Recruiting Cyclists in Uppsala: Why do exchange students cycle?

Sims Meyer-Rodrigues
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Supervisors: Martin Emanuel
Evaluator: Daniel Normark
**Contents**

1. Introduction 1  
   1.1. Problem 4  
   1.2. Aim and Research Questions 4  
   1.3. Limitations 5  
   1.4. Outline 5  

2. Theoretical Framework 6  
   2.1. Social Theory 6  
   2.2. Practice Theory within Social Theory 6  
   2.3. Social Practice Theory 7  

3. Methodology 9  
   3.1. Research Design 9  
   3.2. Participant Recruitment 9  
   3.3. Semi-Structured Interviews 10  
   3.4. Delimitations 10  

4. Cycling in Uppsala in Context 11  
   4.1. Geographic 11  
   4.2. Demographics 12  
   4.3. Cycling policy and statistics 12  

5. Interviews with students 15  
   5.1. Elements 15  
      5.1.1. Materials 15  
      5.1.2. Competences 17  
      5.1.3. Meanings 18  
   5.2 Recruitment 20  

6. Discussion 22  
   6.1. Relating back to the research questions 22  
      6.1.1. Interaction between elements 23  
      6.1.2. Interaction between practices 24  
   6.2. Connecting practices 25  
   6.3. Further research and possible improvements for municipality 26  

7. Conclusions 28  

8. Acknowledgements 29  

9. References 30
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SIMS MEYER-RODRIGUES


Abstract:
The current trend of emissions from the transport sector is unsustainable. To increase cycling mitigates these emissions, while also actively promoting health and alleviating congestion within cities. However, the clear benefits from cycling, along with efforts from municipalities around the world to promote cycling, have not translated in a sufficient change in behavior to reverse the global trends in emissions. Rather than looking at individual behavior, Social Practice Theory (SPT) is concerned with the practice (of cycling) as a whole. Primarily through interviews with international students about their experiences cycling and how they picked up cycling in Uppsala, voted best bike city in Sweden in 2018, I present an analysis of the recruitment process, and the overall practice of cycling in Uppsala through the lens of SPT. In this thesis I found that the pervasiveness of cycling throughout Uppsala and the social networks created by exchange students work together to recruit practitioners and spread the practice of cycling.

Keywords: Cycling, Social Practice Theory, Recruitment, Sustainable Development
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Summary:
Road transportation, such as driving in cars and trucks, has negative effect on the environment. Using the bike as transportation can curb these emissions, while also actively promoting health and alleviating congestion within cities. However, despite the clear benefits from cycling, and efforts from municipalities around the world to promote cycling, cars and trucks remain the dominant form of transportation in many cities around the world. Rather than looking to influence individual behavior, Social Practice Theory (SPT) is concerned with the practice (of cycling) as a whole. Primarily through interviews with international students about their experiences cycling and how they picked up cycling in Uppsala, voted best bike city in Sweden in 2018, I present an analysis of the recruitment process, and the overall practice of cycling in Uppsala through the lens of SPT. In this thesis I found that the pervasiveness of cycling throughout Uppsala and the social networks created by exchange students work together to recruit practitioners and spread the practice of cycling.

Keywords: Cycling, Social Practice Theory, Recruitment, Sustainable Development
1. Introduction

At this moment, humanity is proceeding down a path towards a myriad of potential global disasters that threaten billions of people, if not humanity itself. It has been argued that humans have already entered a new epoch called the Anthropocene, leaving behind the natural geological epoch, a relatively stable, interglacial state called the Holocene which has seen the development of agriculture on to modern civilizations (Steffen et al., 2007; Rockström et al., 2009). The imprint of human activities has “evolved into a major force impacting many global biogeophysical cycles to the point of becoming a strong, integral and, in some respects, dominating force in the Earth System” (Oldfield et al., 2014, p. 4). Accordingly, Steffen et al. have developed the planetary boundary approach, which “aims to define a safe operating space for human societies to develop and thrive, based on our evolving understanding of the functioning and resilience of the Earth system” (2015, p. 1259855-1). “Now, largely because of a rapidly growing reliance on fossil fuels and industrialized forms of agriculture, human activities have reached a level that could damage the systems that keep Earth in the desirable Holocene state” (Rockström et al., 2009, p. 472).

Particularly, this growing reliance on fossil fuels has brought a vital Earth-system process, climate change, beyond its planetary boundary, due in part to the rapidly increasing concentration of atmospheric CO2 (Steffen et al., 2015). The monthly average for April 2018 exceeded “410 parts per million (ppm) for the first time in recorded history” (The Keeling Curve, 2018), well beyond the boundary of 350 ppm (Steffen et al., 2015). Steffen et al. go on to say that “large changes in the climate or in biosphere integrity,” (i.e. biodiversity loss), “would likely, on their own, push the Earth system out of the Holocene state” (ibid., p. 1259855-8). This may induce many negative effects of climate change, including the increasing intensity of droughts, floods, and wildfires already being experienced worldwide (Sims et al., 2014). Consequently, sea level rise also threatens to displace millions of people in the coming decades (Wetzel et al., 2012).

More recent literature suggests “that biogeophysical feedback processes within the Earth System coupled with direct human degradation of the biosphere may play a more important role than normally assumed” and going beyond 2°C could be a tipping point which then raises “the temperature further to activate other tipping elements in a domino-like cascade that could take the Earth System to even higher temperatures” a pathway they call a “Hothouse Earth” (Steffen et al., 2018, pp. 2-3). Lenton et al. support this, claiming “human activities may have the potential to push components of the Earth system past critical states into qualitatively different modes of operation, implying large-scale impacts on human and ecological systems” (2008, p.1786).

