, 2012, pg. 316). Studies using ANT in tourism are typically case studies, and utilize ethnographic methods to collect material regarding 'the roles and

relations' of actors within the system (Beard, 2016). Beard describes the types of empirical, 'non-human', material which could be collected: "non-human informants can include a wide range of media as well as objects, including photos, minutes from meetings, advertisements, news articles, sketches, drawings, e-mails and written speeches and presentations" (Beard et al., 2016, p. 104). Considering sampling methods, Beard (et al., 2016) goes to Latour (2005) and his emphasis on "following the actors", an excerpt below:

> "The starting point for ANT research **is the situated researcher** and the questions she asks. From this starting point, ANT advocates an approach known as '**following the actors'** (Latour, 2005), a form of snowball sampling in which actor-networks are identified and followed by the researcher. The identification of participants is therefore an integral part of the process of generating materials, rather than a preliminary planning stage in research design, and is intimately linked with the process of data analysis from the outset." (Beard et al., 2016, pg. 104).

Beard brings forward two important points in terms of methodology; (1) the 'situated' researcher, and (2) that following the 'actors' results in a type of snowball sampling methodology. She further discusses that the perceived quality of ANT appears to be based on transparency in regards to data collection analysis and interpretation, as well as a 'full acknowledgement' of the researcher's active role (Beard et al., 2016).

Beard et al., give five considerations to guide 'how' ANT based field-work should be conducted:

> 1) Rethink 'the field' by tracing relations through time and space; Ask questions about the role of the researcher role which take us beyond reflexivity to 'acting in the network'; 3) seeking a different relationship between researcher and participant which challenges conventional notions of research design through the approach to sampling known as 'following the actors' (Latour, 2005); 4) Making particular demands on choice and use of method in 'following' both human and non- human participants. 5) Adopting an approach to analysis during fieldwork through identification and tracing of 'tokens' (Beard et al., 2016, p. 99).

Most ANT studies also employ a snowball sampling method, and this is an important consideration, as it allows the researcher to 'follow the actors' (Latour, 2005). As Beard discusses, "the identification of participants is therefore an integral part of the process of generating materials, rather than a preliminary planning stage in research design" (et al., 2016, p. 103), as the 'emergence' of actors themselves can help to reveal the network itself.

Beyond snowball sampling for interview participants, a mixed method approach to gathering empirical material will be employed. Online content will be analysed, such as photos or marketing material, as well as academic literature, books, magazine, etc. This will primarily serve as context setting material. The researcher will be immersed 'in the field' during the study period and will perform observational research, interviews with key stakeholders or 'actors', and disseminate open ended questionnaires to climbing tourists within the given case study destination, during the study period. The purpose of such a proposed methodology, is that the researcher is hoping to create a 'crystallization' effect, where various methods help to "to illuminate as much of study phenomena as possible" (Jennings, 2012, pg. 316).

3.3 Analysis of Material—Latourian ANT

A good ANT account (thesis) should be a narrative or a description where all the actors described 'do something' and don't just sit there' (Latour, 2005, p. 128, emphasis in original). The perceived quality of ANT research resides in the degree to which the author is transparent in regards to the accounts of actors and the unaltered analysis and interpretation of such accounts (Beard et al., 2016).

The author will attempt to reveal some of the key 'things' inside of the network as Latour and others have described them. Mediators, intermediaries, tokens, stabilizing features, centres of calculation, centres of production, articulators, plug-ins and so fourth. What the author will do, while analyzing the material, is attempt to use this language to reveal how the social world of sport climbing is mobilized, how it moves between sites.

One of the key measurements of ANT quality, is the degree to which the author does not alter the messages, or add elements to the narratives of those he researches. The researcher should let the actors describe their world for themselves. As Latour would say, it takes an incredible amount of energy and effort for the social world to endure the friction of space and time, or to expand its boundaries. So, the description should be just this, the writers description should discuss how the 'plasma' or the background (the non-social world) is incorporated into the network (Latour, 2005). Latour defines this 'plasma' as that which is not yet 'formatted' into system of standards which perpetuate the social world. Not yet measured, socialized, engaged in metrological chains, or surveyed, mobilized, or subjectified by the social world (Latour, 2005). He notes that the continuity of the social assemblages occurs against a much greater backdrop of discontinuities.

Thankfully, Latour provides a description of 'how' the researcher is to go about revealing the social world. The author has taken such set of lists, sensitivities, and questions from Latour's Reassembling the Social, and turned them into the following checklist.

Questions the ANT researcher should ask:

- Detect the type of connectors that make possible the transport
- Ask what is the nature of transported agencies
- Ask what lies in between connections
- Be able to deploy a full range of controversies surrounding the social world
- It should be able to show, through which means those controversies are settled and how such settlements are kept up
- It should help to define the composition of the collective (the social group)

In order to be faithful to the experience of the social we have three duties:

- Deployment—Deploy controversies, gauge the number of new participants in any future assemblage
- Stabilization—Follow the actors in the stabilization of uncertainties by building formats, standards and metrologies (facts)
- Composition—We want to see how the assemblages thus gathered can renew our sense of being in the same collective

ANT Checklist to measure quality:

1. The concepts of the actors are stronger than that of the analyst
2. The text that comments on actors behaviors should use their language and be well written
3. ANT researchers should "follow the actors" use their language, and present their accounts in a pure fashion, without adding hidden meaning.
4. There should be a discussion about how agencies are felt and transported?
5. Actors own words from their accounts are used to offer scripts or descriptions of what "things" make them do.
6. We should be describing not just cause and effect (causes carried through intermediaries) but rather about objects which distort, transformation and disrupt.
7. If something has acted, it will be recorded somewhere (history books, etc.) if there is no trace of something acting, then it should be excluded from the study
8. The "vehicles" which have transported mediations from one site to the next, should be empirically visible.
9. Objects should be made to "talk"
    a. Study innovations—find the big innovations which have helped to create the social world under study
    b. Objects which are central to a group, are routine in use and taken for granted, therefor their importance may be hidden, try to view things as an absolute ignorant outsider
    c. Accidents and breakdowns can reveal the importance of seemingly tiny, insignificant and unimportant things, which are actually full-blown mediators.
    d. Bring objects to life via archives, documents, memoirs; try to artificially reproduce the state of crisis in which the innovations were born in.
10. On mapping "Matters of Concern"
    a. "Matters of concern" are presented as the discussions that surround "fact-making"
    b. Matters of concern usually reside in/are visible in controversies over 'natural things'
    c. Experiments, accidents, innovation (transformations) offer a source of information
    d. When agencies are introduced they are never presented as a matter of fact
    e. The methods of fabricating facts, and the mechanisms deployed to stabilize these fabrications are shown
11. A good account is one that traces a network—a string of mediations, a set or relationships between differing localities which allows the social world of any group to spread
    a. All of the actors must DO something—not merely transport effects
    b. The test is to see how many actors the writer is able to string together as mediators
    c. A good ANT account will find the "vehicles" needed to extend the network further (how does a group extend its boundaries)
12. Important features in the representation of a network are shown
    a. A point-to-point connection is established between global and local sites, physically traceable, recorded empirically

b. This connection is not free and always in a state of decay—the study must show the effort, energy and objects which go towards sustaining the connection
c. Deploy actors in networks of mediation

3.4 Limitations

Perhaps the greatest limitation to this research is the authors inability to speak Spanish. This will certainly hinder his ability to perform interviews with prominent local stakeholders. The author was unable to conduct interviews with one local 'actor' Dani Andrada due to issues finding an available translator. Even with an interpreter, this will limit the authors ability to direct the interview. The interview with David Brasco occurred through a translator, which made it difficult to establish a flow. This language limitation also makes it difficult for the researcher to find academic material, or other works published in Spanish or Catalan (magazines, books, videos, etc.). Nonetheless, this limitation is manageable.

Beard et al. (2016) discuss specific challenges to the ANT researcher, that there is a danger the can 'erect walls' or 'neglecting connections' or movements in and out of the site. Of course, the researchers own talents are a limitation. To be able to 'follow the actors' find the leads which he needs to be able to answer his research questions, requires the researcher is diligent and constantly searching to establish connections. Time is a limitation to this research. Such a limitation means that it could be difficult for the author to fully understand the social world which he is investigating.

4 Presentation of Case—Siurana & Rock Climbing

4.1 Introduction to Rock Climbing

This section will serve to introduce the reader to some of the important terms, and features of the world of rock climbing. As the text that follows will delve into this social world, it is necessary to orient the reader to some of the important objects and language in the world of rock climbing, and to define rock climbing's main differences with mountaineering.

While rock climbing finds it origins in mountaineering or alpinism, the sport varies significantly from its counter parts. Alpinism and mountaineering often involve climbing passages on snow and ice, while rock climbing does not. Also, the premise for mountaineering is often to reach the summit of a peak. In most modern forms of rock climbing, the intent is actually to climb a 'route' which is technically demanding, the technique and physical movements being the attraction itself rather than the summit. "Rock climbers are often interested in a shorter, extremely technical section of the cliff, and their goal of climbing this section in good form is quite different from the mountaineer's goal of reaching a summit" (Shaw & Jakus, 1996, p. 134).

Rock Climbing Related Terminology:

1. Traditional climbing—Rock climbing where participants use 'traditional' climbing equipment which is NOT fixed to the wall, but placed and removed by each party. Traditional climbing is the most dangerous modern form of climbing, and requires the most equipment for participation.
2. Sport climbing—Rock climbing on routes which are manufactured and installed by 'developers' who drill into the rock and place 'expansion bolts' which are permanently fixed pieces of equipment, with roughly a 20 year life span.
3. Bouldering—Rock climbing which does not involve a rope, however on smaller rocks and boulders. Bouldering involves the use of foam pads, which break a climbers fall.
4. Free climbing—Sport climbing, bouldering, and traditional climbing, are all forms of free climbing. What is meant by free climbing, is that climbers use only their athletic capabilities to ascend a wall, ascending the natural features of the rock using only their hands and their feet. The ropes, and other technical equipment, are used, however only as safety devices, and not as a method to ascend the wall.
5. Aid Climbing—This type of climbing is not side widely practiced anymore, it involves the hammering of pitons, or other such equipment to ascend a wall. Climbers will use the equipment to aid their progression up the face.
6. 'Bolts'—Otherwise known as expansion bolts, or 'parabolts' in Spain. These are generally 8-12mm in diameter, and set at least 3-4 cm into the rock by developers who drill out a hole with a Hilti hammer drill, and hammer the bolt into the hole.
7. Run-out—A run-out is part of climbers infralanguage, it refers to sections of a traditional or sport climb where no protection is possible meaning the climber may be faced with long or even dangerous falls. In sport climbing, run-outs are always a result of the 'developers' conscious choice about how and where they install the fixed protection.

8. Grades—Technical climbing grades take many forms, they are designed to inform the climber as to the level of difficulty the climber can expect to experience on the route. The most prevalent forms of rock climbing grades in the world are the American YDS system, French sport climbing grades, UIAA grades, English 'E' grade system, and the Australian system, although there are others.
9. Old-school—This is a climbers slang term, meant to describe a climbing destination, or a single route, which is either 'run-out', 'hard' or difficult for the grade, scary, of a particularly technical traditional style, or a combination of all. It is most widely used to describe rock climbs which are run-out and scary.
10. 'Project' or 'projecting'—This refers to the process climbers go through to repeatedly attempt climbing routes, often falling or failing on difficult passages called the 'crux' of a route, multiple times. Projecting takes extreme dedication and obsession.
11. The Crux—the most difficult part of a rock climb.
12. Beta—beta is the language climbers use to describe difficult sections of climbs to their peers. Beta uses climbing specific language to describe movements, particular holds and the way in which they must be taken, or even strategies towards success on a given climb.
13. First Ascent—When a climber ascends a newly developed route for the first time, where no climber has ever done so before.
14. Topo—A topo is one of the main, and original methods for disseminating information about new climbs. A topo usually includes symbols which are made to represent features of the mountain space such as cracks of fissures, corners, etc.
15. Red point—The rules of engagement for free climbing, is that climbers will only use the natural features of the rock. When a climber has started from the ground, and reached top of the climb without falling, or his/her weight being taken by the rope, they can claim a red point. This basically means that a climber has completed the route as a free climb, and they can move on to other challenges. Red-pointing a route, could be metaphorically viewed like a dance, where climbers must perform the entire choreography without fail.

A Note on Grades

Grades deserve a special chapter of their own, as these objects or so highly debated in the climbing world. Effectively, what rock climbing grades attempt to do, is objectify the climbing experience. In order to make climbing difficulty levels 'translatable' to other climbers, technical grading systems have been developed. The grade scale allows climbers to judge their own ability levels when choosing climbs. Grades are important motivators in the climbing community, as climbers chase the next difficulty level, but as well are historical pieces of the climbing community, as at one time almost every grade was at the technical, physical, and cultural horizon of the sport. Grades in many ways represent the evolution of the athletic, technical, and mental capabilities of climbers. Grades are some of the most highly debated 'objects' in the climbing world, and the problem lies in their nature itself. It is an impossible task to 'objectify' the climbing experience to a number point which is supposed to translate difficulty levels. Some routes which are difficult for one climber, may be easy for another based simply on their body type. A clear example would be

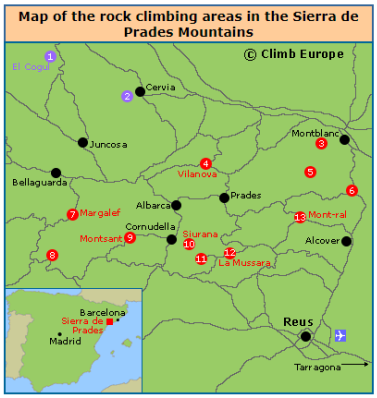
'tall' vs. 'short' climbers. Taller climbers may be able to reach through blank sections of a rock face, or skip bad holds making the climb easier for them, while another climber may not have such a luxury and will require more technique or strength to complete the same passage. Grades are especially scrutinized at the cutting edge of the sport, where the boundaries of what is possible are debated.

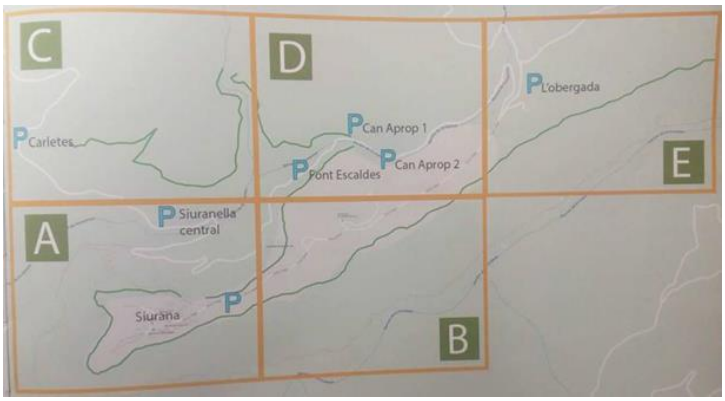
In order to visualize such a grading scale, the author has included in the final page of this report a typical grade comparison chart. This chart compares the different major systems of climbing grades used in the world today. They are: the British 'E' Grade system, the Yosemite Decimal System (North America), the French sport grading system, and others. The grade comparison chart is a tool for climbers to be able to compare the grades of their home country to what ever destination they are traveling in. This feature allows climbers, in theory, to assess what routes may be appropriate for them to try. However, it is worth noting that, as discussed above, there is no such thing as objectivity in this regard. Each climbing destination is different, and even though two different destinations may use grading system this does not guarantee that a '7a' in Siurana, for example, is the equivalent to a '7a' at an area in France. Yet, climbing grades are certainly a feature which has helped to stabilize the social world of rock climbing. More discussions on climbing grades will occur throughout the paper.

4.2 Introduction to Siurana

The Sierra de Prades mountains is one of the most important regions for sport climbing in the entire world. Within the destinations of Siurana, Montsant, and Margalef, some of the worlds most difficult and cutting edge sport climbs have been performed by the most famous athletes in the sport. The Sierra de Prades area is located roughly 130 km South West of Barcelona. The village of Cornudella is the main hub for climbing in Siurana, and hosts a range of accommodation options for climbers, a climbing shop, and numerous bars and restaurants. Figure 1 shows Siurana in relation to Barcelona, Figure 2 shows the village in section A, camping area at the top of section B, parking spaces, and the climbing sectors of Siurana which are shown by the green borders, roads are marked in white.

Figures 1 & 2: Siurana Location Maps





1: climb-europe, 2017 (left) 2: Arbones, 2016, (right)

The village of Siurana is located a further eight kilometres from Cornudella, however most climbers do not stay in the village itself. Most climbers who decide to stay closer to the climbing, will either camp in one of the parking areas (inside their car), in the wooded areas off of the road—which are free options—or pay to stay at Camping Siurana which has bungalows, a dorm facility, and spaces to pitch tents.

Guidebook author Pete O'Donovan describes the style and season of Siurana climbing.

> "A typical Suirana route features small, sharp 'crimps' and 'side-pulls' on vertical or gently overhanging walls of superb, rough limestone. Consecutive days 'on' can be very tough on the fingertips! The colder months, from October to April, are generally considered the main season here, but the existence of several very good shaded sectors means climbing can actually continue right through the summer." (O'Donovan, 2012, p. 4).

Today, Siurana is one of the most popular sport climbing areas in Europe, although actual visitation numbers are difficult to estimate, and as of yet, this has not been done. Siurana, similar to other tourist destinations, suffers under the weight of its own popularity. Those closest to Siurana, the climbers who have helped to make the place, worry about the future of the place due to surge of climbing tourists who seem to be growing in numbers every year. Joan Capdevilla (2016), in his blog dedicated to the local areas, discusses that there is a 'shadow of overcrowding' hanging over Siurana, and he questions the ability of the local actors to absorb the influx of people. This section serves as a only brief introduction to Siurana, as the following presentation of findings will take the reader through some of the actors, issues, history, and future considerations of Siurana as a climbing tourism destination.

5 Presentation of Findings

During the space of the field work, the author conducted seven interviews with local 'actors' (however one was omitted due to a poor quality recording), performed one focus group discussion with climbing tourists, gathered 90 questionnaires from sport climbing tourists in the destination, conducted six 'walk arounds' to count climbers in the destination, analyzed 414 online responses from 8a.nu related to climbing in Siurana, analyzed the recorded material of the local climbing guidebooks to get a sense of local actors and the historical development of Siurana, analysed multiple media sources related to climbing in Siurana, and finally, lived in the destination for six weeks taking notes, observing, and photographing the destination. This section will provide a raw presentation of some of the gathered empirical material, which has allowed the author to gain a deeper sense of 'how' climbing in Siurana occurs, and based on such a configuration, what are the resulting issues. However, not all of the material has been included in this paper.

5.1 Questionnaire Data

Of the 90 tourists the author gathered questionnaires from, 71% were male, 29% female. Sixty percent of the visitors were first time visitors, yet the average amount of visits was two. This statistic was skewed slightly by extreme outliers who had frequented Siurana on an annual basis, the most reported visits by one Slovakian climber was ten. Of the 90 climbers, only 18 were traveling solo, all other climbers arrived in a group. In total, there were 45 different groups, the

biggest of which was a group of seven climbers from California. According to the authors focus group material and discussions with questionnaire respondents while collecting data, it was clear that the majority of these groups were formed via indoor climbing centres in the tourist's home city, or region.

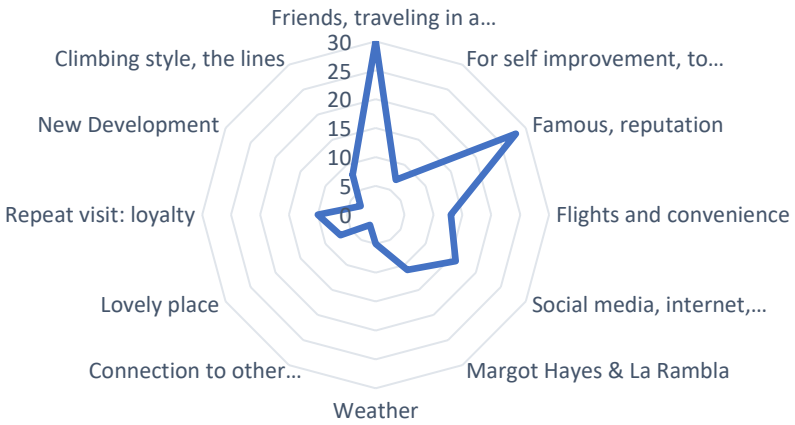
The average length of stay for climbers was 16 days, with the shortest being three days, and the longest being 90 days. Climbers were spending as little as 50 Euros per week, however these respondents happened to be living in their camperized vehicles. The highest spend by any climber was reportedly over 500 Euros per week, with the average landing at 190 Euros per week. The total amount of days stayed by these 90 climbers in Siurana, was 1469 days, or roughly 209 weeks. A basic calculation will show that these climbers according to what they have reported, would have a combined spent of nearly 40,000 Euros in Siurana.

The average age of the respondents was 30, with the youngest person being 15, and the oldest being 54. The majority of climbers, 60%, learned to climb in an indoor climbing facility, while 30% had learned outside informally, six percent had learned with their family, and two percent learned through an outdoor club of some kind. The average climber had just over nine years of climbing experience.

Respondents hailed from 15 different countries, however predominantly came from Europe. the US, Japan, China, Argentina, Chile and Brazil were also included. The largest group was Germany, accounting for 22% of the responses, yet surprisingly, the US was not far behind at 18%. The other countries all fell under eight or fewer responses (the UK and Switzerland both having eight).

Climbers were asked how they knew about Siurana, and why they chose to visit this destination. The responses were coded based on emergent themes, and the themes were recorded for their overall frequency as climbers had a tendency to give multiple answers to this question.

Figure 3: Trip Influences



2: Wilson, 2016

The themes that arose out of the responses were: friends or traveling in a group, self improvement or to try new routes, destination reputation (e.g. "its famous"), flights and convenience, social media & climbing media influences, Margot Hayes & La Rambla, weather, connection to other

climbing areas, lovely place, repeat visit, new development, and finally the 'style' of the destination. In total, the author recorded 140 different responses to this question.

It is clear through the above representation of the data, that the biggest influence on climbers travel behavior, was to meet up with friends or that climbers were somehow influenced by a group of climbing friends. The next closest response was 'reputation' where climbers had generally alluded to Siurana being famous, although most of the time they could not quite articulate exactly why it was famous, or why they knew about it. As climbers are highly influenced by the social setting in climbing, they are often influence by word of mouth from about places to go. They may not know a great deal about Siurana, however the climbing community talks extensively about destinations, so word of mouth is a likely method which 'transports' the legend of Siurana to new groups.

La Rambla and Margot Hayes was a great surprise to the author. Margot Hayes is a 19 year-old professional climber from the US, who recently became the first woman to 'red-point' a confirmed 9a+ (technical climbing grade). Margot was accompanied by climbing photographers and a videographer (notably North Face sponsored photographer and athlete Matty Hong), who were there to capture the moment of her success. The video was instantly launched and went viral within climbing related social media networks. Eleven respondents (12%) when asked about why they chose Siurana, directly referred to Margot Hayes without hesitation, while on top of this there were 16 other media, or social media related responses.

The route in which Margot was climbing La Rambla, is itself famous, one respondent exclaimed that she did not know where Siurana was, but knew of La Rambla. The exploits of famous climbers, performing 'cutting edge' climbs are always reported in climbing media networks. Naturally, climbers absorb, almost unconsciously, a great deal of this information, leading to organic perceptions of the destination. La Rambla is famous, as it was at one point in time, the most difficult sport climbing route in the world. It was developed at height of Siurana's fame, by Alex Huber, who was during this time, was undoubtedly one of the most talented, and widely mediatized climbers in the world.

5.2 8a.nu Data

This website appeals to only a small percentage of the climbing population, yet has amassed over 65,000 members, who have collectively recorded nearly four-and-a-half million ascents of rock climbs. This website exists so climbers can record their achievements. It creates a ranking of all registered climbers based on the routes which they have climbed. This website reveals the character of the climbing community to be driven towards performance, in an act that many climbers call 'grade chasing', as in, climbers are chasing the technical number grade (for example to step up from 8a to 8a+). Yet, technical grades of climbs are subjective based on the developers perception of how difficult they 'felt' the route was. The website helps to stabilize these controversies, each route can be rated by the climber as either 'hard', 'soft' or 'normal' for the given technical grade assigned to it. Over time, if too many climbers label a route as being too 'soft' or too 'hard' for the grade, a new technical grade may be assigned to it. 8a also facilitates, to a great deal, climbing tourism, as it exposes climbers to routes which are popular and recommended

in a destination. Lastly, it is a major source for climbing related news, and modern debates about climbing.

To collect the material, the author 'searched' for specific climbing routes in Siurana, namely, "Ay Mamita", which is the climb with the most reported ascents in Siurana. Over 50,000 ascents have been reported in Siurana since 2003. The author analyzed 414 responses from the website based on climbers who have reported climbing this route. The purpose of this, is to paint a better picture of the type of person who is visiting the destination.

Most of the climbers were male (83%), and the majority of climbers fell between the ages of 24 and 28 years old (at the time of their reporting). Well over half of those reporting their climbs were European climbers, however climbers from all over the world have recorded ascents in Siurana. The author has created a chart to represent such data, which has been included in the appendices at the end of the document.

5.3 Guidebook Data

In order to understand who has been actively 'developing' routes in Siurana, and to get a picture of how such development occurs. The Author analyzed data presented in the most recent guidebook from local author Toni Arbones which was published in 2016. The guidebook describes each climbing sector in Siurana, and includes the names of each climb, when they were bolted, who developed the route, and how many bolts exist on the route. The author counted each of these items by hand for each of the routes listed in the guidebook.

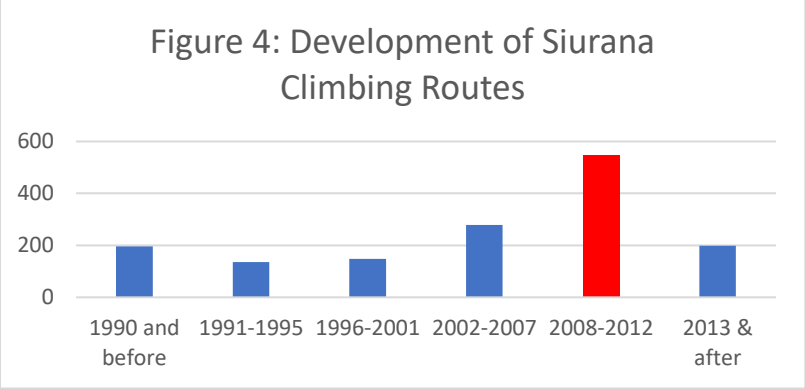
There are 1,585 routes in Siurana, and roughly 13,000 bolts have been placed, with an estimated value of between 40-60,000 Euros. There are 220 unique names mentioned in the guide book as 'developers', however 36% of these have only participated in making one route. The most prolific developers in Siurana are Toni Arbones, who has personally involved himself in over 400 routes (roughly 25% of all routes) and David Brasco (another local guidebook author) has contributed 188 routes. What the guidebook reveals, is that there is a 'hard centre' to the development of Siurana, a group of roughly 15-18 people, who have developed 77% of all the routes in Siurana.

What is interesting, is the involvement of climbers from all over the world in the development of the climbing destination. The vast majority of developers are Spanish or Catalan climbers, however, routes are still contributed by foreigners such as Alex Huber or Chris Sharma, both of whom are famous climbers. In order for climbers to obtain sponsorship, they need to 'produce' cutting edge ascents, and have media surrounding the ascent. As such, sponsored climbers will visit the popular hot spots, and aim to make their mark, literally, by installing new routes, and discovering a new pathway of 'holds' never used before.

The first recorded route in Siuana was climbed by R. Adsera, and J.M Jansa in 1952. It would take roughly another twenty years before another recorded ascent occurred in Siurana. This climb in particular was performed on a wall called "La Reina Mora", an area which was not further explored or developed until almost 2010. The earliest reports of climbs in Siurana are sporadic, occurring

throughout the years with little consistency, however it is safe to say that there was very little climbing done in Siurana all the way until the mid 1980's.

Development begins to kick in around the mid 1980's when climbers like Eduard Burgada, Joan Chapparo, Joan Olive, and other prolific names, began exploring the area. However, all the way until 1990, there were fewer than 200 climbs in Siurana, and the most famous and promising areas had yet to be developed. Modest growth in routes occurred through the 90's, however, the most impressive booms in route development start in the new millennium. This is around the time when Siurana begins to surge in importance as a sport climbing tourism destination. From 2008 to 2012, 35% more routes were added, over 500 in total. What is interesting, is that this occurs *after* Siurana's time in the limelight of the climbing world—in terms of 'cutting edge' new route development. The way that climbing areas are exposed to the global audience of climbers, is through the lives of professional athletes. In terms of hard, 'cutting edge' ascents, the eyes of the professional climbing community, by 2008 had moved on, as many of Siurana's challenges had already been climbed. By this time the top climbers were beginning to develop other areas in Catalunya—e.g. Margalef, or Oliana. To add to this interesting, finding, is that the majority of routes developed between 2008-2012, are 'easy' or 'midrange' in difficulty. In this period, Toni Arbones added 52 new mid range routes to the sector La Riena Mora alone in the most 'mass scale' push of development ever seen in Siurana (the ethics of which have been much debated by other developers). Of these routes, non are cutting edge, most are within the reach of average, to above average climbers—what the author would call 'the tourist zone'. Toni Arbones owns a local accommodation service, and perhaps his motivation for such mass development, is to attract climbers to stay at his campsite. The author stayed at this campsite for six weeks, and his first interview was with Arbones, which will be discussed later.



3: Wilson, 2016

There are three main guidebooks to Siurana, one produced by David Brasco, another by Toni Arbones, and lastly, one Rockfax guidebook produced by Dani Andrada and Pete O'Donovan. The Arbones and Brasco guidebooks are only for Siurana, while the Andrada/O'Donovan guide is for all of Tarragona Province. O'Donovan owns Rockfax, a British guidebook publishing company which produces English guides for all of Europe. Rockfax has been heavily criticized by the climbing communities. Selling area guidebooks are the most common way for local route

developers to recoup their out of pocket costs, from developing routes. As Rockfax is a company 'with no local ties', they are exonerated from such responsibilities to local climbing areas, and the source of the criticism is that they are hurting local developers by stealing proprietary information. 8a.nu hosted an entire forum on this topic, quote below, which roused a great deal of varying comments from concerned community members.

> "Marco Troussier, from the French federation FFME, has informed 8a that external guide production like Rockfax copying local production is a threat to local access work. FFME is working hard with access issues but often the external produced topos do not include the last local agreements and could create access problems etc. The equippers and the local topo producer make and update access agreements with the landowner and the local council in many cliffs. These guys are often upset when they meet foreigners with a commercial topo produced abroad. In some cases topos like Rockfax could created big local access problems, according Troussier. - The climbing community should support locally produced topos and local access agreements everywhere in the climbing world. Rockfax is stealing local money and creating access problems. Morality against profit, choose your camp!" (8a.nu, 2009).

The maintenance of installed equipment, is extremely important in the climbing community, for obvious safety reasons. The Rockfax guide gives a discussion about the type of installed equipment which climbers will encounter in the destination the entire discussion has not been included, just a few interesting points (Andrada, O'Donovan, 2012, p. 18).

1. 8mm 'spit' bolt: typical of routes equipped in the late 1980s and early 1990s. Most of these have now been replaced by modern bolts. Reliability: reasonable.
2. Parabolt, 10mm or 12mm with zinc-plated hangar: by far the most commonly used protection on modern sport climbs in Spain. Stainless steel varieties are often used on cliffs suffering from seepage. Reliability: excellent, provided the rock is good and correct installations practices have been followed.
3. Belay/lower-off with karabiner (2): homemade set-up using parabolts, hangers, industrial chain, and a karabiner which may or may not be UIAA certified. Commonly used by new route equippers in the region on account of the far lower cost compared to commercial lower-off/karabiner units. Reliability: generally good, though completely dependent on the condition of the karabiner.
4. It must be remembered that the equipping or rock climbs in Catalunya **is a completely unregulated activity**, and a route's inclusion in this guidebook is NOT a guarantee of the reliability of its in-situ gear.

This shows the most common types of installed equipment in Siurana. There is a tremendous responsibility on the climbing community to maintain such equipment, and this is undoubtedly the most pressing issue in sport climbing today. Andrada and O'Donovan further note that it is inevitable that fixed climbing equipment will deteriorate, and that each individual climber has the responsibility to assess the state of this equipment themselves. The climbing community attempts in many ways to encourage climbers (climbing tourists especially) to take responsibility for themselves and to not treat climbing destinations as completely safe theme parks. However, as noted in the literature review, there is a growing trend of commercialization, and pressures for the climbing community to conform to the conventions and norms.