In light of the above evidence, the United Nations Framework Convention on Climate Change (UNFCCC) 21st Conference of the Parties (COP21) held in Paris in 2015 was an unprecedented, binding agreement, in which 195 nations across the world finally agreed to address climate change by limiting global mean surface temperature increases to ‘well below 2°C’, above pre-industrial levels (Mander et al., 2018; Schellnhuber et al., 2016). Schellnhuber et al. (2016) argue that 2°C was the correct target to agree upon, however, a target is just a target and it would be irresponsible not to add that “alarming inconsistencies remain between science-based targets and national commitments” (Rockström et al., 2017, p. 1269).

Greatly contributing to climate change is the transportation sector, among the largest greenhouse gas emitters (GHG), making up 14% of global emissions (IPCC, 2014) while only “around 10% of the global population account for 80% of total motorized passenger-kilometres (p-km)” (Sims et al., 2014). In Europe, as seen in Fig. 1., road transportation makes up a quarter of all CO2 emissions (Mandl and Pinterits, 2018, p.66).
Also in Europe, according to the Europe Environment Agency’s *Explaining Road Transport Emissions*:

While GHG emissions from all other main sectors of the economy have fallen in recent decades, those from transport have increased. Road transport GHG emissions are today around 16% above the levels in 1990. As emissions from other sources have decreased, the contribution that road transport makes to total EU emissions has increased by around half — from a 13% share in 1990 to almost 20% share in 2013, (European Environment Agency, 2016, p. 6).

The Transport and Environment Reporting Mechanism (TERM) reports that “transport GHG emissions to be reduced...by at least 60% from 1990 levels by 2050,” yet, the transport sector is the only major sector which saw GHG emissions increase since 1990 despite increased efficiency in transport (European Environment Agency, 2017, p. 4).

Breaking down the emission of GHGs further shows that in Europe:

Road transport, in particular, continues to make a significant contribution to emissions of all the main air pollutants (with the exception of SOx). Some 39% of NOx emissions arise from road transport. However, the contribution of the road transport sector to harmful NO concentrations, especially in urban areas, is considerably higher, because emissions occur close to the ground and are distributed over densely populated areas (European Environment Agency, 2017, p.8).

These pollutants are causing needless suffering and deaths. “Up to 10 000 premature deaths due to PM2.5 and ozone formation can be attributed to high NOx emissions from [light duty diesel vehicles] in Europe in the year 2013” (Jonson et al., 2017).

Beyond the contribution to global warming and local air pollution, “the increase in motorized road traffic in most countries places an increasing incidence of accidents with 1.27 million people killed globally each year, of which 91% occur in low and middle-income countries (WHO, 2011). A further 20 to 50 million people suffer serious injuries (WHO, 2011). By 2030, it is estimated that road traffic
injuries will constitute the fifth biggest reason for premature deaths (WHO, 2008)” (cited in Sims et al., 2014, p. 631).

Moreover, congestion from traffic “negatively affects journey times and creates substantial economic cost (Goodwin, 2004; Duranton and Turner, 2011). For example, in the United States in 2000, time lost in traffic amounted to around 0.7% of GDP (Federal Highway Administration, 2000) or approximately 85 billion USD” (cited in Sims et al., 2014, p. 630)

Clearly, road transport is a growing problem. In the face of global crisis, the vehicles we are using are contributing GHG emissions which have global warming effects, choking our cities with pollution, causing unnecessary deaths and injuries, all the while ineffectively transporting us, causing congestion and lost productivity. It follows that reducing unnecessary emissions is essential in creating sustainable societies (Lundstedt & Tohá, 2016). Currently, the most common solutions being pursued are technical in nature, aimed at increasing energy efficiency of vehicle fleets and shifting from fossil fueled combustion engines to like technologies such as hydrogen fuel-cells or battery powered vehicles (Meyer et al., 2012). However, there is doubt among scholars that technical solutions can bring about the necessary change in a timely manner (Lopez et al., 2012). A doubt supported by the trends in Europe. Lopez et al. found in their assessment of energy efficiency in the transport system that “reduction in car use brought about by demand regulation measures exceeds the effect of more efficient technologies” (2012, p. 53). Adams, in the aptly named article Can technology save us? claims that “Technology cannot save us. It can help, but it is currently being deployed in a way that is making things worse,” (1996, p.16). Edgerton declares:

Calling for innovation is, paradoxically, a common way of avoiding change when change is not wanted. The argument that future science and technology will deal with global warming is an instance. It is implicitly arguing that in today’s world only what we have is possible. (2011, p. 210)

He goes on to assert that many old things remain practical much “longer than our future-oriented account of technological history allow” (Edgerton, 2011, p. 29). Perhaps, rather than looking for a futuristic technological solution, a proven technology from the 19th century, the simple bicycle, can provide a solution to the dire situation we are faced with. Peter Walker makes the case in his book How Cycling Can Save the World (2017).

In Sweden in 2012, transport emissions were about 33% of GHG emissions, up from around 26% in 1990 (Summary of GHG Emissions for Sweden, n.d.). In an attempt to address the increasing emissions the Swedish government drafted the current climate goals, one of which states “by 2030, emissions from domestic transport, excluding domestic aviation, will be reduced by at least 70 per cent compared with 2010” (The Swedish climate policy framework, 2017). Policy to reach this goals includes a handful of tax schemes aimed at lowering fossil fuel consumption and incremental emissions reduction, encouraging shifts to electric, and urban environment agreements which is “a scheme for investments in public transport and cycling infrastructure at the regional and local level in Sweden” (Sweden’s draft integrated national energy and climate plan, 2019).

Uppsala, voted Sweden’s best biking city in 2018 (Cykelfrämjandet, 2018), as well as “global winner of WWF’s 2018 One Planet City Challenge” (Wwf.panda.org, 2018), has more ambitious goals. For example, Uppsala’s goals state that “no later than the year 2030, emissions of greenhouse gases from energy use, transport and work machines within the geographical area of Uppsala Municipality shall be zero and based on renewable energy sources” (Environmental and Climate Programme 2014–2023, 2014). Discussed in more depth in Chapter 4, Uppsala municipality also has aggressive plans specifically to promote cycling.
There has been a drastic increase in recent years on the amount of literature on cycling (Pucher and Buehler, 2017) much of which discuss the positive impacts that cycling and bicycle infrastructure have for the health of populations in cities all around the world (Oja et al., 2011, Avila-Palencia, 2018) as well as the role that bicycles play in decarbonizing urban transport (Creutzig et al., 2012). Despite this, there is a gap of knowledge regarding insight from people who are newly exposed to the practice of biking as a form of transportation (utility cycling) to see how they pick up, or begin their practice of cycling. Studying why and how this group of people began biking can advise how to replicate their shift to the bicycle. To my knowledge there are no studies from a ‘biking city’ focused primarily on people who are in the process of picking up, or who had very recently picked up the practice of biking.

Fortunately, along with more ambitious goals, Uppsala has an almost constant influx of people who are in the process of picking up the practice of cycling. Because the town is a university town, each semester brings a new group of international and exchange students that will be learning to bike in Uppsala.

1.1. Problem

How, then, can more people (from places that are not necessarily considered biking cities) be encouraged to drive less and cycle more, i.e., change behavior? A popular answer to this question is the notion that “if you build them, the commuters will use them” (Dill & Carr, 2003). The thought there being if a sovereign citizen is provided with the choice to drive or use the new alternative transport infrastructure, they will make the right, or rather, rational, decision and choose the latter (Spotswood et al., 2015; Hargreaves, 2011). Over the past couple decades cities such as New York which invested in bicycle infrastructure, while their police continued to crack down on riders and where policy still favors cars, show meager increases in cycling when compared to cities like Portland that fostered a bicycle culture by additionally investing strong efforts in advocacy, education, and policy (Pucher et al., 2011). Perhaps a one-dimensional approach addressing behavior change is not the most effective in creating positive societal changes. Sustainable transitions are not accomplished by policy makers convincing people to make certain sacrifices but rather when the status quo is questioned and “more sustainable regimes of technologies, routines, forms of know-how, conventions, markets, and expectations take hold across all domains of daily life” (Shove, 2010).

Social Practice Theory (SPT) implies that “the sources of change behaviour lie in the development of practices themselves” (Hargreaves, 2011, p. 83). In reality, however, the nature of the game is less about behavior change and more about how different practices are produced and reproduced in different settings. Perhaps, more importantly, is how people are “recruited” to become practitioners of a certain practice. Following this train of thought, new practitioners of cycling make a logical target for research because they can inform what factors led to their recruitment and provide a vital piece of the picture that shows how utility cycling is produced and reproduced in their respective settings.

1.2. Aim and Research Questions

Drawing upon interviews with international and exchange students in Uppsala, as well as observations of cycling practices in Uppsala, this work is concerned with how the practice of utility cycling in Uppsala recruits newcomers. The aim of this research project will then be to provide insight into how cyclists may be best recruited in other municipalities or cities as well as better recruited in Uppsala itself. This insight can inform effective approaches to bicycle policy, and promote innovation towards a goal of increasing the number of cyclists in order to help reduce GHG emissions and create more livable cities with healthier populations.

To achieve this, the research questions are:
● What is the process of international students picking up cycling when they move to Uppsala for school?
● How do international students experience the practice of cycling in Uppsala?

1.3. Limitations
This thesis is based on interviews of exchange students and international students only. This leaves out large portion of cyclists in Uppsala. That being said, the narrow focus on exchange and international students makes sense because this thesis is analyzing the recruitment of cyclists. It should be understood that the research questions are limited to the context of Uppsala which has certain characteristics (weather, elevation change, etc.) that are not exclusive to Uppsala, but may hinder replication of the findings in other settings. Finally, the time limit of this thesis, as well as lack of resources, puts a restraint on how in depth the research can go, and how many interviews can be conducted. It does, however, leave space for many more interesting questions to be pursued in a future setting, given more time and resources.

1.4. Outline
This thesis begins with an introduction (Chapter 1), in which the background and study problem are presented. The aim and research questions then follow. Chapter 2 will provide a more in-depth look at the theoretical framework of SPT and describe the different elements of a practice. Chapter 3 focuses on the methodology, in particular, describing the qualitative interviews that will inform the next few chapters. With that down the thesis will then paint a picture of the city of Uppsala and with that a general picture of the cycling culture (Chapter 4). Chapter 5 will analyze the data collected from the interviews with the students using the theoretical framework of SPT. Then we will move on to discuss how these findings are relevant within the practice theory literature and policy making geared towards increasing cycling in Uppsala and other settings (Chapter 6). Following that I will present some concluding remarks (Chapter 7).
2. Theoretical Framework
In this section I will discuss the theoretical framework of this thesis. First, I will start off by explaining the relevance of social theory and then go on to position practice theory within that overarching category. I will then define what is a practice in social practice theory, and the elements that a practice consists of. Finally, I will give an example of a practice and its elements.