As more and more people are converted into climbers, and have the desire to partake in climbing tourism, the fear by local climbing communities that some one may become hurt or injured as the result of equipment failure. This has driven local community actors to 'act' in certain ways. They respond to the flow of tourists by adding increased management measure, etc. However, in Catalunya, this is a challenging issue, the reasons for which will be discussed in time.

Andrada and O'Donovan, in their acknowledgement section of the guide had this to say about local developers.

> "Our first and foremost acknowledgement goes to anyone who has ever cleaned, equipped, or re-equipped a route in this area (of whom many are included in the list below). It is often hard and dirty work, as well as expensive...[and]…Finally, a big thanks to our sponsors" (Andrada, O'Donovan, 2012, p. 6).

Managing climbing resources is a big task, and this is performed entirely by volunteers with very little, if any help from the grander network of the climbing community. This is perhaps due to the fact that climbing networks are seemingly disconnected, climbing brands, media, indoor climbing centres all seemingly have little to do with climbing destinations. It is the authors supposition, however, that this relationship needs to be strengthened as climbing destinations, indoor gyms, brands, media, etc., are all mutually interdependent.

Each one of the guidebooks have a section on "local ethics" which attempts to discuss 'how' climbers should act in the destination. The pressing items which are discussed are: garbage and littering, seasonal 'bird-bans' closures of certain areas due to nesting birds, complete closure of some areas due to 'bird-bans', closures or areas with particularly challenging 'access' issues—for example sectors which are located on private land, controlling pets is a big issue (not letting dogs run wild), human waste is completely unmanaged and a large issue, parking represents a big challenge as many climbers today have large camperized vehicles, and finally, climbers are encouraged to be friendly and cooperative with the local community.

While the climbing community has always strived to manage their impacts, today the pressures from tourism are becoming increasingly complex. Each one of the guidebooks discusses that the climbing tourism is resulting in increased pressures, and that the responsibility of proper management lies within each climber and cannot merely be transferred to the local community.

Toni Arbones, in the opening statement to his guidebook has this to say about climbing in Siurana:

> "Siurana evolves, its extent grows larger with every year that passes. The texture, the colors, and the slight features found on each face defines its "vertiquality". Over the many years, I have grown to love these small details. I dream about the ephemeral of free climbing. **Now, all of the sudden, each face is overcrowded, infecting the old routes, then making profit from the rock or to make use of the time…or we don't know.** Now is the time to continue climbing to the limit, near the benchmark of what is possible, to give breath to these routes…because relentlessly, today everything changes quickly: the name doesn't matter, **the grade is the priority and the plastic is the reality of climbers that visit this place**. **Its important to give value to why and what we grab.** We have a hard-picked selection of unique landscapes, in which we have a connection with. This is the reason why we keep climbing in this corner of the world called Siurana." (Arbones, 2016, p. 5).

The English translation of this quote makes it difficult to understand. Yet, what Arbones stresses, is that Siurana is becoming overcrowded, and that some climbers 'make profit from the rock'. What he refers to is the reality that many professional climbers are sponsored, based on their 'performances' in Siurana (for example, Margot Hayes climbing La Rambla). He also refers to the "grade being the priority". What he means is that climbers 'chase' grades. Often the entire purpose for a climbers travel behavior, is to climb a route with the highest technical grade possible. While completing sport climbs with high technical grades can be viewed as a personal achievement, it should also be viewed as a social achievement, as climbers engage with the internal ethics of the

sport, and especially with the social status allotted to such achievements. Finally, he discusses that "plastic is the new reality", 'plastic' is the term which climbers use to describe an indoor climbing centre, as the holds are made of such material. Arbones, in this comment is alluding to the fact that climbing culture is changing as a result of this new reality. As many climbers are socialized in this environment today, their goals, ethics, and motivations are shaped by such a reality, and can be seen as divergent from the ethics of the climbers of the past.

5.4 Climbing Media

Figures 5 & 6: Margot Hayes in Siurana

4: The North Face, 2017 (left) *6: Matty Hong, 2017 (right)*

Siurana was a major hot spot for climbing media during the 2016/2017 season (while the author was placed in the destination). The most widely reported ascent was Margot Hayes completing La Rambla, and becoming the first woman to climb a 'confirmed 9a+'. Photos and videos of Margot reaching this ground breaking achievement for women in the sport were dispersed throughout climbing networks globally.

News of Margot's ascent was reported in Outdoor Magazine, Climbing Magazine, Rock and Ice Magazine, Desnivel Magazine, Gripped, UK Climbing, 8a.nu news feeds, Epic TV (climbing and outdoor media channel), Planet Mountain, and even mainstream news feeds such as MSN, Reddit, Mensjournal, and National Geographic. What circulates through this network are photos, videos, stories of her performance, etc. This achievement is promising for Margot's career, and will likely garnish her much in the way of sponsorship funds, global climbing trips, and free equipment.

This is becoming the norm in climbing. The mediatization of the sport is quite extreme. El Pati is the name of the sector where La Rambla exists. Every day in El Pati, professional climbers are trying routes like La Rambla, accompanied by photo journalists or documentary film makers. Ashima Shiraishi, a famous sponsored American climber from New York, arrived in Siurana with a team of photographers and videographers in tow while the author was in Siurana. La Rambla, is a theatre, where climbing media is produced. As media follows sponsored climbers, so do the eyes of the consumer.

Today, media (photographs and videos especially) are the 'key' objects exchanged between athletes and their sponsors and can be viewed as 'tokens' (Beard et al., 2016). The purpose of this media, is to inspire others to climb, to excite and engage climbers with the central concepts in

climbing: self improvement, challenge, excitement, travel, lifestyle, and especially, destinations (Albayrak & Caber, 2016). Margot was not the only person to climb La Rambla this year. Four other climbers, all men, were able to reach this goal, however their ascents were not as widely publicized as La Rambla is no longer the 'horizon' of male achievement in climbing.

Interviews with Media Professionals

Climbing media is one of the important influencers of the social world of sport climbing, and the author especially was interested in conducting interviews with professional climbing media producers. A climbing destination is almost always indirectly promoted through climbing media networks. In order to understand how these networks have an impact on tourism, the author interviewed two climbing media professionals while in Siurana.

Adam Bailes is an independent media producer who, during the time of the interview, was contracted to make a film about local climbing legend Dani Andrada. Adam is a full time climber as well, and travels extensively for his work and lifestyle purposes.

> "My name is Adam Bailes. At the minute I do climbing media, videos and photographs. I work outdoor news media outlets, for outdoor companies as well. I'm actually a journalist, I've been a journalist for about 4 or 5 years. I started doing climbing media when I was about 17."
>
> Author: What are you doing now?
>
> "It just depends really. I am mainly working with brands, but its just who pays best really. If you could do a video for a climbing company, often the company will pay you for that video, but now within the last 2 or 3 years. There are actually dedicated media outlets, like UK Climbing and Epic TV, have become quite big in the last couple years. Now they are in the place to pay media producers for content. So, its possible now to work as a proper journalist, and not just for brands. I prefer to work closely with brands, it's just more comfortable, it's a nice relationship to have, there's like no time pressure. At the minute, I've just started doing a film with Dani Andranda, for Boreal. Just about his ascents, and his projects, how much he has done around here." (Bailes, 2017, personal communication).

Specifically what the author set out to know, was how media plays a role in connecting the dispersed networks of climbing communities around Europe (or the world). He is interested to discover how media can connect a 'place' such as Siurana, with a potential market of climbing tourists (e.g. Germany, Poland, the USA). A discussion ensued about 'how' people find climbing destinations, 'how' a destination is exposed to global audiences.

> "Ten years ago people used to find destinations and information about climbing areas though guide books, and magazines. There wasn't much media. There were maybe 5 main publishers in the world. It was still just a subculture, and wasn't mainstream at all. But since about 2012, there are more publishers, online especially. In that way, people have more access to more data. So when media goes online, people go to those destinations [shown in the media], because it looks cool. The more access to media, the more access, the more access to quality media that gives us information, and guidebooks as well, it's a massive thing that helps climbers find places. Like look at what Rockfax guides have done for tourism in Europe."
>
> Author: How do you explain such an explosion of climbers?
>
> "I think it could be explained completely unrelated to climbing. There has been a massive development in internet and technology in general. Also, its something you cant buy…and people like to get outdoors. Like **climbing gyms as well have helped to create a market**. Look at London for example. There is a massive climbing community, and loads of gyms, but no rock." (Bailes, 2017, personal communication).

Actors typically have a difficulty in explaining 'why' there are so many climbers today, however, as Bailes points out, climbing gyms have effectively 'created a market'. This is an important point, as climbing gyms are the main converter of everyday people, into climbers—they have 'transformative' power and thus can be related to Latours concept of 'plug-ins' (Latour, 2005). Yet, actors still have difficulty in connecting the dots in the network, and viewing the network as a global whole. Bailes brings up another interesting point 'look what Rockfax guides have done for tourism in Europe'. Yet, according to the discussion in the previous chapter, we can see that Rockfax, while directly encouraging tourism to destinations, does not assist destinations in the management of their resources. An externality of the production of Rockfax guides is the impacts from tourists to the destination which they promote through guidebooks.

Guidebooks have traditionally been published by local area developers. However, Rockfax changed all of this by producing guidebooks to areas all over Europe, essentially copying the popular tourist guidebook format of mega publishers such as Lonely Planet. This can be viewed as part of the general trend towards 'mainstreaming' (Ackerman, 2004) of the climbing industry, where the hard centre of local ethics is slowly eroding as climbing tourists are no longer in-tune with the subtleties of local ethics—such as the suggestion that one should purchase a local guidebook to support the developers who volunteer to manage the area.

> "The problem is, in most countries, there is no unified council for access or climbing related stuff. Like in the US they have the Access Fund, or in the UK they have the big strong organizations [British Mountaineering Council]. But in most places they don't have that. Or maybe they do but they just focus on competitions or something, and not necessarily tourism. The big misconception, also, is that even the biggest brands, don't make a lot of money. Like the markup on a climbing rope is nothing. Climbing brands make clothes, even though they don't really make a lot of money off them, but just because its good for the brand. There is more money in trekking, and the outdoor industry in general. But its true there are issues with climbing, like blasting these tiny towns with just hundreds of people." (Bailes, 2017, personal communication).

In Spain, the FEEC (Catalan climbing federation) mostly organizes competitions, and does not assist locally with managing climbing destinations. The author attempted to connect with FEEC on multiple occasions for an interview, however was never successful to organize an interview. While it would be nice for brands to participate in the management of destinations, it is not always possible due to financial restrictions. However, the author would like to point out, that without climbing destinations, there is no climbing. Outdoor brands indirectly sell outdoor spaces, they sell the concept of the outdoors (through media), and are the main contributors to the trends of mainstream commercialization of outdoor spaces. So, in this sense, while brands may not have a great deal of funds to help manage destinations, they should realize as a 'global whole' we may be reaching a critical turning point where destinations can no longer keep up with the "tsunami of climbers" (Arbones, 2017, personal communication), and the impacts they cause.

The discussion turned to a very interesting finding, the idea that destinations 'trend' along with media.

> "Places will get really hot for a few years, then they'll fade out. A really good example is, Sardinia, in Italy. Back in, like, probably the 80's and 90's, it was a major destination. There was a really good guide, and **a lot of really good climbers were going there.** It was this, just absolute mecca, and it still is, but hardly any body goes there. Twenty years ago, it was this massive trend, like everybody is going there. I think that happens in locations across Europe really, that **everybody will be talking about one place**. There is always going to be

some people going, but its not the same any more. Like the big one at the moment is Chullia, every body is going there. […] I suppose, you need to look at these things not in exponential growth, but also in terms of trends, because people will get psyched about certain places"

Author: Why are there trends?

"**Media plays a massive role, I mean, you can basically draw a direct line between climbing media, and where everybody goes.** People follow climbers, top climbers, people get a lot of inspiration of where to climb based on where the pro's climb. While certain places are HOT everybody goes there. When it comes down to holiday time, which places are hot, or in, influence how people travel. Like Chulilla, everyone is going there now. Also, people follow each other, because we like climbing with friends. Like, if one person goes there, and maybe more people go there, then all of the sudden it a big group that ends up there. People just follow each other**.** They could be friends from gyms, or people you've met in other climbing destinations. Like, also, its funny how you'll go to places and just meet people from your home gym, or friends you know, **because it seems like everyone is going to the same place**." (Bailes, 2017, personal communication).

The next interview was conducted with professional competition climber, professional adventurer/expedition climber, and media producer, Stephane Hanssens. Where the interesting findings related to climbing tourism 'trends' continued. However, first, our interview began with a discussion surrounding the climbing media he has produced from previous expeditions, and his relationship with brands.

"I've been to China once, climbing, it was pretty cold, more like alpine, it was really nice, but really hard. I've been to the Capris in Venezuela, you've heard about it? The climbing is super nice, we set some routes over there, and make some film every time. I've been to Patagonia also.

Author: What kinds of brands have sponsored your trips?

"It depends because most of the time, it can be only equipment, for free, which is already a lot, because it's a lot of money. We don't have to pay for that. But then for instance, one of the team is sponsored by Black Diamond. Then the Belgium Climbing Federation helps us, with travel costs, in Belgium, its not just sport climbing, its climbing, mountaineering, and hiking federation. Patagonia was good sponsors for us. They give us a bit of money. Patagonia was a good sponsor. I wasn't sponsored by Patagonia, but they sponsored all the expedition, so they give money, for trip costs. Also now I have Trango for clothes, shoes, sometimes food, and some times sunglasses." (Hanssens, 2017, personal communication).

Multiple networks of sponsors converge around the media project. For example Hanssens was not himself sponsored by the outdoor brand Patagonia, yet the overall project was.

Author: Your main deliverable to them is the film itself?

"It depends. The expedition itself, and the film are two different parts. So we make an expedition, and we get equipment for the expedition. And sometimes the brand wants nothing, **maybe just pictures**. But when we make the movie, afterwards, we get sponsors for the movie. So they get to be the main sponsor for the movie—Patagonia for instance. When the movie starts, there is the main sponsor "Patagonia". They pay for the trip, then they pay for the movie as well. Petzl for instance, in China, we have a deal with them about the picture, about the movie, about everything classified and they give us all the equipment we needed, as well money for the trip. But every time its different. When we go with other people, like a photographer or with a film maker, its different when its only us, filming by ourselves. Because **the photographer may have a deal with one brand, another brand, and another brand,** mostly they give us money for the trip, and for that they aren't asking much, just picture, and we just mention the name. And for the movie its like, with this money, we get that, that, and that." (Hanssens, 2017, personal communication).

The key ‘objects’ exchanged between the athletes and the sponsors is photographic and video content. However, not all photo and video content is useful. Brands are specifically looking for ‘imagery’ which helps to build the concept of climbing, which helps to inspire their audiences with the idea of adventure itself.

> Author: Why do you think they are so interested in these films?
>
> “Its because, the expeditions, they are really interested about this because, its something very **‘dreamable’** for people….do you understand me?
>
> Author: Like it builds peoples dreams?
>
> “That’s the point. When you go away for a while and you do something that seems impossible, for the public its something like that really helps people live an adventure, and, well, be inspired by adventure.”
>
> Author: Speaking more generally, about the world of media and climbing—do you think that media has an impact on people to go to places?
>
> “Yeah for sure. I can give you a couple examples. The climbing media, for the moment, like you’ve seen the video of Adam Ondra, with “La Dura Dura”, it was quite popular, with Adam and Chris [Sharma] in Oliana [another climbing destination in Catalunya]. Now everybody is going to Oliana, because of the movie. Because all the people going there, magazines, Instagram, pictures, Facebook, everybody goes there, because its ‘IN’ right now. In Siurana now we can see we talk a lot about Siurana for the moment, because Margot [Hayes], she did La Rambla, 9a+ for the women, and so there are the other women trying, and we see a lot of pictures and social media this winter about Siurana. Its going to be maybe a little bit more busy in Siurana now. Like, in Ceuse, after Chris Sharma climbed Biographie, it became super popular, many many people, and now, in the end, nobody talks about it anymore, still a bit because its wonderful there, the place is nice, but its going away, and its always like that. […] Like Oliana at the moment, a lot of people are going there, even though most of the climbing is too hard for most people. And the “good” routes actually are super hard ones, like 8c. 8c+…the 8a’s are not that great and there aren’t really any 7’s.” (Hanssens, 2017, personal communication).