2.1. Social Theory
“How do societies change?” The opening line of Shove et al.’s book The Dynamics of Social Practice (2012, p. 1). It is one of, if not, the most important question of our time. Projections for the relatively near future look bleak, and if humanity cannot harvest positive, sustainable change quickly, then our existence as a species is in question. Social theories are essentially “vocabularies” which open up “systems of interpretation” enabling us to view and analyze social phenomena in different ways (Reckwitz, 2002, p. 257). Giddens emphasizes that social theory should encompass issues “to do with the nature of human action and the acting self; with how interaction should be conceptualized and its relation to institutions” (Giddens, 1984 p. xvii).

Reckwitz adds that upon interpreting social phenomena in a certain way, social theories shape the way we understand ourselves, as he writes, they “provide us with a certain way of defining our position as human beings in a social world, which inevitably implies a political and ethical dimension” (2002, p. 257). The importance of social theories then lies within their ability to break down cultural paradigms and open up new ways for people to understand their capabilities within the social world.

2.2. Practice Theory within Social Theory
Traditionally, within the discourses of everyday life, as well as in policy-making there is this idea that social arrangements are shaped around an individual’s self-interest, embedding an importance on human agency to create change (Shove et al., 2012). There is also an opposing view “that change is an outcome of external forces, technological innovation or social structure, somehow bearing down on the detail of daily life” (ibid., p. 3). Instead, practice theories, while recognizing these positions, looks at the recursive relationship between human agency and social structure as is played out through practices, “understanding those relations as recursive, with structure and action co-constitutive of one another” (Watson, 2012, p. 3).

Reckwitz’s organization of practice theory in relation to other social theory further brings home this point. For Reckwitz, social theories can be purpose-oriented, norm-oriented, and cultural theories (Reckwitz, 2002; Kuijer-Lenneke, 2014). Kuijer-Lenneke further explains:

In purpose-oriented theories, behaviour is explained in terms of individual purposes, intentions and interests. Social organization is then a product of the combination of single interests and the smallest unit of analysis is human action...In norm-oriented theories, behaviour is explained through collective norms and structures. Social organization is a result of normative consensus and the units of analysis are normative structures, such as values and social rules... Cultural theories reject this dichotomy and place the social in collective symbolic structures of knowledge, (2014, p. 24).

But what are these structures of knowledge? Reckwitz breaks down these cultural theories further into mentalism, textualism, intersubjectivism, and finally practice theory, based upon where the social, symbolic structures are placed (Fig. 2.) (2002). In mentalism the social is located in the mind, textualism in discourse, intersubjectivism in communication and practice theory in practice (Kuijer-Lenneke, 2014).
2.3. Social Practice Theory

As Shove et al. succinctly put it, “understanding social change is in essence a matter of understanding how practices evolve, how they capture and lose us, their carriers, and how systems and complexes of practice form and fragment” (Shove, 2010). With this “reorientation of analytical gaze” as Watson calls it, the unit of analysis then becomes the practice rather than the individual (2012). But what really is a practice? To Schatzki, “a practice is ‘a temporally and spatially dispersed nexus of doings and sayings’ (1996: 89)” (cited in Shove et al., 2012, p.7). Reckwitz defines it as “a routinized type of behavior which consists of several elements, interconnected to one other: norms of bodily activities, forms of mental activities, ‘things’ and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge” (2002, p. 249).

In order to organize and analyze these elements this thesis will employ Shove and Pantzar’s (2005) practical view of “practices as assemblages of images (meanings, symbols), skills (forms of competence, procedures) and stuff (materials, technology) that are dynamically integrated by skilled practitioners through regular and repeated performance” (cited in Hargreaves, 2011, p. 83). I will be organizing these elements as meanings, competences, and materials.

Shove et al. describe the elements in a bit more detail. Materials encompass “objects, infrastructures, tools, hardware and the body itself” (Shove et al., 2012, p. 23). Competences include “know-how, background knowledge and understanding” and can be seen as “deliberately cultivated skill, or more abstractly, as shared understandings of good or appropriate performance” (ibid.). Finally, meanings comprise of “mental activities, emotion and motivational knowledge” (ibid.). Practices evolve over repeated performances as these ingredients change, influenced by one another as well as different practices and their elements (ibid.).

A common example in the literature is the practice of playing football. To carry out this performance one would need a few mandatory objects including, at minimum, a ball, pitch and goals (materials). Also, necessary would be a set of skills, a level of athleticism and coordination along with an
understanding of the rules in order to perform the practice correctly (competences). Finally, the sport also involves mental activities, ideas and feelings associated with the performance (meanings). The way these elements interact creates the practice of football.

We can now talk about football as an entity, “the things, the bodily activities, know-how, the norms and rules that shape it, etc.” (Watson, 2012 p. 3). However, practices are also performances in which the ‘carriers’ continually reproduce particular ‘doings’ that make up the entity as a whole (ibid.). These concepts reflect back on the dual nature of practices. A performance, and an entity, ever changing and unique, yet stable and consistent. It is this relative perspective of scale and time that makes SPT so interesting but can sometimes lead to confusion when exploring different practices.