Mediators are what weave and stitch network together, they are the ‘objects’ disseminated in the network which make the network hold in time and space (Latour, 2005). In this sense, it is clear that media is a key mediator in various climbing networks. Hanssens comment about places coming ‘in’ and ‘out’ of style, in relation to media indeed shows such a dramatic connection. Media is the vehicle which transports and translates climbing to multiple audiences on a global scale. As Bailes commented, technology itself has sped this process, as climbers have access to more media than ever today through social media networks. Climbing areas have the ability to be indirectly translated and transported through these conduits, to reach the eyes of the climbing consumer. When media about a destinations trends, Bailes and Hanssens theorize, tourism can follow along.

Climbing consumers tend to ‘tune-in’ to the lives of climbing celebrities, following their ‘ascents’ through social media, and through climbing documentaries such as “La Dura Dura” as Hanssens described, because the media in climbing is concerned primarily with the evolution of the sport. It follows those who are ‘pushing the boundaries’ of the sport to new limits. This is an interesting environment, as it is highly innovative and exploratory. Producing the ‘cutting edge’ of climbing, can be seen as a highly mobile practice, as climbers both conceptually expand the limits of climbing, yet also physically expand the boundaries of climbing as well, by further incorporating the otherwise inanimate objects [cliff faces] into the climbing network.

Today, in sport climbing terms, Catalunya is the centre of the universe, or could be seen as the 'hard centre' of the world of sport climbing. Catalunya is a centre of production where the worlds most difficult sport climbs are performed by athletes, it is a centre of production for the new standards of the sport entirely. However, it is also one of the main centres of production globally for sport climbing media. Such media helps to define and conceptualize the sport itself, and translate what the world of sport climbing is all about to the growing mass of climbing consumers.

> "It's the Mecca! Not Spain, really, I will say only Catalunya. Like, you could check Instagram or Facebook, and see all the 9a's climbed like by searching the 9a hashtag or something. You would probably see that over half are in Catalunya. More than fifty percent of the people will be in Catalunya. Its just my feeling." (Hanssens, 2017, personal communication).

Media holds this relationship between Catalunya and climbing tourism durable. The media produced in Catalunya encourages a great deal of climbing, as places like Siurana are in the minds of climbers. However, as ANT studies are about 'how' things may fall apart, equally as much as they are about 'how' they hold together. It can be seen that when the 'cutting edge' of climbing moves away from an area, so too do the eyes of the community. So for now, THE place is Catalunya, yet the discussion of how long this will last is debateable.

Perhaps the greatest threat which may challenge Catalunya's position as the centre of the sport climbing world, wont even come from outdoor spaces, but rather from those spaces which are 'indoors'.

> Author: Where do you think climbing is at now, what does the future look like?
>
> "Yeah, the future is huge. For me the good thing about climbing is that everybody can find their own project. For instance, the big thing everyone is talking about now in climbing, it's the Olympics. It's a big movement in climbing competitions. Im doing competitions still, I feel it, in the federation, in the team, and with everybody, much more pressure. **Its more like, they want to separate competitions from climbing.** Its going to be hard….well like ten years ago, maybe less, people can still climb outside almost all year long, and still be world champion. Now everybody is training for competitions and just only doing competitions. And **its going to be more separate from the rest of climbing**."

This statement echoes commentary arising from the authors focus group (which was not included in this paper), that climbing seems to be, splintering again, into yet another subworld—the 'plastic' world. Rock climbing is NOT becoming an Olympic sport, indoor climbing is, while for now the world of indoor competition climbing closely resembles outdoor rock climbing, it will further become more distinct. Indoor climbing surfaces have no legitimate reason to mimic outdoor spaces, and indoor climbing movements no longer need to reflect the type of movements climbers would regularly perform on natural rock surfaces. This is the intention with the world of indoor competition climbing, to create something distinct from rock climbing itself. However, the exposure resulting from climbing entering into a mainstream environment (like the Olympics), will likely attract more people to try climbing than ever before—which will of course have consequences for climbing tourism destinations.

> Author: There are more climbers than ever now
>
> "Yes and there will be more!"
>
> Author: What happens to climbing destinations, how do climbing destinations manage this growing group of people?

> "I've thought a lot about this for the moment. I wrote an article for the Belgium federation some years ago. There are a lot of issues: the rock is more polished, there is maybe some garbage, or human waste. **But for me, the problem is that everybody is going to the same place.** For instance Arboli, here, around the corner. No one! Like everybody goes to El Pati, but there are many other places where no one is going. And it doesn't mean that its not great because nobody is going. For me, the goal is to spread people everywhere, or to more or other places more than just one place." (Hanssens, 2017, personal communication).

Media generally plays a role to socialize climbers in an ethical way. Most climbing magazines and documentary films will stress the importance of how climbers should behave. However, there needs to be a more robust participation from entities such as indoor climbing centres to ensure that new climbers are socialized to proper behavior in an outdoor environment . Indoor climbing centres indirectly have a responsibility to the environment, given that they are the main entity responsible for 'creating' climbers today.

The discussion with Hanssens turned away from media, and into the complexities of destination management in climbing. In order to keep the dialog intact, however, the author has left it in this section, although it is not entirely related to media.

> "The problem in Belgium, is that the federation does not want to take care of it, the nature. They care more about plastic and competition, because its easier, and they get more money. For sure they should have a responsibility towards these places. For instance, a big problem that will come in a few years, is the bolting. Most of the places where people climb were bolted maybe ten or fifteen, maybe more years ago. In a few years we will have to re-bolt everything [because the equipment is becoming outdated]. People forget most of the time, that climbing is dangerous. And people forgot about this because they come from climbing gyms, because the ropes are all there, and there are matts and everything. Climbing Is dangerous. Its part of climbing. Like, Siurana is on private land. What is something happens, and someone gets hurt, then how does the land owner see climbing here?" (Hanssens, 2017, personal communication).

This is especially a problem with 'how' climbers are socialized today, in a gym, far from outdoor spaces. Climbers can learn and become strong climbers quickly today because of indoor climbing gyms. In the past, where a climber would develop physically over a longer period of time, they would also gain a sense of the outdoor environment, safety, the internal ethics of climbing and so fourth. The responsibility that indoor climbing centres have to socialize climbers in a responsible manner seems to go unnoticed. Much of climbing occurs on private land, and the current discourse between land owners and the community is not always favourable. Land owners fear the threat of liability resulting from accidents. This is perhaps the most challenging reality to the future development of climbing as a recreational and touristic pursuit.

> "In Belgium its worse. So, they passed a law maybe ten years ago, that land owners have the responsibility if someone gets hurt on the land, even it someone is doing something wrong. For now, what the federation has to do, is pass an agreement with every owner of the cliff they have to sign a big paper. Sometimes they have to pay for that, and rent the cliffs from the owner. They are liable. We [climbers] have to be part of the federation if you want to climb in Belgium, because they have to pay for access to the cliffs. Actually the federation has to pay people, and they have the agreement, also the agreement has parts about the trees and the birds etc." (Hanssens, 2017, personal communication).

To move back to the topic of media, Hanssens theorizes that the current sponsorship environment today may have an impact on the future of climbing development. In the past, climbers were sponsored based 'what' they climbed, the routes they developed and contributed to the community. Today, however, the main object which is exchanged between climbers and their sponsors is media

and imagery. So it is possible for the new generation of climbers, to receive sponsorship for only 'repeating' old lines, while never bolting or developing their own routes.

> **"I don't see a lot of people setting routes in the young generation. Its not something they really care about.** Bolting, its hard work, and in Siurana, or even Margalef, most of the people setting now, are the same ones, I mean they are doing it for 20 or maybe 30 years—its either Toni or Dani. In general, there aren't many new people. Even in Oliana, its mostly Dani. The new generation will need some people, because in order to find the new level, we need the people to make it. But I don't see a lot of people doing it." (Hanssens, 2017, personal communication).

The author asked Hanssens what he 'feels' makes climbing happen—in effect, to describe, what drives the growth of the sport.

> "There are many things. But mostly, the factor I can think of, it's the climbing gym. Like in France, in two or three years, you can multiply by two the number of climbing gyms in France. More talk about climbing, more people climbing. After they like to go outside. Before, most people, they climb outside, then they go inside only to train for climbing outdoors. Then, it was kind of like 50/50 [indoor vs. outdoor], and now, the climbing generation, is the fitness generation. People, instead of going to the gym [fitness gym], to push weights, they go to the climbing gym. Because its more fun, you can talk to people, its more fun than the [fitness] gym. But less people are going outside than before. **Like before, in the beginning of climbing gyms, it was like 100% of people, but now its maybe like 10 or 15% maximum.** Which is good, because if they all went outside it would be too much! (Hanssens, 2017, personal communication).

By now, it should be clear that media has played a central role in the development of climbing, by translating, and transporting places, through media networks and social media feeds to the eyes of the climbing consumer. It should also be clear that destinations are indirectly promoted through the lives of sponsored athletes, who work for climbing or outdoor brands. Finally, some of the ways in which climbers become climbers, have also been discussed. We have been introduced to a wide range of issues in the world of climbing as well, related to the impacts of tourism on climbing destinations. The next section will move on to interviews the author performed with the 'hard centre' producers of Siurana's climbing resources, los equipadores, who are the architects of Siurana's climbing environment.

5.5 Los Equipadores (The Developers)

The author conducted four interviews with local developers, guidebook authors Toni Arbones and David Brasco, as well as other local developers playing multiple roles Eduard Burgada, and Oscar Gimenez. As well, he analyzed other sources such as blogs, or videos to gather material about those developers he was unable to speak to. Due to ANT's internal ethics of 'following the actors' the interviews will be presented in a linear fashion. This is to show how interview participants 'emerged' as the network revealed itself.

The author arrived in the destination knowing little about Siurana, however, had been directed by climbing peers, that the best place to start, was at Camping Siurana, as this campsite was owned and operated by Toni Arbones, who also happens to have, in terms of quantity, contributed the most routes to Siurana.

Toni first came to Siurana over 30 years ago. He notes that at the time, there were less than 50 routes in Siurana. He discusses how at the time, there was little to climb, and how the major

revolutions in climbing (sport climbing) had yet to really impact Siurana. He, also shows that climbing shoes, even, were relatively new 'things' in climbing when he began.

> "When I was here, like the 6th people, I was not the first person to come here to try to develop here. Others did not have the luck or the opportunity to come to live here. And I come here, I was the first climber, moving from the city, there was already some tourism, but not much. You know 30 years ago, sport climbing is not solid. When I started climbing I spent 3 years doing 6a's, and its just brand new the climbing shoes. Then everything…we do [they bolted]…its new, when I arrived to climb 7a, the maximum level was not so high [in Catalunya] then when I do 8a, I've reached the top level of Catalunya at that time. Then from there I needed to bolt my new routes, for something new level. We bolted until 8c. All this, you may say, wow, that's so impressive. But to do 8b+ in 1995-96, was like the top level. It was good for me, because also some brands, they have me, [he was sponsored] which is good. And also because we discover the free climbing, the sport climbing. And this also makes for us, like a, not a value, but wow we are super motivated because we push our limits and then our limits is the limits [of climbing in Catalunya]... And this was kind of good in this moment, because, with another guy, with a similar level, we push a lot the limits one to the other. And we construct the level, until another generation comes who will do it better" (Arbones, 2017, personal communication).

Toni has spent the majority of his life as a sponsored climbing athlete. In the mid 1990's, Siurana was featured in the climbing documentary film "Masters of Stone", which helped to expose the place as a destination for rock climbing. Toni was featured in this film climbing routes which he had developed. As much as Toni has helped to develop climbing in Siurana, Siurana itself, has helped to develop Toni. What he has learned here, he has taken all over the world, as his sponsors pay him to develop climbing in new destinations. He takes the practices learned in Siurana, and applies the ethics, techniques, etc., to other destinations, effectively diffusing the practices of sport climbing and extending the boundaries of the social world.

> "Yeah I bolted routes in many countries, I don't know, Madagascar, Patagonia, Pakistan, Venezuela, Morocco, china. My sponsors always help me, with gear. Now I have a sponsor, I have many different, 3 years Patagonia, 5 with North Face, and now with Kailash newest sponsor for 3 years, and these people also pay me my trips. Normally the sponsors they just give to you the gear. Free stuff, and you destroy it. For personal gear I don't buy, but I buy bolts and I buy drilling machines. I have bolted maybe more than 1000 routes around the world […] I buy the bolts, but in China they pay me for bolting. […] A private company, paid me for developing china, and now I try the local government of the places where I am developing, they also can help me. I visited one area, its called Lo Yei, for 3 years they pay me accommodation, food and transport. This year maybe I go again, for making a film, but this is unique. Also this brand Kailash, for 2 years, they take me, they watching me bolting for Petzl, and they say wow! Your bolting so fast…and good lines! You like to come here, and help to develop the Chinese community? (Arbones, 2017, personal communication).

Such a discussion clearly shows the influence of brands on developing the sport, paying for Toni to travel and develop new areas. He notes, however, that things are changing dramatically in climbing today, as the interests of brands, in terms of the relationship they have with their athletes, is changing. As well, the climbing community at large, has lost its interests in developing and managing climbing resources (as was also discussed with Hanssens).

> "Before the climbers were much more involved, in Europe, I don't know about the US. In Europe, the climbers are much more involved in developing, and cleaning, and bolting. But now, many many climbers they just consume climbing. They don't really care so much about who is bolting. They think that the community pays for bolting, this is not true, maybe in their country. But in the villages here, they are all done by volunteers. […] Black diamond changed a lot […] today they sponsor people who only repeat routes, and they are not

> super involved in the community. This, what is here, is because people work and make it. (Arbones, 2017, personal communication).

Toni exclaims that rebolting efforts, and managing the fixed hardware, should be paid for by climbing brands or that there should be some participation from them. It is clear, that without developers, there is no outdoor climbing. The hard centre of the community has afforded the growth and expansion of the culture of climbing and climbing related industries. Yet, brands seem to be pulling away from destinations, and the management of the implications of climbing tourism is left up to local communities. However, it is the authors supposition, that without assistance from brands, climbing destinations may be heading towards a complicated future.

The author discussed with Toni, the impacts of climbing tourism, what are some of the issues, what can be done, what are his thoughts? Below sections of the interview have been spliced together.

> "It's a tsunami of people coming to here, why? People are leaving garbage, and lighting fires! If its ten people its ok, but if its 5000! You will see what happens, like in Easter time. Its insane. We need to make a proper, a good place for all the people who stay in vans. There are so many of them now! 500 vans do the same. Priorat before was the poorest area in Catalunya. Look at everything we have brought to these villages, everything, we give the life to this remote area! Did they help us with something? In cleaning a paths, or rebolting, or to make something? NEVER! The change is really fast here…I don't know about other places, but here its very fast, in very little time. Siurana is always very popular. Many people. In the last two years, with the rules in margalef. We feel its more and more and more people, fast. We still want to be climber here for 20 more years here!" (Arbones, 2017, personal communication).

Indeed, the author has witnessed the crowding in the destination during the Easter holiday, which is Siurana's busiest time. For example, at one sector, with only 25 routes, the author counted more than 60 climbers. Notably, there was a group of 30 from the White Spyder Climbing Gym in London. The gym regularly offers climbing trips to its clients, and take the form mostly of instructional camps. This example is one of the few forms of organized sport climbing tourism. According to Arbones (and other interviewees) one person privately owns around 60% of the land which the climbing occurs in. When asked how he feels about climbing, Arbones exclaimed that "he doesn't know what to do!". Arbones mentioned specifically in the interview, that 'more' of everything was needed.

The climbing group itself, the social world of climbing has volume. In many ways, and it has caused local actors such as Toni, to act, as Toni has furiously developed new routes to meet the demand. When asked why he felt that so many people were coming to Siurana, Toni cited many reasons, the author will stress the one which stood out to him the most.

> "Social media, and now if you see a lot of sport climbers coming, people like to see the pro climbers here. Adam Ondra is here these days. There are five people climbing La Rambla everyday, its insane " (Arbones, 2017, personal communication).

In the beginning, when Toni started developing routes, he describes how he carefully, and meticulously thought about every 'bolt' placement. However, he describes his method for bolting routes today as **'industrial'**. This is something that he has been somewhat criticized for by other developers, as rushing the process. Others have commented that, 'the quality is not there'. Developers are always discussing ethics and tactics. This is especially important, as, once a route

is ‘bolted’, or equipped, the ethics of the community demand that it remains unaltered, so in a sense, ‘bad bolting’ can ruin a route, or at least can ‘kill what could have been’ otherwise.

Climbers, and developers had different theories about how the destination should be managed, but also, about the things which needed to be changed. For example, Oscar Gimenez, who is a local route developer, and as well has been sponsored in the past, discussed that the FEEC, the Catalan climbers and alpine federation was not involved enough in the management of climbing in Catalunya.

> “One of the problems here, is that the Federation, they want to be focused, not only about the insurance of the climbers, but mostly the competitions. They don’t want to focus on the global things about climbing: rebolting, making policies, making places for camping, or having standards on quality. In Spain, they are only focused on competitions [supporting or organizing indoor climbing competitions]. We have problems here with the animals [bird especially], we have forbidden areas. […] They [FEEC] don’t have a very good focus on everything surrounding climbing. Tourism, places, animals. They must take a big role around this. Because climbing now, its not just sport. Its tourism, money, it’s an opportunity for small villages. In the areas now, where there are climbers, now every year there are more people. They need to help with everything that is involved in climbing.”

> “We need a group that has enough weight to speak with the government, when you compare [us] with the beach and Barcelona. Its not enough weight. But maybe the Federation, if they have a study, that can show how many people come here. They can say “hey, we need more money for this. […] The problem here as well, is that all of the land is private. Its not from the government. These people don’t feel so good about all of the people, and cars everywhere. We need to speak with the people to give them something, or some help from the government, to make sure we have a good relationship with people. Only the people from the area, its not enough if its just us. These people are looking every year, and they wonder, what happens if there is a fire, or if a bolt fails.” (Gimenez, 2017, personal communication).

What if a ‘bolt’ fails? This really is one of the pressing issues in climbing tourism. ‘If’ a bolt fails and a climbing tourist were to become seriously or fatally wounded on someone’s private land, there is a strong possibility, that the land owner would forbid climbing. So the community is highly concerned about this potentiality. Local developers in their drive to make climbing safe, do so because such an incident could challenge their own future access.

The hard centre of developers, while extremely experienced at this point in creating routes, seems to be frustrated by the lack of support from other entities (the FEEC, brands, etc.). Gimenez especially describes how hard they must work to create the routes and maintain their condition, and how costly this is. Gimenez and Brasco are co-organizers of the bolt fund for all of the Prades area, and have been aggressive about maintaining and managing the area’s resources. The association they formed collects private donations from climbers, as well, they attempt to gain grant money from the government and the FEEC. From brands, however, they have yet to receive anything.

> “Its all private donations. The people who make guidebooks, they also spend money for rebolting. From the government and from the Federation, we get something. We need to make here an association, because it is impossible to get a donation unless you have an association. […] [climbing brands] need to spend some money to help us keep the area clean, to help to manage the area.” (Gimenez, 2017, personal communication).

Gimenez somewhat disagrees with Toni’s ‘industrial’ ethic in bolting, quickly developing large areas. He refers to the area as being somewhat ‘old school’ meaning that the routes are slightly ‘run-out’, however, a big reason for this, is that the routes were developed during a time when that was the attitude of the developers. Arbones still carries this ethic as well, and many climbers

describe his routes as ‘scary’ or ‘run-out’. When asked if he feels the development would continue so aggressively, Gimenez responded:

> There is an old school ethic. Its hard to arrive at a sector and to bolt new routes, because the obvious lines have been taken already. For me, to open a new route I like to look for a new clean line. But in the last couple years, people open new routes to have BIG new areas. Lines very close together, not obvious lines. I think in these years was opened, La Riena Mora, or Graux de Massets, like this. Its because of this that there are more routes during this time. For me, its not enough quality, but its my opinion. […] I think the development slows now. We don’t have many new lines to open now. I think the new lines will be more poor, or poorer than now. (Gimenez, 2017, personal communication).

Gimenez echoes Arbones in saying that the there needs to be an official place for climbers with vans to stay.

> “There are too much people here. We need to have specific areas, that if we find someone in other areas, we can say “hey! There is an area prepared for you. To sleep, to stay, and everything. **We need to do that immediately.** Because in the last 5 years, there are every year more people. Siurana is one of the best places in the world. We need to work around that for sure.” (Gimenez, 2017, personal communication).

Both Brasco, and Gimenez agree that the event which pushed Siurana into the limelight, was Alex Huber’s first-ascent of La Rambla in 1994. The climbing community, or those at the top end of it, are always searching for the next big challenge. Siurana ‘arrived’ in climbing networks at what seems to be the perfect time. It was the perfect destination which represented modern challenges to the community. Today, the development of cutting edge routes has moved on, as Siurana no longer holds the types of challenges the community is looking for. Professional climbers still do visit, however, they are ‘repeating’ lines, rather than developing the next big challenge.

> “I remember when Alex Huber did La Rambla in 94/95. That was the beginning when Siurana began to be one of the most important climbing areas. Many years ago, there was only maybe ten professional people. Now its so many people sponsored by brands. The brands now, get more money because there are more climbers, and now they can sell more gear. You can see it on Instagram, Facebook, videos, all of that. [Today] it is very difficult to feel in the mountain anymore, it feels more like the gym!” (Gimenez, 2017, personal communication).

> “Definitely it is when Alex Huber came to Siurana and bolted and climbed “La Rambla” [the beginning of Siurana’s popularity]. This is when the momentum came. Especially, the moment when La Rambla was climbed and bolted, the momentum created even greater development. **People at the time, were looking for this type of routes to grow the climbing world, to make difficult climbs.** [steep, gymnastic, overhanging]” (Brasco, 2017, personal communication).

Both Arbones and Gimenez allude to how Siurana ‘feels’ different today, as the destination ‘feels like a gym’. Indoor climbing centres have helped to shift the culture of climbing, and today it is treated as more of a sport, than in the past where most climbers would have described it as an activity or lifestyle. Indoor climbers transport their cultural attitudes towards climbing to outdoor spaces. Climbers socialized in this environment are highly oriented towards ‘grades’ and achievement. The ability levels of rock climbers have become quite high, as climbers are able to practice conveniently in indoor spaces. Yet, they have, of any generation of climbers before them, less technically or ethically oriented perspectives than ever before.

Siurana has, over time undoubtedly changed, as its space became increasingly suited to climbing and incorporated into the world of climbing. As it has been discussed, there are many factors which

have contributed to Siurana becoming what it is, but undoubtedly, one of them is the growth of climbing in general. There would have been no need to develop areas so aggressively and rapidly. as have been performed today by Arbones, if the climbing group did not have such a volume. There would be enough to go around. However, the climbing 'movement' is growing every year.

The author reached out to David Brasco, another guidebook author, and extremely active developer in the area. Like Arbones, he has developed and equipped routes all over the world. He discusses in an interview with Joan Capdevilla, (local blog writer) that he has likely bolted over 1,000 routes around the world, in Africa, Asia, Europe, but that mostly the Prades areas was his focus. In the interview they discuss 'standardization' of distances between bolts—to keep routes safe. He alludes almost directly to Arbones. In the interview the author conducted with him, he described that "Toni's routes have a bad reputation" (Brasco, 2017, personal communication). He and Capdevilla, further discuss the issue of re-equipping routes, in Brasco's opinion, developers should receive help or assistance to maintain or re-equip routes, but not to develop them in the first place (Capdevilla, 2015).

When the author spoke with Brasco, he was somewhat pensive to connect himself to the tourism of the area. When asked if he sees himself as a contributor to tourism, he responded:

> "I sees myself only as someone who is equipping routes and nothing more. Basically I just wanted to start with this and this is only is what is important to me." (Brasco, 2017, personal communication).

Brasco, it seems, prefers to avoid the politics of the discussion. Nonetheless, he is surely a significant contributor to tourism, by adding infrastructure, which has been widely noted by Kulczycki (2014) as well as Caber & Albayrack (2016) as significant motivators for climbers to visit a destination. He has also sold over 5,000 guidebooks to the area, and is currently working on a fourth guide, which will cover all of the Prades region—an tool which he hopes will help to disperse climbing crowds out more effectively. The money earned from these guidebooks, however, goes directly back into climbing, as Brasco continually equips new routes, and fixes old ones. Unlike the Arbones, he is not a sponsored climber, and has had not had a relationship with these brands. When asked if he has received much support he responded.

> "Normally no. By the secretary, I have received a bit of gear from the Catalonian Federation, however the quality of the equipment is not good enough. The fixed hardware does not meet the criteria. The bolts are not Enox…they become rusty and broken. I don't want to equip the routes with bolts from the Federation because they will be too dangerous, and I will have to go back very soon to replace the bolts.[…] It would be for sure good publicity for these companies [brands] to help rebolting in any area. It would invest time and energy in growing the sport of outdoor climbing. So yes of course it would be nice, but that is a decision which the company needs to make itself." (Brasco, 2017, personal communication).

Brasco has a simple vision of himself in the destination, and what he intends to do:

> "If I have something I want to leave around for the next generation. It is just safer routes. My objective is to re-equip as many routes as possible, to make as safe as routes a possible for the next generation. That is all. Simple." (Brasco, 2017, personal communication).

Such a respectable position is admirable. This vision could not be more at odds with Arbones, they have different tactics, different 'styles' and ethics, or even beliefs and attitudes towards climbing, safety, risk, and so fourth.

> "Tony, when he equips the routes, he does not like to work, and he likes to scare people when they climb. And that is sad. The saddest thing, about how Tony bolts, is that the easiest routes are often the scariest most of the time. The harder routes are well protected, but the easy ones are scary. The ethic is that only the developer can change the route. If the developer makes a bad line, it is as though they kill the possibility of that line, they make it dangerous for people. It is painful, but this is the truth. Sometimes I re-equip Tony's routes with the same number of bolts, but more thoughtfully placed. I can make it way less scary." (Brasco, 2017, personal communication).

The author carried forward the discussion he had with Gimenez about the FEEC helping to manage the destination, especially to act as an official political body to liaise with government, or raise funds.

> "Yes but, organization in Spain is traditionally a disaster. In comparison to the US there is not enough money and organization, or much less. I prefer to do the bolting myself. If somebody or something comes to help, then that is nice, but otherwise, sometimes it can be more trouble than help" (Brasco, 2017, personal communication).

Brasco is viewed as one of the key historians of Siurana. He keeps important records of the development of routes dates, and stories from the beginning. It took nearly six weeks to organize an interview with Brasco, however, the interview led the author to this discussion with Brasco over the beginning of it all.

> "In Siurana, basically what is creating the swell of people is the legend. One person came here and saw the routes, and just became crazy and started bolting and trying to convince people to come here to develop the area. He was dreaming about what Siurana could be, he was writing articles about the place, and pushing the community to join him, to see what was there. He was pushing people, pushing groups to come. His name was Eduard Burgada. He was the one who created the legend and the push [originally] for people to come.[…] The dream that Eduard pushed to the population in general was to live and climb here." (Brasco, 2017, personal communication).
>
> Author: "I see during the late 80's it seems Joan Olive, Edu Burgada, Victor Esteeve, as having many 'hard' ascents in the guidebook.
>
> "These are the people, the group, that originally started coming because of Eduard. This is the central group. This group, is the **hard centre**, but Eduardo is the brain of all this. Eduard had the imagination to see what Siurana would be in the future.
>
> Author: Do you think Eduard, when he came here, that he knew what this place would become?
>
> "Definitely. He thought it would be an excellent economic engine for Cornudella. People from the village thought he was crazy. He always was sure it would be big, but the people thought he was crazy to believe that it could be what it is today." (Brasco, 2017, personal communication).

To arrive at this point, after weeks of searching, for the seed of belief that began the dream of this place, was a profound moment. What had effectively been discovered, was the group which was responsible for making Siurana what it had become. The author had reached a point, empirically, where he could attempt to explain 'how' the concept of something like sport climbing, ever even reached Siurana in the first place. As discussed so extensively, ideas, concepts, or practices, need vehicles which transport them between spaces. So, finding the original actors who arrived in the destination to stare at virgin, blank faces yet to be discovered, from a research perspective, is indeed fascinating. The author further read about Eduard in Joan Capdevilla's blog as he interviewed local climber Michi Wysner:

> "I think Edu Burgada was someone who really understood what was sport climbing and who opened many new areas, for example Siurana. Edu Burgada, Cabau and John went out of Montserrat [a nearby town] were saying that exploration and returned saying they had found "El Dorado." They were the ones who really discovered Siurana. It was clear that Siurana was the future. Having been to Buoux [sport climbing desination in France], we saw what was done there and because of this we saw the potential. And it all began thanks to Edu Burgada, we must recognize that he had a lot of vision" (Wyser, in Capdevilla, 2017).

Eduard, and the other climbers had visited areas in France such as Buoux and Verdon Gorge and "saw what was possible". Buoux was perhaps the centre of the sport climbing universe during those times. However sport climbing 'itself' began in the Verdon Gorge of France. The first reported sport climbing route in the world was called "Pichenibule", a climb in the Verdon Gorge by Jacques Perrier. This piece of history is important as it marks the beginning of entire new subculture which millions of people subscribe to today. Two central ideologies to the world of climbing changed in Verdon: 1) that all climbs should always start from the 'ground-up', 2) that climbers should always place protection while climbing upwards 'on lead' and never beforehand via some other method (Bisharat, 2015). The importance of the development of 'top-down' ethics was discussed in the literature review.

Recognizing that 'it' all began in Verdon, to diffuse somehow throughout Southern France, is an interesting point, yet, we can dig no further, for we have found our vehicles which transported 'it'—the object, the practice, the ideology of 'sport climbing' of 'free climbing' all the way from France, to Siurana.

The author met up with Eduard Burgada to discuss 'how it all began'. He discusses how the climbing community he was a part of at the time were only practicing 'aid' or 'traditional' climbing. The practice at the time was very limited. In 1984, a climber from England introduced the local climbers to the concept of 'free climbing', Burgada notes that "he changed our minds" or what he means, is that he helped them to 'see' a new way of thinking (Burgada, 2017, personal communication).

> "We started to move around Europe, Buoux, Verdon, the Alps. We knew many climbers, and new zones. The red-point climbing was new for us.
>
> Author: So you learned this free climbing, in other places in Europe?
>
> "Yeah, yeah, because we don't have this class of climbing in our climbing, in Catalunya at the time. We climbed only traditional climbing. **Then one day, going to Siurana, I saw the light no?** This spot is impressive! And then, I start a movement, to get materials, for equipment, etc." (Burgada, 2017, personal communication).

Burgada described how Siurana was the first place in Spain where 'top-down' ethics, and sport climbing ethics were used. He excitedly describes that: **"Suirana was a laboratory for free climbing in all of Spain!"** (Burgada, 2017, personal communication).

Siurana was a laboratory because it was the place where climbers such as Burgada began to develop the techniques of free climbing, and sport climbing development, which they had learned in other areas of Europe. Eventually, they transmitted these practices to other areas of Spain. What Burgada describes is that this 'hard centre' group of climbers who began developing Siurana, also took the

ethics and practices to other areas of Spain. The sport climbing in Siurana looks nothing like the sport climbing in France. Burgada and his peers, transformed, and distorted the message, and made their own version, which they then transported throughout Spain.

> "Here in Catalunya the group needed to develop its own methods, evolve, discuss practices, discuss grading of routes, and many other details. Siurana is the centre of this innovation and as such it is incredibly important in the world of sport climbing. At first the routes finished all in the top of the wall. Then one day, when I make a new route, I saw that it was ridiculous, because I had to open a new way of thinking." (Burgada, 2017, personal communication).

The exact phrase he used was "No existo el concepto, in Siurana cambiamos", meaning the concept of 'not' taking every route to the absolute top of the wall, did not exist in Spain at the time and in Siurana, they changed this. Because Burgada and his peers had mainly began as traditional climbers, this was the ethic, you start at the bottom, and *always* finish at the top, which is not entirely practical. However, Edu helped to change the minds of the community, to develop routes which did not need to extend all the way to the top. While this seems like a matter of little issue, the ethics of the entire community of the time, were at stake. These are some of the central controversies in the evolution of sport climbing, things which made it distinctly separate from traditional climbing. Top-down development, the focus on bolts, and not 'topping-out' (climbing to the top of the wall), were seen as highly offensive to traditional climbing ethics.

> "We made the transition between the traditional climbing to the free climbing, and then in Siurana we changed all the concepts. The routes, [used to] finish at the top, often in trees, but we changed all the routes, put the belays down where the good rock finished." (Burgada, 2017, personal communication).

Such a simple evolution seems not very important, however, putting lower anchors simply made climbing more user friendly, and safe.

> "Siurana is the first spot of this new free climbing. All of the other areas in spain at the time, were all mixed climbing, or traditional climbing. There was only 10 or 20 spots, where you can practice free climbing [in all of Spain]. And then Siurana we build from nothing. We build the conception, and then because we knew the persons from other spots, we **TRANSMIT** these concepts through people." (Burgada, 2017, personal communication).