Looking back to the example, there is no question that in both the English Premier League and the World Cup the players are partaking in the practice of football. However, for the 2018 World Cup, “the International Football Association Board (IFAB), the game’s law-making body, approved, with immediate effect, the use of video assistant referees in association football” (Spitz et al., 2018, p. 6). The procedure to use this technology stops play of game, leaving players standing around waiting for decisions, ultimately changing attitudes and meanings associated with the game for both players and spectators. Furthermore, Caruso et al. concluded that “slow motion replay can systematically increase judgments of intent because it gives viewers the false impression that the actor had more time to premeditate before acting” (2018), meaning that referees could be more inclined to give out fouls and cards. This aspect, too, can change meanings associated with the sport, and over time, after many reproductions, the technology (material: video replay) introduced to World Cup football can deviate from English Premier League football while both are still considered football. This shows how in different contexts practices can be looked at as performances or entities.

This thesis is concerned with how the practice of cycling in Uppsala recruits newcomers, so the practice must be seen as something that is stable enough for somebody to be a practitioner of (an entity). The interviewees describe their experiences but more so in the sense of how the entity shapes their performance rather than how their performance shapes the entity. So, throughout the analysis it will be helpful to think of cycling in Uppsala as relatively established with its own meanings, materials, and necessary competences. However, it is recognized throughout that the interviewees do reproduce performances of the practice as well.
3. Methodology
In this chapter I will discuss the different methods used in this study. First, I will explain the logic behind the research design, followed by participant recruitment, followed by a brief summary of the interviews, and finally the delimitations of the research.

3.1. Research Design
SPT requires an account of people in their doings and sayings. In order to understand factors that contributed to the practice of utility cycling, utility cyclists had to be observed in their routines. The observations then needed to be followed up with and combined with the perspectives of those who were doing the cycling. Ethnographic methods which include “participant observation, interviewing, focus groups and, increasingly, video/photographic work” in which the basic purpose is “to understand parts of the world as they are experienced and understood in the everyday lives of people who actually ‘live them out’” (Crang & Cook, 1995, pg. 4) became a good match for the questions I was looking to ask.

Be that as it may, true ethnographies take a lot of time, and necessitate much access to those that are being observed (White et al., 2009). Ethnographies can typically be described as “the direct observation of the activity of members of a particular social group” (Abercrombie et al., 2006). On the other hand, the case study, as defined in ‘The Penguin Dictionary of Sociology’, is “the detailed examination of a single example of a class of phenomena” (ibid). Without the time or resources to fully immerse myself in the everyday lives of exchange students which an ethnography called for, I opted to conduct a case study considering they “much more similar than dissimilar” (Willis, 2007, p.240). The phenomena, in this case, is utility cycling, with the single example being exchange students in Uppsala.

The primary method employed in this case study is the semi-structured, qualitative interviews conducted with 10 exchange and international students about their transportation practices with the unit of analysis being the practice of cycling in Uppsala, not the individuals themselves. To contextualize the interviews, observations were made and some photography has also been used to make some observations clearer to the readers and to capture more of an ethnographic feel.

The observations were made throughout the study period. Sometimes while riding by myself, other times sitting at busy intersections or at parking areas to analyze cyclist behavior and interactions with other vehicles, pedestrians, as well as interactions with the infrastructure itself. On different occasions I rode along with 4 of the 10 participants to observe them in their sayings and doings.

In order to gain a better understanding of Uppsala municipality’s role in recruitment of cyclists and provide even more context to the semi-structured interviews with the students, I also interviewed a representative of Uppsala municipality who is a project manager involved with many of the projects the municipality is undertaking in terms of promoting cycling, and knowledgeable about many more projects. She also pointed me towards numerous documents that also highlighted the municipality’s efforts.

3.2. Participant Recruitment
My research called for exchange and international students living in Uppsala. I was not looking specifically for cyclists, but rather to explore the materials, competences, and meanings of whichever transportation modes the participants utilized in order to see why those that did, chose cycling as their mode of transportation. In the end, out of the 10 people interviewed, 9 were cyclists, and the lone outcast walked.

Crang and Cook suggest casting a wide net early on in the stages of an ethnography is vital, meaning, the researcher should develop as many relevant contacts as possible in the community that is of interest to you (1995). Talking to friends, classmates, and faculty members about your ideas along with
contacting organizations, campaign groups or authors at this early stage is recommended. As they go on

to explain, “ethnographic projects do not emerge in the form of pristine hypotheses to be tested later 'in
the field’ but require a fusion of knowing what is interesting and what is accessible” (Crang and Cook,
1995, p. 15).

Casting a wide net early on allows contacts to talk to other people and then refer them back to you in a
process called snowball sampling, “when the researcher accesses informants through contact
information that is provided by other informants” (Noy, 2008, p. 330). Simultaneously, I put up posters
in student housing, in a few campus buildings, as well as posting on several Facebook groups that
catered to international or exchange students. Baltar and Brunet have demonstrated that social media
can be an effective medium to gain access to “hard to reach” populations (2012).

3.3. Semi-Structured Interviews

“Questions that seek to discover the meaning individuals make of their experiences are well suited for
the interview method” (Stage and Manning, p. 36). With that in mind, I set out to develop questions that
explored the materials, competences, and meanings of the participants’ experiences in Uppsala. I also
wanted the flexibility to let the participant dictate the conversation to a certain extent in order for them
to express themselves rather than strictly answering predetermined questions. Semi-structured
interviews can be seen as “guided conversations” about a specific topic, which allows for new questions
and insights to make their way into the conversation (Pretty et al., 1995). For semi-structured interviews
context like where the interviews take place, and the dynamics between the parties involved is
extremely important making it a difficult skill to master (ibid.). For the purposes of this thesis, the fact
that everybody involved was a student and the topic was not controversial at all, made for open, easy
conversation.