Burgada's choice of the word 'transmit' is awfully fortuitous. He further talked about 'how they debated certain ethics among the group.

> "We stayed a lot of time in Siurana, because, we were four or five people in the group. We were either climbing, or discussing things. For example, we decided not to use the + grades. Like 7a, 7a+, 6c+, we did not want to use this. The first time, in Siurana, the grades don't use the + grades. But then things change. Because in Montserrat, we decided to use the minus grades, 7- or 7 +, **somethings were like a reference for the community.** It was a game, it was experimenting. Not an important thing. It was a new world for us, we were experimenting about the things, when something occurs, we change and we discuss." (Burgada, 2017, personal communication).

Burgada shows how certain historical climbs in other areas were 'reference' points for their community. Once a climber completes a climb, they have embodied knowledge of how 'difficult' that climb 'felt' to them. Such 'reference points' are corporeal sensations, which they then 'translate' onto other climbs as they compare 'relationally' one climb to another. These 'reference points' (historical climbs assigned a certain 'technical grade') allow climbers to maintain some sense of 'order' in relation to climbing grades. When they climb new routes, and need to assign a

technical grade to the route, they will refer to other climbs of similar difficulty levels. However, it is impossible to objectively assign a technical grade to a rock climb, as there is nothing 'objective' about individual climbers bodies—their strengths, and weaknesses.

Burgada wrote the original media pieces which exposed Siurana to global audiences.

> "In 1985, I published an article in Desnivel Magazine. I made a first article, but I did not say nothing about how to get there, or be there (info for the place). Because Siurana is a very little village. Only two families lived there. I think, if I publish, the spot, and the climbers start to come there. It will be a very big transformation for the village. It was a responsibility, to decide this thing."
>
> "But, Desnivel, said to me that, people from other countries start to ask about this spot where we were. I had to make another article, and we have to describe about how to go there, and all the things no? And we decided to open the spot for the climbers. And then, that was when other climbers from other countries start to come there. And Siurana was the first spot, where climbers from other countries, the first climbing tourism, in all of Catalunya, even Spain." (Burgada, 2017, personal communication).

Today, Catalunya is the undoubtedly the most important sport climbing region in the world, as it has been discussed in this paper. To realize that 'it' all began and diffused to other areas of Spain from Siurana, is interesting point to the author, as it was by absolute chance, that he chose this destination to perform his research! But how did sport climbing extend to the rest of Spain?

Burgada was sponsored by Boreal, and also worked for Petzl as the main distributor for all of Spain. He involved himself in other climbing businesses as well.

> "I had a friend who made the first anchors, anchor equipment [a type of fixed hardware]. Before the fixe, or big companies. We made the anchors, and I distributed this. I was the distributor for all of Spain for this. And this helped to develop the free climbing in all of Spain no? I was the person who distributed these anchors. I had sponsors for material for clothing, but the main was Boreal and Petzl."
>
> Author: When you sell equipment, to other places in Spain. Are you going to help and make the areas, to help develop the other areas?
>
> **"Yeah because we knew the physical actors**, from other spots in Spain. In Madrid, in Valencia, I knew the main actors from the other spots in Spain. And then I use them for distribution, in their local spots. We had to fast develop the free climbing, or it developed quickly. They continued developing everything very fast and rapidly in Spain." (Burgada, 2017, personal communication).

Clearly Burgada has played a big role in the conceptualization of climbing in Spain, and especially Siurana, however due to injuries he left climbing in the late 1980's. It is more than likely, given the natural conditions of Siurana, that if Burgada had not helped to bring sport climbing to Siurana, likely some other actor would have. However, one cannot help but think that his ethics are permanently imprinted on the place, as the original tactics, and historical 'ethics' of those climbers are 'memorialized' (Rossiter, 2007) and revered so highly by the climbing community. Those early ethics of the group of climbers responsible for starting the movement, exist unaltered, or at least, they are not intentionally altered by the community that uses them.

The author would like to contribute to the world of academia, a term to describe the above process which he has revealed. Based on the authors knowledge, no ANT studies have covered this concept of *resonance* where the agency of an actors action, remains long after they are displaced from the network. The concept of resonance is very important to the climbing community, and it shows how

'ethics' hold in the network, even over extended periods of time, yet with seemingly little maintenance. Sayes (2014) touches on such a topic when he described that the non-human elements can outlive the interactions which formed them. Burgada, helped to evolve the ethics, define the standards, which are still in use today (although they themselves have evolved), and this has occurred even though Burgada himself, has been displaced from the network.

There is social space left behind on the cliff faces of Siurana. Climbing tourists engage with this space via the rules of engagement in free climbing as they perform climbing tourism and engage both physically and socially with Siurana's space (Bærenholdt & Haldrup, 2006). Yet, they probably think little of how these rules have evolved over time, and been transported from place to place. Climbers also engage physically with the space, and the ethics of the developer which have been memorialized on the cliff, as they performing the activity itself, completing movements, facing the emotional experience left on the cliff by the developer for example a 'run-out' which is scary.

In Burgada's closing comments in the interview, he veered from the questions which the author had prompted him with. He had a political commentary, which he preferred to deliver.

> "There is the triangle between Huesca, Rodellar, Llieda, Oliana for example, and Tarragona, Margalef, Siurana. This triangle is one of the best spots in all the world no? Yet how much help do we receive? Perhaps, you go in a spot where you practice climbing. You will see information about mountain biking, or hiking, or etc. But nothing about climbing, there is no information about the climbing sectors. Nothing. The administration [government] needs to believe that rock climbing and sport climbing in Catalunya is a very good active tourism activity. It has great potential. And it attracts people from USA, from within Europe. Many countries. These people are spending money, and need services. They don't consider that no. **The climbers do not have enough power** to continue to do what they want. In some areas, we cannot climb because maybe ten years ago there was an Eagle, so it is forbidden for all time. We do not have as much power as the other groups, so we lose, and its unfortunate." (Burgada, 2017, personal communication).

This ends the presentation of empirical material which the author has collected. The following section will apply the concepts of the actor network theory, and use the specific language of ANT to describe the social world of climbing as he has discovered it.

6 ANT Discussion

The world of climbing cannot be viewed as a single 'durable' network. This is far too much of an over simplified view of the landscape. There are multiple converging and diverging networks in the world of climbing, such as brands, media, 'anti-groups' who oppose climbing, land owners, developers, and so fourth. In Siurana, it is difficult to find a 'centre of translation' in the network. The author theorizes that the 'hard centre' (Bogardus, 2012) of developers could be viewed as such, as they continuously enter into controversies over the natural world (Latour, 2005). Brasco, and Arbones both produce guidebooks, which can be described as 'panoramas' which allow a viewer to see the entire network (of sport climbing in Siurana), however this is a stretch. As the guidebook does not show movements and flows of tourists in and out of this Euclidean space (Law, 2009).

Media could be considered a 'centre of translation' as it is the main 'translator' in the world of climbing. The world of media both collects, and disseminates climbing imagery, stories, etc. Media is one of the main sources of transmission for climbing knowledge, and as the author has shown in

his discussion with both developers and media producers, the need to produce compelling media, has driven actors all over the world to climb in new areas (as discussed in the interviews, Patagonia, Venezuela, Morocco, and so fourth). Media sees an entire panorama of the climbing community, as stories of ascents, issues, news, etc., are circulating within media networks. Media is also the central point in the climbing network in a global sense, however, there still seems to be no unified central network in climbing, as even in media there is no one source 'center of translation' which is the definitive source. Media is both local and global in nature, it disseminates local stories from destinations, to global audiences which are themselves situated locally. In this light, we can surely see how climbing related media is one of the most important vehicles in the world of climbing, as it transports culture, language, and central concepts in the world of climbing to global audiences. As the author has shown, media and climbing tourism are closely related, and due to this relationship, he believes that climbing brands (which are the main purveyors of climbing media) need to be implicated in the management of destinations—those closest to Siurana tend to agree.

Siurana could rather be viewed as a fluid network. It changes 'bit-by-bit' (Law, 2002) as the place adapts and changes over time. Multiple 'actors' contribute in the adaptation of this 'fluid' space. Developers will add to the collection of routes all the time, and slowly the place gradually changes character, yet 'holds' its place in the network. Law (2002) also discusses that another condition for 'fluid' spaces, is that the boundaries around the space are not fixed. Siurana, as a tourism destination, is utterly reliant upon its relational importance to the world of sport climbing. There may be a time in the future where people no longer climb, and this fluid network will disperse, yet, for now it holds in time and space. In this sense, we can see that Siurana is an object of 'relational materiality' (Johanesson, 2005) to the social world of sport climbing—without this social practice it is something different entirely. Its meaning is associated with its use, and interpreted by the people using the space in relation to this use (Kulczycki, 2014). As Bærenholdt (2016), discusses, tourists are co-producers in their performances. When viewing sport climbing as a tourism activity, we indeed see tourists engaging, in performative way, with the social and cultural elements found on the cliff (e.g. grades, rules of red-pointing). Recall that Rickly (2017) discussed that climbers are embedded in the social environment even while they are not climbing. They engage in discussions about routes they have climbed, 'projects' they are trying, and specifically will mimic and describe with specific infra-language (Rossiter, 2007) and gestures the 'beta' (Rickly, 2017) of a climb. Beta is in itself a semiotic translation imbued with relational associations and through its performance we see a recreation of space, or a translation meant to represent the spatial dimensions of a climbing route, and how climbing body may move over the surface of the rock (Johanesson, 2005).

The development of a climbing destination is highly complex, but can be viewed as an ordered process, or a cycle of performance between developing routes, performing first ascents, entering into discussions about the grade of the route, the representation of routes in the guidebook, the writing of articles, or dissemination of photos about routes in Siurana. The combination of the heterogenous elements, and the ordered process which has produced them, is transferred to climbing tourists through media networks, and by word of mouth transmission. We see all these heterogenous elements mobilized to create a 'consumable' object—which leads to a conceptualization of Siurana's space as a sport climbing destination (Van der Duim et al., 2013).

Sport climbing tourism can be seen as the end point of a process which has brought together multiple actors, agencies, transportation, and translations. This bundling of people and 'objects' involves a high degree of 'material semiotic translation' (Van der Duim, 2007; Povilanskas & Armaitien, 2011; Johannesson, 2005). To perform the act of sport climbing, requires that spaces are transformed into climbing areas, rules of engagement have been established, stabilizing features have been deployed. A sport climbing destination, is a concatenation of objects all of which give climbing its meaning, yet all of these objects have needed to arrive somehow at the destination.

As the author has attempted to prove, empirically, how bolts, sport climbing ethics, grades, etc., were transported by Burgada and his peers to Siurana from their points of origin which the author has traced back to the Verdon Gorge in France. They then began 'transforming' Siurana into a climbing space, however, they also altered message they carried with them (the concept of sport climbing), in Siurana, they invented their own practices, effectively deforming the original concept slightly. Siurana then became a main 'centre of production' (Latour, 2005) of sport climbing culture, ethics, practices, for all of Spain, and from Siurana, Burgada and his peers transported what they had learned to the rest of Spain as they circulated bolts, ethics, and practices to other physical actors. In this light, we can view this 'hard centre' of developers as mediators. The ethics they developed, although never written or recorded, are some of the key 'stabilizing features' of the group and can also be viewed as mediators. As Latour discusses, actors will enter into controversies over 'natural things' (Latour, 2005). As the rock itself is a scarce, and highly valuable resource, actors have entered into controversies over its 'modes of defacement' (Rossiter, 2007). We can clearly see such discussion occurring between actors like Brasco and Arbones. Again, these ethics are stabilizing features, meant to settle controversies in the group. Grades can also be viewed as stabilizing features, as they are the central metrology of the group (Latour, 2005)—their main purpose is to give a common form of reference and objective measurement to multiple sites within the broader network of the climbing world.

Rock climbing began out of mountaineering (Pomfret, 2006) as a method to practice technical skills to prepare for the big mountains, however it then became a distinct activity of its own. In the literature review, some of the central controversies identified in the world of sport climbing were already revealed. As discussed by Bogardus (2012) the use of 'bolts' and 'top-down' ethics, were distinct features of the sport climbing community which helped it to disconnect from traditional climbing, its next closest subgroup. Climbing has fractured into increasingly distinct subgroups. It differed from mountaineering in that it did not pursue a summit, but rather a route (Shaw & Jakus, 1996). However, for years it took the shape of 'aid' climbing, where climbers hammered pitons into the rock, and used roped ladders to ascend a face. In the 1970's the 'free climbing' movement was born out of improvements in technology (camming devices, sticky rubber for climbing shoes). Climbers were using only their athletic ability, and only pulling, on natural features of the rock to move up the face. 'Free climbing' further fractured when sport climbing was invented in the Verdon Gorge of France (Bisharat, 2015), and was physically transported through human actors throughout southern France. 'Sport climbing' was born—a practice which used only 'bolts' to protect climbs, and not traditional free climbing equipment. Sport climbing, when it arrived, was highly offensive to the foundational ethics in climbing at the time. Yet, the ethics in sport climbing are what pushed climbing to become increasingly 'mainstream' (Ackerman, 2004). Sport climbing has

become a distinct practice from its predecessors, and today it is the most popular form of outdoor climbing. We can see the development of sport climbing ethics and practices as an important evolution in the world of climbing, which has allowed it to become a regular tourism practice.

As the empirical material shows, indoor climbing is becoming increasingly distinct from outdoor climbing as the central actors attempt to 'dig out' the boundaries which define that activity (Latour, 2005). The Hanssens interview showed 'where' indoor climbing is going, as organizers intend for it to become increasingly distinct. Commentary such as "plastic is the new reality" (Arbones, 2016) shows that climbing is yet again undergoing a revolution. Indoor climbing gyms can be seen as huge contributors to tourism. Indoor climbing spaces can be viewed as 'plug-ins' (Latour, 2005) in that they are the spaces where climbers 'download' climbing knowledge. People, are effectively 'transformed' and socialized into climbers, in indoor climbing centres. It is in these spaces where they become savvy to the language, grades, and technical considerations of the social world of climbing. As the empirical material shows, actors believe that climbing gyms have 'created a market' or are generally viewed as being responsible for the 'tsunami of climbers'. As discussed by Mao (et al., 2002) attitudes of urban climbers are changing outdoor spaces. The author believes that he has shown what role indoor climbing spaces play in contributing to the evolution of outdoor climbing spaces (such as a sport climbing destination).

The general trends in commercialization, mainstreaming and accessibility, and institutionalization (Ackerman, 2004; Mao et al., 2002) in the world of climbing can be directly related to the expansion of indoor climbing gyms. Climbers 'produced' in this environment, have a disconnect from local destination ethics, and as well have increasingly low levels of climbing related experience and prefer 'uniformity and predictability' (Heywood, 2006). Such a reality is a growing cause for concern for local communities in sport climbing destinations, and local actors have had to adapt quickly to this new reality. Not all people have adjusted in the same way, Arbones's reaction has been to aggressively in an 'industrialized' manner develop large new areas. While Brasco's reaction has been oriented towards safety concerns of climbing tourists, and especially is concerned with the access related issues that would arise out of a serious accident occurring in Siurana. When considering all of the above, the author considers the volume of the climbing group itself, when viewed as a whole, to be a mediator in the climbing network. It has agency, it makes people do things, it makes local actors act in certain ways as they feel the weight of its agency affecting them. It is the authors supposition that climbing gyms, because of their indirect impacts on outdoor climbing environments, should have a responsibility towards the 'ethical socialization' of climbers.

The need for the local actors to be increasingly 'institutionalized' is obvious, and it is clear that actors are seeking 'legitimation' (Bogardus, 2012) from outside sources as well, as they clearly express their dissatisfaction over the lack of participation from climbing brands, or even government in the management of the destination. Gimenez and Burgada both discussed how the FEEC was not involved enough in the management of destinations. They both alluded to climbing groups having a lack of 'power' with which to combat the pressures of anti groups and the need for an organization which has 'weight'. This political discussion could be viewed as a 'risky account' from Latour's (2005) perspective, as actors make political statements in an attempt to

influence a state of affairs somehow. As Rodger (2009) discusses, the network itself, is the apparatus through which power is transported and the 'need' for power is one of the reasons for the network to exist in the first place. So as the actors have described, the need for power could manifest a management entity of some type which would allow them to mobilize regulations, ethics, standards, etc., in an official manner, and face the pressures of anti groups head on. Such a manifestation, if it arises, could be described as a 'fire' space, one which is born out of the 'absence' of rules, and one which suddenly and quickly materializes, and becomes durable in relation to external events (Law & Mol, 2001). We must also, however, remember that 'power' is a relational concept, where those extend power are seen as relationally capable to do so (Van der Duim, 2007) so the enrollment of government and other types of local actors may help to legitimize such a network.