The semi-structured interviews were all recorded with permission of the participants, some names have
been changed by request of the participants. Significant statements relating to the elements of SPT
(materials, meanings, competences) and the student’s recruitment process were then transcribed and
categorized within the framework of Shove and Pantzar’s three elements. This organization is reflected
in the structure of the how the results are presented, and subsequently the discussion as well.

3.4. Delimitations

The fact that this is a case study puts limits on how the results may be generalized because “researchers
do not seek to find universals in their case studies. They seek, instead, a full, rich understanding
(verstehen) of the context they are studying” (Willis, 2007, p. 240). This means that although case
studies can gather rich information from a holistic point of view, the specific context of each case does
not lend itself to replication. SPT also recognizes that practices are context sensitive, that they are being
reproduced, and hence, changed, daily. The purpose of this thesis, then, is not to generalize, but rather
to deepen understandings of particular practices and the elements that make them up, and to provide
insight that can inform or inspire more in-depth research.

The process of casting a wide net and the subsequent snowball sampling led me to interview several
friends and acquaintances who took classes at CEMUS, the Center for Environment and Development
Studies. These students are typically more knowledgeable than the general student population about
issues of sustainability which could affect the meanings they associate with sustainable transport such
as cycling. The participant recruitment process also ended in a skewed number of participants by sex. I
interviewed seven females and three males.
4. Cycling in Uppsala in Context
This chapter outlines some of the preconditions to cycling in Uppsala to add context to the overall thesis. First the geographic area of Uppsala is explored. Then the demographics of the city are addressed. Finally, documents and an interview with a project manager from Uppsala municipality inform what the city does to promote the practice of cycling.

4.1. Geographic
Uppsala, the city, is located in the flatlands to the north of the Swedish capital, Stockholm. Uppsala is the capital of Uppsala Municipality (Uppsala kommun), which itself is situated within Uppsala County (Uppsala län), historically called the province of Uppland.

The city center is situated along the Fyris river which dissects the city north to south along with a glacial ridge running parallel to but just west of the river. This ridge is the most difficult obstacle in Uppsala. It is typical to see cyclists walking their bikes up the hill although it is possible traverse by bike.

To get a better idea of the distances within the city center an example of Google Maps directions (Fig. 3) from the southernmost point in Uppsala to Uppsala Central Station are provided. Figure 3 is there to show somewhat of an extreme distance to the city center in order to put other distances in perspective, however, the average distance traveled by bike in the city center is 2.7 km per person per day (Resvaneundersökning hösten 2015, 2016), meaning that most cycle trips are much shorter than 36 minutes.

Fig. 3. An example of a trip from a location in one of the furthest areas in the city to the central station. Map data ©2018 Google Inc.
4.2. Demographics
Uppsala Municipality, situated in Uppsala County, recorded a population of 219,914 people at the end of 2017, while the population of the entire county stood at 368,971 (Statistiska Centralbyrån, 2017). Uppsala city itself has an estimated population of 157,303 at the end of 2017 (Citypopulation.de, 2018) making it the fourth largest city in Sweden behind Stockholm, Gothenburg, and Malmö.

As of 2017, Uppsala University had 42,559 registered students, and 6,887 employees (Uu.se, 2018). These numbers are just to give a general idea of the student population in Uppsala, however, it should be noted that these numbers do not specify how many of the registered students are online students, and it is not clear if they include the approximately 2,000 students and 200 employees that attend Uppsala University at Campus Gotland (Campusgotland.uu.se, 2018). Nor does this figure include the students that attend SLU in Uppsala. Needless to say, students make up a large portion of the population in Uppsala.

Projections for the future estimate, by 2025, the population in Uppsala will be 245,760, by 2030 up to 260,110, and by 2050 the municipality, at this time, expects a population of 318,600 people (Befolkningsprognos för Uppsala kommun 2017–2050, 2017). This projected growth has the municipality looking for sustainable solutions to housing, transport, as well as consumption. For issues of this sort they have created an Environment and Climate Program 2014-2023 (Miljö- och klimatprogram 2014-2023, 2015), which is purposed with creating a comprehensive plan for its strategic work on climate as well as showing the public the municipality’s direction on this type of work, urging involvement from citizens, companies and organizations. It is in light of programs such as this, as well as the municipality’s ambition to seek sustainable solutions that the Action plan with working with bicycles (Handlingsplan för arbetet med cykeltrafik, 2017) was put in place.

4.3. Cycling policy and statistics
Every fifth year, going back to 2000, the municipality also conducts a travel survey, the results of which are important for planning sustainable growth and sustainable transport,” (Resvaneundersökning hösten 2015, 2016). Results from the travel survey show in the entire municipality the most common mode of transport is the car, used in 37 percent of trips, and the bicycle comes just behind at 33 percent, with the car down 5 percent and the bicycle up seven percent since the last survey in 2010 (ibid.). However, within the city center, bicycles take the number one spot for number of trips, with 36 percent compares to the car’s 34 percent as illustrated in Fig. 4 (ibid.). These numbers are partly in thanks to the previously mentioned Action plan with the explicit goal of increasing the proportion of cyclists in Uppsala and an aim to be the Sweden’s best bike city (Handlingsplan för arbetet med cykeltrafik, 2017).

The Action Plan notes that there is potential for increased cycling within the city as well as the whole region. In order to realize that potential the documents lists four areas of action: Safety and security, Accessibility, Bike culture, and Convenience.