The local developers in Siurana, have agency, there is no doubt, but it is also clear that agency has been afforded to them by other times and other places. Technological developments such as 'bolts' have allowed them to develop the natural surfaces of Siurana's rock faces into a sport climbing area. However, lets imagine that Eduard Burgada had arrived in Siurana before the invention of sport climbing in France, likely, he would have seen a sea of rock which would have been impossible to climb given the tools available to him at the time. Burgada arrived in Siurana at exactly the proper moment, when the tools of climbing had evolved enough to 'afford' him the agency to develop the place, in this sense we can see that action is indeed 'dis-located' (Latour, 2005). Burgada can be seen as the original 'spokesperson' in Siurana (Latour, 2005), as he has played such a critical role in 'enrolling' new members in his vision.

It was actors like Burgada, Brasco, Arbones, Gimenez, which are the main mediators who have 'transformed' Siurana into something social. Adding the social elements important to the community, such as bolts, routes, grades, names, ethics, etc., the space slowly becomes more and more incorporated into the social world of sport climbing. They can be seen as the primary reasons for the development of the place, in a sense, yet this is not the full picture. What had been afforded to them when they began in Siurana, where the physical and metaphysical tools they needed to develop the destination. Grades were invented in another time and place, the grade scale Burgada and the original developers chose to use, was the French sport grading system—which was born out of the sport climbing movement, which again began in southern France, the French grading system can be viewed as both an 'articulator' and a 'stabilizing feature' (Latour, 2005) as it is a reference point for the community. Burgada and his peers 'saw what was possible' when they visited areas such as Buoux.

The central objects in the world of sport climbing are grades, bolts, ethics, media (such as photographs), routes, and natural rock surfaces, to name a few. Bolts can be viewed as the 'token' to the world of sport climbing in that they are 'key mediators' (Beard et al., 2016). They are the one object which is completely idiosyncratic to the world of sport climbing. While grades, ethics, and media, are all used in other types of climbing, bolts are an object which is peculiar to sport climbing. The controversy in climbing over the use of bolts is what created the entire concept and subworld of sport climbing in the first place. We must remember that before sport climbing and the use of bolts came along, traditional climbing was not called traditional climbing, it was merely called climbing. So in this way we can see that bolts, and the controversy surrounding them, are what

created and defined the network itself. We must also realize that bolts are a precursor to sport climbing tourism, thus they have a "a strong performative capacity" to create the network (Povilanskas & Armaitien, 2011, p. 1161). Yet, bolts require rules and ethics which dictate the conditions of their use, so their use is also socially constructed and actors constantly debate such ethics.

As we see above 'bolts' create the social world of sport climbing. Thus, tracing their circulation can show 'how' the network is performed (Povilanskas & Armaitien, 2011). The interview with Burgada and other developers clearly shows how networks form around the dissemination and transportation of bolts. Burgada worked as a distributor and was in touch with 'the physical actors' in other destinations. In his own words, he described this process as a 'transmission' of ideas, ethics, and practices which they had learned and developed in Siurana. By 'following the actor' (the bolts) we see networks of people begin to emerge which surround this object.

Matters of concern are clearly shown in the debates that the climbing community enters into over its central objects (bolts, grades, ethics, etc.). To highlight such a controversy, the author will discuss grades as an example. Climbing grades can be seen as a translation the embodied corporeal experience that a developer feels on a route (Rossiter, 2007). The author will attempt to objectify this experience by assigning a technical grade to the climb, yet this translation is always a betrayal (Law, 2009). As it has been discussed, it is for many reasons, impossible to objectively translate the climbing experience into a number value. Climbing bodies have sensuous knowledge (Rickly, 2012; Rossiter, 2007; Crouch, 2000; Edensor, 2000) stored in the bodies are feelings and sensations, memories of how difficult something may have felt. When developers create a new route, they use reference points to discuss which technical grade to apply. Developers will relate the difficulty they experience on one route, to others they have climbed which 'felt' the same. Such reference points can be seen as 'articulators'. For example, Margot Hayes climbing La Rambla (9a+), we see an actor 'framed by articulators' (Latour, 2005). A French grading system which was 'transported' to Siurana by Burgada and his peers. She was climbing a route which at one time was the most famous route in the world, the first ever 9a+. This route itself is an 'articulator', as it is a historical reference point for the global community of rock climbers—this is what 9a+ 'should feel like'. However, there are no facts in the climbing world in terms of grades. Grades are ceaselessly debated. As the author discussed, climbs can be viewed as either 'hard' or 'soft' and over time as many climbers repeat the route, the group will form a consensus around the grade. This environment surely resembles Latour's laboratories in the early 80's, and ANT is highly useful in this innovative environment, as other authors have noted (Johanesson, 2005; Povilanskas & Armaitien, 2011; Arnaboldi & Spiller, 2011).

Conclusion

This research has attempted to show 'how' sport climbing tourism has arisen in Siurana, how it has been transported to the destination and how it 'holds together' and endures. The author used the Actor Network Theory, to explain the processes which have led to Siurana becoming a sport climbing tourism destination. The motivation for which, is to show how the configuration of actors surrounding the destination (sponsored athletes, brands, media, grades, bolts, developers,

tourists) has assembled itself. The author has attempted to make connections between Siurana, and global processes occurring in the world of climbing. The purpose is to reveal how the concept of climbing is both physically and conceptually transported between spaces. Doing so reveals connections between seemingly unconnected objects—such as indoor climbing gyms, and outdoor climbing destinations.

The author believes that sport climbing tourism is at a critical junction point today, where the sheer size and volume of the group has tremendous impacts. It is important that, for the future of the sport, climbing experiences a closer relationship between the disparate networks which promote climbing (indoor climbing gyms, brands, media) and climbing destinations. As well, as many of the actors themselves have pointed out, climbing destinations—while contributing a great deal to rural life—have received little input from government or other official bodies, which could go a long way in assisting the sustainable development of the tourism practice. Now, more than ever, climbing destinations needs such a robust participation from government, brands, media, tourists, local-actors, etc., to ensure that climbing tourism has a sustainable and manageable future.

The author has shown with the literature review, controversies in the world of climbing, and attempted to use relevant literature to describe the internal ethics in the world of climbing. The literature review on the ANT theory provides the researcher with a specific set of language to apply to the situation in order to describe the processes of network building. In the presentation of empirical material, the author set about describing the network which he has attempted to reveal through empiricism, and establish relationships between objects in the global system of climbing, and to show what impact these have to climbing destinations: such as Siurana.

Limitations

The findings of this research are limited by the scope of the project and the time frame which it was necessary to perform this in. Not all climbing destinations are the same, for example, some destinations have strongly oriented management groups, which is generally the case in places like England or the USA. What the author has attempted to show, is the specific set of conditions which are peculiar to Siurana. The findings related to the global movements in climbing, can certainly be viewed as transferable to other destinations as many destinations today struggle to manage the impacts of climbing tourists. The ethics of the climbing community, seem to be global as well, as many developers across multiple destinations enact similar rules in relation to the ‘ethical’ defacement of climbing surfaces.

Future research related to rock climbing tourism could investigate the relationship between media and destination trends. Further, the revealed relationship between climbing gyms, and the responsibility they have towards ‘ethical’ socialization of the climbing grow. Lastly, the responsibility that outdoor brands, and media outlets have towards the environmental conditions found in an outdoor destinations, should be explored.

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Appendices

Interview with Tony Arbones—March 17th, 2017 at Camping Siurana

Tony Arbones from Camping Suirana

"I am the owner of the campsite, I came 30 years ago here, from Barcelona, at twenty years old. The first time I came here there was 40 routes. Then suddenly, I climb here and start to [do some] bolting and I try to make my own paradise. I have bolted already here in Siurana, 400, maybe more routes."

Where did you learn how to bolt, there was a group of people at this time?

1 min 20

"You know 30 years ago, sport climbing is not solid. When I started climbing I spent 3 years doing 6a's, and its just brand new the climbing shoes. Then everything…we do [they bolted]…its new, then when I arrived to climb 7a, the maximum level was not so high, then when I do 8a, I've reached the top level of Catalunya at that time. Then from there I needed to bolt my new routes, for something new level. We bolted until 8c. All this, you may say, wow, that's so impressive. But to do 8b+ in 1995-96 [2 min 17] was like the top level. It was good for me, because also some brands, they have me, [he was sponsored] which is good. And also because we discover the free climbing, the sport climbing. And this also makes for us, like a, not a value, but wow we are super motivated because we push our limits and then our limits is the limits….."

When you say us, you mean a group of friends, people you were developing with?

"Yes, I am not alone here. I was alone, but on the weekends there are coming some friends. When I come to Siurana, I had already done the world cup. Then I decided, I am so motivated, my priority it was to stop working in the city, then come to here, because I like to climb all week. I am just following my dreams. I want to be a climber. Before sport climbing, was multi pitch, but then I moved to sport climbing because it was something new [he means like a new practice] and then after some years of sport climbing, at quite a solid level, then again multi pitch, big wall, expeditions, travel around."

You said you did some trips abroad to develop climbs?

"Yeah I bolted routes in many countries, I don't know, Madagascar, Patagonia, Pakistan, Venezuela, morocco, china"

When you did those trips, what was your relationship like with your sponsors?

"My sponsors always help me, with gear. Now I have a sponsor, I have many different, 3 years Patagonia, 5 with north face, and now with Kailash newest sponsor for 3 years, and these people also pay me my trips. Normally the sponsors they just give to you the gear. Free stuff, and you destroy it. For personal gear I don't buy, but I buy bolts and I buy drilling machines. I have bolted maybe more than 1000 routes around the world. And I…every 3 years I need a new drill machine, because destroy it as well, the drill machine. Every year I destroy one harness, and maybe 3 ropes, ten pairs of shoes. I am sponsored by la sportiva now as well. And I am happy from the last 5 years or something, its nice to have good shoes. I buy the bolts"

You buy the bolts, but….

"but in China they pay me for bolting"

Ok, it was a company that paid or the brand that paid you?

"A private company, paid me for developing china, and now I try the local government of the places where I am developing, they also can help me. I visited one area, its called Lo Yei, for 3 years they pay me accommodation, food and transport. This year maybe I go again, for making a film, but this is unique. Also this brand Kailash, for 2 years, they take me, they watching me bolting for Petzl, and they say wow! Your bolting so fast…and good

lines! You like to come here, and help to develop the Chinese community? Of course! And then I was there for 3 months the first time and 2 months the second. With a family, and we moved from one town to another. We meet the local climbers, and they show us, where is the rock and we decide if it is good for bolting, and then they move from the gyms to the rocks. They enjoy, because the climbers they go to Yangshou. Its split…because…..but Siurana is my priority."

What do you think are the big problems that climbing destinations face? How do you think the community work with these challenges?

"Before the climbers were much more involved, in Europe, I don't know about the US. In Europe, the climbers are much more involved in developing, and cleaning, and bolting. But now, many many climbers they just consume climbing. They don't really care so much about who is bolting. They think that the community pays for bolting, this is not true, maybe in their country. But in the villages here, they are all done by volunteers. For me, I am lucky, or I don't know if Im so lucky, I do guidebooks with the guidebooks it gives me back. But I never ask about pay me for routes, its my passion and I do it. I spend many hours, and the material in the end, 1500/2000 euros per year, for my 80 routes I bolt per year."

Do you think that, in terms of managing the resources of a climbing destination, rebolting, fixed hardware, what should happen?

"the rebolting should be paid, this is for sure!"

You think the companies should be involved in rebolting efforts?

"yes"

"You know what happened, this year, Black diamond changed a lot, I have a good relationship with all the brand….but today they sponsor people who only repeat routes, and they are not super involved in the community. This, what is here, is because people work and make it. Then you see people coming to repeat routes they never bolted. Last year a group of sponsored climbers came here for helping siurana by cleaning and everything. This was bullshit…in the end, yeah we do a cleaning day, they collected, maybe 30 kilos. One week before, I managed a group of 90 people, and we took away 9 tons of garbage. We say, ok we need to clean this, 90 people, they come, they are not climbers, and we take 9 tons of garbage, in one weekend. Of course the sectors are dirty.

Its very important to educate, because now, people just go to the famous walls, they don't have much education about what they can [or cant] do in the crags. No? Its complicated. What Im not really happy about, the guys, we bolt and we are super motivated to develop the area, these guys, we need to have everything…MORE [to make up for more climbers]. Ok, the brands they give me the shoes, and the clothing, but they want me to be on facebook and Instagram. They want me to work in media, its insane. My job, for many years now, I don't need to do nothing, because they know im still motivated to do it. But the companies don't know much about destinations managed and develop their resources. Its complicated, its not like…ok we do this…here there is no access fund. What I understand, the climbers now, they don't like to be in groups. They don't like to make a community. Uh, they do have fun a little bit, but for making projects, no one! No one is coming to….like you say ok, I discover a new area, today I start to develop this area, you think some local climbers to help me? For sure no. when I have 3 or 4 routes on the level and chalk, maybe they come some. But the other people, they say "im a local" they stay in the bar drinking, then, they go to El Pati. This is what happens."

Before you came here you said the road was not surfaced, and now there are non climbing tourists coming here?

"yeah, its change. When I was here, like the 6th people, I was not the first person to come here to try to develop here. Others did not have the luck or the opportunity to come to live here. And I come here, I was the first climber, moving from the city, there was already some tourism, but not much. Then some political coming, and I make a demonstration to show potential, then another another another, then one of the problems here, Liz Anatti, retired

from the second world.. .[war??] and they he makes his own paradise as well, and every time they like to build a road, they pay a lot of money nobody, argues"

Who owns the land?

"Its private. One guy, now owns maybe 60% of the land"

And he's ok with climbing?

"he don't know what to do!"

Do you feel like you arrived in Siurana at the right time?

"yeah for sure, because when I was coming here, I was third in line to take the Refugi. One im waiting too much, they don't take it, then the second take another refugi. Then in one moment I am the first in the line, and the previous person was an old neighbor from Siurana, they retired, and they say, you like it here, and it was the right moment for me to say wow what I am doing…ok I go to siurana, my family is from the area, about 60 or 70 km from here. My father fight a lot to go away from the small town to Barcelona. And study study, whatever. Spent 30 years working for IBM with the computers. For me, I want to go back to the mountains. In this time I was a bit of a hippy, we smoke a lot, we spend a lot of time in the sun, and we don't care so much about everything. We just live in the moment. Then I remember I was living here, and I had to make a street theatre, in the summer because it was too warm for climbing. And then I do this 5 years, and then another company they see me, and they say wow…you want to work with us. And then I make a tour, for one year, town to town, and we drink in all the bars in Europe. And we climbed everywhere, it was nice, it was the time of the parties. But then I realized that I like to climb more and more"

You climbed in the world cup?

"I was 14th"

Do you think that helped you to develop as a climber?

"I don't know the competitions have split…its different than rock climbing now, more than before. For me it could be better now. It is a different game, the competitions for me was something very difficult for me in one moment. It s good for motivation to find people with the same goals, but then, its your friend, and then you like if your friend is falling. I was not as good I suppose, I was training with another guy, and they win…I say why are they on the podiums and I am only in the semi finals? I decided to focus on the rocks, and was climbing all the week, and another friend is coming on the weekends, and maybe he gets the second ascents. And this was kind of good in this moment, because, with another guy, with a similar level, we push a lot the limits one to the other. And **we construct the level, until another generation comes who will do it better"**

If you wanted to say something about climbing tourism and Siurana….

"Why is Siurana a destination? Ok….quality of the rock, facilities [routes], history, reputation—it's a nice place or whatever, the routes are good quality, and then one girl say me today, also the social media, and now if you see a lot of sport climbers coming, people like to see the pro climbers here. Adam Ondra is here these days. There are five people climbing La Rambla everyday, its insane. For my, why it is so popular, I have traveled a lot around the world, and this is something unique. **I seen many places with good potential, but they don't have 30 years of work in the back.** The routes I bolted before, its not like now, they can bolt routes like one to the other, when I was developing one area, I would place the bolts slowly, find the positions. But now, I bolt like industrial. Before it was more complicated, I don't make so much money, drilling machines do make so many holes, the gear was more expensive, and then we need to think that everything we do, we try to do correct (thinking about where to place bolts etc)."

What do you think are the things which make more climbers?

“because you stay outdoors, and nice places, you can travel to beautiful paradises. Cities are very big pollution now. I see a lot. For seven years I do ultra marathons, I can run 100 km in 10 hours, in the mountains, I compete in the world cup as well, and I do the trail du mont blanc, and I make the third position. I manage a lot the training hard, and this, cardio, is not the same as climbing. Climbing is more technical and you have a lot more adrenaline. Running you can view the landscape, but with climbing sometimes its too much, whats in front of your face.

Climbing, for me now, is not everyday like pushing super hard now. I try to climb everyday except the weekends. I go for only 3 or 4 hours, climb a little bit, bolting maybe. I don’t have days, like, one day for many hours. If it’s a bit technical, its nice, you don’t need to use so much effort.

Climbing is nice, it’s a kind of meditation, its like your inside. You are very present. You don’t think so much, I don’t climb so much onsight, but red-point, when you know the route and you move fast, its like a choreography, you know the route perfect, you breathe perfect. You are there….

But is not for everyone, some are afraid to pass the knot, the rope, the gear, the belayer, the rock. There are a lot of possibilities, you can make sport, trad, multipitch, boulder.

Its good to have many different tendencies. Also some people do indoor. That’s ok…..

“They had a promotion from the Catalonian government. They paid a trip, for the Belgian climbing team. Like 35 people coming…why are they not coming to the campsite!?!? I bolted the routes?!!? They took these guys to a super expensive hotel.”

The provincial tourism board paid for it?

“yes!”

“The tourism people, they also have some project, to make some parking, for 10 busses, they are going to destroy this Siurana, also they would like to make parking for vans, for camping vans. For 70 camping vans. Here there is nothing….in a protected area! Bring it down to Cornudella, not in the middle of the mountains.

It’s a tsunami of people coming to here, why? Because theres no rules. All the people do what they want, they come from all over the world, to do what they want, they say, “we go to Siurana because theres no rules there. In france, if you do this, in 5 min the police will be there.”

Margalef has rules though?

“Yeah, but what happens. They kick the people out, and then people come here. And then go after to margalef to climb. Because here we have no rules. Really, I don’t understand what the local government is doing or dreaming to do. They say “we don’t know what to do” but then the time passes, and everyday there are more climbers.”

You think there needs to be some rules or standards?

“of course! Its not nice for us now. People are leaving garbage, and lighting fires! If its ten people its ok, but if its 5000! You will see what happens, like in Easter time. Its insane. **We need rules, we are too much. Black Diamond has a project to put some toilets for 3 months. In the climbing areas and at the parking.** We need these things. We need to make a proper, a good place for all the people who stay in vans. Down in Cornudella. Sure, if you want to go to Siurana, or shopping, or to the campsite, or hotel….but nobody in the road. Its like…ok, I buy a van, and I stay by the road. There are so many of them now! 500 vans do the same.”

Do you think the vans should be regulated?

“what I recommended, we talked a lot about this with a community of people who are concerned with what is going on in the region. [the community is Prioritat…priorat]. What is going on in the area. We want to try to protect priorat. Because its really fast. **Priorate before was the poorest area in Catalunya. And in 3 -5 years change, with the wine and the tourism and everything, and now wooooooow, whats going on, and the people are starting to come. Before nobody wants to come here. And now, all the people are coming, for climbing**

or to take wine, or what ever. I think maybe its good to make rangers. Park rangers, somebody with a little power, to take away the people.

You know, the local government, they say to us, yknow, the climbers can pay something for climbing? If we agree? Where does this money go? It never goes straight to climbing, it goes to the pockets of the political for sure! Look at everything we have brought to these villages, everything, we give the life to this remote area! Did they help us with something? In cleaning a paths, or rebolting, or to make something? NEVER! You think now if they take money, they will help us? For sure it's a possibility, but really until the climbers realize that we need to do something, nothing will happens."

The climbers, in the end, we are like, ok…nobody disturb me…many people come to me, they say, I don't buy the guidebook because, I am only here for a short time then another place. This is how climbing communities sustain themselves. Its strange.

Before the people come and smoke weed, but now the community is very big, and its changing quite fast, and you are like a police man, I never say to the people, what are you doing here…I never say 'this is not legal' for me, I don't like to do this. I just like to climb, but because, in one moment, what's going on now. The change is really fast here…I don't know about other places, but here its very fast, in very little time.

Siurana is always very popular. Many people. In the last two years, with the rules in margalef. We feel its more and more and more people, fast. We still want to be climber here for 20 more years here!"

Interview with Oscar Gimenez

Oscar Gimenez Interview
April 4th, 2017 @ Goma 2 in Cornudella

"The people know that climbing is one opportunity for tourism, not only museums, or culture and food. I think that one of the problems here, is that the Federation, they want to be focused, not only about the insurance of the climbers, but mostly the competitions. They don't want to focus on the global things about climbing: rebolting, making policies, making places for camping, or having standards on quality. In Spain, they are only focused on competitions. We have problems here with the animals, we have forbidden areas. They need to help with everything that is involved in climbing."

You think that the federation here should be focussed on managing the destination?

"I think that the federation here, they are only focussed on making competitions. They don't have a very good focus on everything surrounding climbing. Tourism, places, animals. They must take a big role around this. Because climbing now, its not just sport. Its tourism, money, it's an opportunity for small villages. In the areas now, where there are climbers, now every year there are more people. In these areas, we can have some business, maybe a restaurant, things like this. Now there is opportunity here. Now, in some small places, there are maybe only 100 people living there, its really important to have tourists like climbers, because they spend money. To be there to eat.

The climbing here started around the 80's, the people here used to look at climbers like hippies. But now its changing. Now people see it as an opportunity to make a little business. We need to work to put everything in one place, to have the routes in good conditions, we need to spend money there. Especially parking for the areas. [to minimize the impacts from campers]"

Who should be involved in the management of climbing destinations?

"Well, for example, one year ago, Black Diamond came here to do a "clean days". They get in contact with us, they had a good idea about spending a little money for benefiting the area. They want to make the climbing areas better than now. I think its possible that if every brand spends a little money, to do these kinds of things, I don't know how much, to do these kinds of things, making toilets, rebolting, managing climbing areas. This is very important, because there are many climbers now."

Have you ever had support from brands for rebolting or anything like this?

"No…not even for rebolting. Its all private donations. The people who make guidebooks, they also spend money for rebolting. From the government and from the Federation, we get something. We need to make here an association, because it is impossible to get a donation unless you have an association. We have to make a project, like, how many routes we want to rebolt, where, when, who. Like a plan. But this year maybe we have something, but the next is maybe nothing, because it is for all of Catalunya, they may spend the money in another area, it has to go around. Its ok, but its not much. You should know as well, that here in Siurana, most of the routes are bolted after 1995, so, its not really that old yet. Only twenty years.

According to Toni's guidebook, most of the routes have been developed from 2008-2012, why do you think that is?

"I think that they bolted a lot of routes in new places during these times. But the problem here is that the areas are really not that big. There is an old school ethic. Its hard to arrive at a sector and to bolt new routes, because the obvious lines have been taken already. For me, to open a new route I like to look for a new clean line. But in the last couple years, people open new routes to have BIG new areas. Lines very close together, not obvious lines. I think in these years was opened, La Riena Mora, or Graux de Massets, like this. Its because of this that there are more routes during this time. For me, its not enough quality, but its my opinion. Its not about easy or hard routes, but more about the beauty of the line."

What are some of the problems that Siurana may face in the future, how do you think these can be managed?

"At the moment, it's a really big problem, we do not have a place to keep the people together [camping area]. Here it's a really dangerous place to make fires, also, if people are everywhere, its more difficult to keep places clean. We are really pushing to make good areas where people can be there, and be comfortable, with some basic services, like toilets, and everything. We are working towards this area. I think that its necessary that the government, local government, need to work with us in this way. There are too much people here. We need to have specific areas, that if we find someone in other areas, we can say "hey! There is an area prepared for you. To sleep, to stay, and everything. We need to do that immediately. Because in the last 5 years, there are every year more people. Siurana is one of the best places in the world. We need to work around that for sure."

Why do you think so many people want to come here? Why Siurana?

"I think Siurana is popular for the type of the rock, the people that are coming from other countries are looking for sun, good lines, good weather, close to the airport, an easy place to be. Siurana, like other areas in Catalunya, have all of this. Its really really popular. Its close to Barcelona, so you can do other things. Its really comfortable to come here. You don't have to work so much, its easy to come here."

Do you think that Siurana will have more tourists because of how much it has been in the climbing media lately?

"Yes of course. I remember when Alex Huber did La Rambla in 94/95. That was the beginning when Siurana began to be one of the most important climbing areas. When Alex was here, the road was a dirt road. It was really difficult to climb here, you need a big car. But now, its easy, there are many people there are videos, magazine, pictures, better roads, everything. Its normal, now there are a lot of people. Some years ago, there were way less people. But every year, there are new climbing. But its ok, when people are in the mountain, they can get a new benefit here."

So many lines are bolted, most of the new areas are developed already. Do you think the development slows down? Will there be new lines?

"I think the development slows now. We don't have many new lines to open now. I think the new lines will be more poor, or poorer than now. Because the main lines and walls have been opened already. But that is not the

problem, because there are every year more people. Siurana, is one place that many people will come at least once or twice. For sure once. I think, in Siurana there will always be people."

Is it possible to connect all of the areas in all of the Prades more easily?

"I hope so, like in the 80's the first guidebook was for all of the Prades area. There is good quality rock there also and great lines. Like for easy routes, Siurana is not even a good place. Its better to go to La Montsara. Good lines, easy routes, good rock. But if you want to be quite, at the moment, its better to go there. You can climb nice lines, and enjoy the nature, it is very quite, like it was 20 years ago. It feels like the mountain. But in Siurana, I think it wont be like that anymore. Here, it is very difficult to feel in the mountain anymore, it feels more like the gym!"

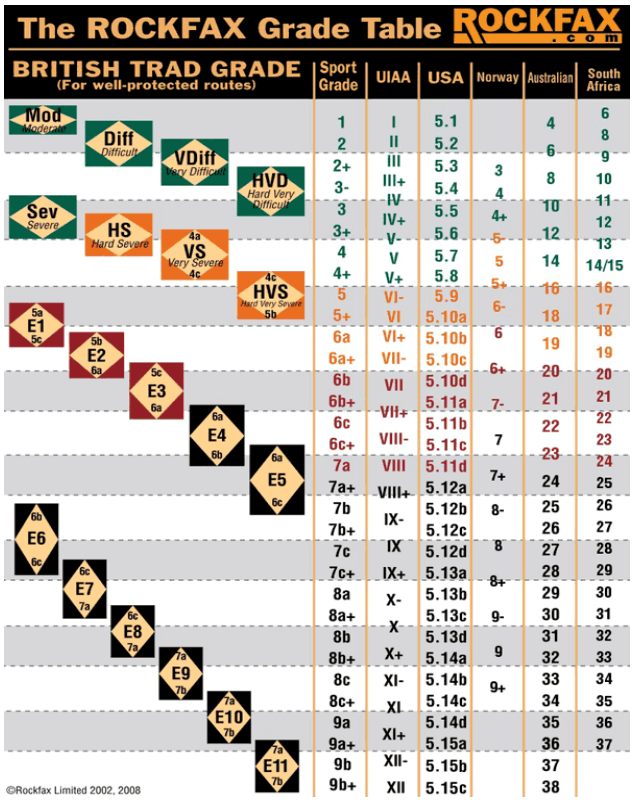
What do you think of sponsored athletes coming here to prove themselves?

"The people now, the professional climbers. Many years ago, there was only maybe ten professional people. Now its so many people sponsored by brands. The brands now, get more money because there are more climbers, and now they can sell more gear. You can see it on Instagram, facebook, videos, all of that. I think its normal I guess. For me, the focus is not on the people, the athletes do what they must, the are doing what they should. But for me its more about the brands. They need to spend some money to help us keep the area clean, to help to manage the area."

"we need a group that has enough weight to speak with the government. Like, Catalunya, and Barcelona, this is a tourism place. When compared to Siurana, and climbing areas in Catalunya, its tourism, but when you compare with the beach and Barcelona. Its not enough weight. But maybe they Federation, if they have a study, that can show how many people come here. They can say "hey, we need more money for this."

"The problem here as well, is that all of the land is private. Its not from the government. These people don't feel so good about all of the people, and cars everywhere. We need to speak with the people to give them something, or some help from the government, to make sure we have a good relationship with people. Only the people from the area, its not enough if its just us. These people are looking every year, and they wonder, what happens if there is a fire, or if a bolt fails. They are not sure about all of this. We need to make sure people are happy so that we do not have a problem."

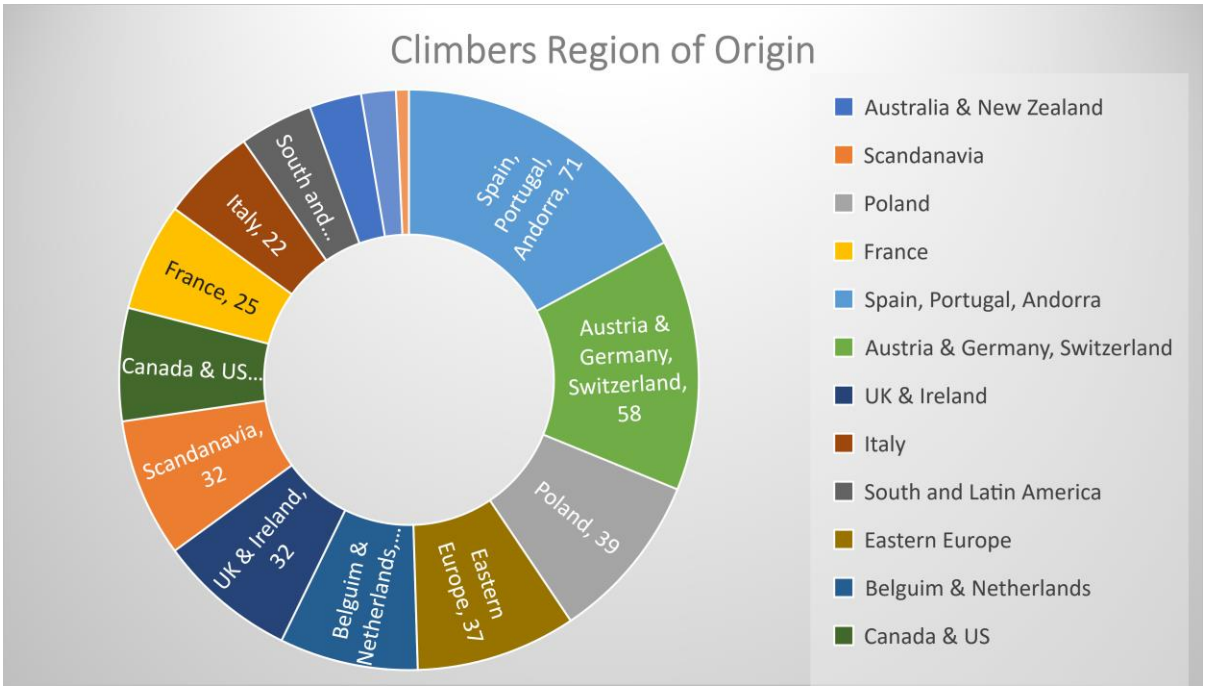
Rockfax Grade Comparison Chart



Sport Grade	UIAA	USA	Norway	Australian	South Africa
1	I	5.1		4	6
2	II	5.2		6	8
2+	III	5.3	3	8	9
3-	III+	5.4	4		10
3	IV	5.5	4+	10	11
3+	IV+	5.6	5-	12	12
4	V-	5.7	5	14	13
4+	V	5.8	5+		14/15
5	V+	5.9	6-	16	16
5+	VI-	5.10a	6	18	17
6a	VI	5.10b		19	18
6a+	VI+	5.10c	6+		19
6b	VII-	5.10d	7-	20	20
6b+	VII	5.11a		21	21
6c	VII+	5.11b	7	22	22
6c+	VIII-	5.11c		23	23
7a	VIII	5.11d	7+		24
7a+	VIII+	5.12a		24	25
7b	IX-	5.12b	8-	25	26
7b+		5.12c		26	27
7c	IX	5.12d	8	27	28
7c+	IX+	5.13a	8+	28	29
8a	X-	5.13b		29	30
8a+	X	5.13c	9-	30	31
8b	X+	5.13d	9	31	32
8b+		5.14a		32	33
8c	XI-	5.14b	9+	33	34
8c+	XI	5.14c		34	35
9a	XI+	5.14d		35	36
9a+		5.15a		36	37
9b	XII-	5.15b		37	
9b+	XII	5.15c		38	

Source: Rockfax, 2008

8a.nu Data—Climbers Region of Origin



5: Wilson, 2017