Dissecting these areas of action within the framework of SPT shows that the municipality is committed to providing materials via lanes, paths, parking, etc., as well as nourishing positive meanings, and keeping the necessary competence levels for riding a bike as low as possible (Handlingsplan för arbetet med cykeltrafik, 2017).
The travel survey found that the proportion of cycling trips is highest in the age group 18-24 years, where bicycles carry out 50 percent of the trips and that about 50 percent of trips by students are done by bike (Resvaneundersökning hösten 2015, 2016). Consequently, as a part of promoting bicycle culture, the municipality recognizes that new residents, with a large portion of those being students, are an important group to focus on claiming that it is easier to break travel patterns when moving to a new location. The action plan states that the municipality should run campaigns to inform new residents to cycle more, and to do so safely by providing easily accessible information and guidance on how and where to ride (Handlingsplan för arbetet med cykeltrafik, 2017).

During an interview conducted on 25 June 2018, a representative of Uppsala municipality who is a project manager working with projects to promote cycling in Uppsala, spoke of many campaigns that the municipality was working with including the winter cyclist challenge. In this campaign the municipality provided 26 university students with quality equipment, such as winter tires, reflectors, lights and challenged them to bike four months through winter, at least three times a week, for at least three kilometers each time. The student participated in events on different campuses around town to reach other students and talk about safe biking and hand out lights. They also filled out a survey indicating how their experience was, if they had used the different materials provided and how often. Campaigns like this normalize biking in the winter, which can change meanings for students coming from different climates, who may view the winter as scary and demobilizing. It also shows students that the competences need for regular riding during winter months is actually quite low, contrary to what some may believe.

Another campaign the project manager mentioned was one in which young children go through this program to learn about different rules, and upon completion they receive a ‘license’ to show that they know the rules. This instills skills and know-how in the children of Uppsala at a very young age, which insures a level of competence for the next generation, essentially priming them to adopt the practice of cycling when they get a bit older.
During the interview, the project manager gave a sense of the high ambition that the municipality has to increase the amount of cyclists and decrease car use to be in line with their sustainability and health goals. She spoke about several more campaigns and challenges aimed at engaging and pushing different groups to cycle more frequently. All the hard work has been rewarded as Uppsala was voted the best bike city in Sweden for 2018 (Cykelfråmjanget, 2018).
5. Interviews with students

In this chapter, I describe the elements that make up the practice of cycling in Uppsala as informed by the interviews with the international and exchange students, as well as by my observations (5.1). I will then characterize, more specifically, the process of recruitment the students went through to pick up cycling as their main mode of transportation (5.2).

5.1. Elements

5.1.1. Materials

The obvious material here is the bike. Uppsala has no shortage of bicycles, and the market, (mainly Facebook buy/sell pages) are filled with options. Anywhere one goes, one can expect to find a sea of bikes. Among them are quite a few that seem abandoned, and many look (and sound) like they need at least some minor repairs or adjustments. One can find various types of bikes from mountain bikes to the occasional fixed gear, nevertheless, one will predominantly find simple commuter bikes.

From before some of the interviewees even arrive in Uppsala, they are searching for bikes they will potentially own. Others took longer; they saw the abundance of bikes and cycling upon arrival and then decided to make their purchase. For example, Harrison from Australia was biking on his second day in Uppsala, Lucas, 22, from France, on his second week.

When choosing a bike some prioritize a low price, while others feel as though the price reflects quality, therefore they are willing to spend more. Some of the interviewees feel as if bike shops charge too much, taking advantage of the naivety of students who are new to the environment and unfamiliar with the Swedish currency and prices. The interviewees had bought bikes from shops, other individuals, via friends, flyers, previously mentioned Facebook pages, as well as through a recycling center which repairs damaged or abandoned bikes (Uppsala Returcyklar AB). Nobody mentioned a personal connection to their bike, in fact, Jason, a 22 year old from the United States said about his bike, “the brakes and everything were shot. I figured that was fine, I just needed something to get me through the semester.” Several other interviewees described their bikes as “shitty”. Many of them also mentioned how they do not expect to get back what they paid for the bike when they end up selling it. This attitude towards their bikes seems like it very well may differ from how other practitioners, who are more established in Uppsala, and are not surely moving away in a few months.

The other obvious material to the interviewees was the bike infrastructure. All the interviewees were impressed with how many bike lanes there are throughout the city, especially with separated lanes and paths that do not follow roads making their travel more direct and less timely (as seen in Fig. 5.). They were generally impressed with the signage indicating direction as well as directing pedestrians to their specified part of the paths. From my observations it was obvious that many students use the separated bike lanes, but it is also natural to see people following paths carved through grass or dirt where shortcuts have been forged over time.

One interviewee pointed out that “you have some pumping stations. It takes maybe five minutes to go from one to another, so even if you have a problem, it’s easy,” (Lucas, 22, France) illustrating their adoration of the abundance of facilities such as bike pumps which made unexpected maintenance relatively easy. It was not only the infrastructure allowing for quick travel, and on the fly repairs that awed the interviewees, but also the manner, itself, in which that infrastructure was maintained. Noelle, a 20 year old from Canada was thrilled with how well the roads and bike lanes were cleared throughout the winter, and how less trafficked paths at least had gravel to help with the grip. It was a completely different experience than what she was used to back home, where the lack of maintenance prevented her from riding her bike in the winter.
Another material that greatly impressed a few interviewees was the availability of bike parking almost everywhere, and more so for the covered parking areas outside of some buildings. They note the importance of protecting the bikes from undesirable weather conditions, especially during winter. However, it is obvious from observing student housing areas during winter that a large portion of students do not care about protecting their bikes from the elements. Perhaps this relates back to what was previously mentioned about the bikes just getting them through the semester. Nonetheless, a 23 year old from New Zealand, Vita, always parked her bike under a covered parking spot outside her building, and Lucas, for example, kept his bike inside the basement of his building to protect from thieves after getting his basket stolen. Ana, 22, from Portugal admitted, “I’m not proud of that, but I got two bicycles stolen here. That’s actually a problem in Uppsala, you really need to have a good lock.” Sadly, she is right, bike theft is relatively common in Uppsala, and a good U-lock was frequently cited as an effective deterrent.

The weather also necessitates materials that protect the rider during the winter. Since the interviewees mostly rode through the winter except during particularly bad conditions such as thick snow, most of them mentioned that adequate clothing, including a reliable coat makes cycling possible in the winter. Gloves were also a must. “Other than personal stuff like a raincoat or gloves or stuff for the weather [I bring] nothing.” The winter also brings long periods of darkness with it, during which comments were made about the convenience of lights. I heard things such as “lights are important,” and “I think that’s good that it’s in the law that you need lights.”

Backpacks and other bags were often seen as making life much easier, especially if going to the supermarket or liquor store. A few interviewees had baskets on their bikes that they said made life much easier for them, while others thought they were unnecessary. Also, the location of supermarkets themselves was often noted. Although some traveled by bike to farther supermarkets in search of cheaper prices, most of the interviewees would walk to supermarkets near their housing to do their shopping. The practice of cycling and grocery shopping were not necessarily intertwined unless there was something small or essential that needed to be picked up before going home and making dinner. This was contrary to how some described their grocery shopping back home, where they would take their cars.

Phones were another material that was regularly alluded to for things like weather forecasts and directions. Also, many of the interviewees mentioned headphones so they can listen to music during
their rides. One interviewee said “depends if I’m meeting others that I’m in class with, sometimes we bike together in which case I won’t have music. But other times, yeah I definitely have headphones on.”

From a material perspective the interviewees were overwhelmingly delighted with how the abundance of bicycles and bicycle infrastructure affected their experiences cycling. Cycling in Uppsala would not be the same without those material aspects and furthermore, would not be possible without materials such as jackets and gloves. Less obvious were the ‘little’ things, such as the phone, and the lights that were very helpful to the practice yet seemed to creep into the practice almost unnoticed until prompted by the interviewer with probing questions.

5.1.2. Competences

Another thing that is noticeable about Uppsala upon arrival is the relatively flat terrain. This makes cycling a relatively easy task. Like Harrison simply put it “I don’t exactly find it physically hard.” Others didn’t find it to be that easy all the time, but it was never problematic, nobody reported needing to take breaks during their commute. Céline, 21, from Switzerland explained “to go to school it’s a bit uphill so sometimes I’m like ‘oh my god, it’s too much, I’m quite tired,’ or if I have done sports the previous day, so I’m like ‘oh my legs, going uphill is hard,’ but it’s completely okay, and I feel great to bike everywhere.” To give some perspective, she also mentioned that she normally lives at the top of a hill in Lausanne, Switzerland, and that the mountainous terrain would render biking nearly impossible for her.

Unlike the topography, the weather is a big deterrent to cycling in Uppsala. All but one interviewee biked throughout the winter (walking was her primary mode of transportation because of how close she lived to the city center), but on particularly bad days many interviewees admitted to resorting to the bus or staying home. Ana revealed that “a couple of times when there was lots of snow on the floor, when it’s snowing for a long time and I have to bike immediately after, I can’t bike in that situation.” However, for most, the primary concern was usually not snow, but, rather, ice. When the snow would melt and freeze overnight, it would make for scary commutes in the morning. Most of the interviewees reported minor falls, yet, that did not seem to completely turn them off of biking, rather, they felt as if they themselves needed to be more careful. Vita stated, “I know some of the people I’ve met on exchange are only able to bike when the snow melted…I was never really concerned by that, I mean, you can fall over walking.”

Other than that, in terms of competences and skills the interviews made it seem that the large network of separated bike lanes combined with the very forgiving terrain made it almost effortless to use the bicycle. When asked if any special skills were needed to bike in Uppsala, Kaarina, a 22 year old from Finland said: “no, I don’t think so, just basic cycling skills. You don’t even need to be a good cyclist.” To further that that point, Lucas from France, after 8 years off of a bicycle, described “the first two days I got a bit insecure about biking, I was like ‘okay, I need to not go so fast’ because I don’t want to crash into someone etcetera, but it came back very quickly.” The way the interviewees described it, as long as you can control your bike without crashing into people you can cycle in Uppsala. Learning the simple hand signals and using your bell helped interviewees like Noelle from Canada, but even these basic skills were rarely mentioned by the interviewees and my observations revealed that many cyclists did not use hand signals regularly. This differed from what some imagined the experience would be like back home. Harrison portrayed a scene from where he lived in Adelaide, Australia in which cyclists were on the road biking in between parked cars on one side and moving buses on the other, with their paths frequently cut off by turning lanes and annoyed drivers. It is not a stretch to deduct from stories like this that in the hometowns of the interviewees the competences needed to cycle, were much more difficult and extensive than in Uppsala.

One interesting aspect that came up a couple times was the lack of knowledge and skills to repair or maintain the bicycles. Kutzi from Mexico, 31, pointed out “something that is very important, but I don’t
know how to do, is taking care of the bike.” Without the knowledge and skills for basic repairs trips to the bike shop for mishaps such as simple punctures or regular maintenance like lubricating and adjusting the chain can become costly for the students. However, with most of the exchange students who were interviewed, the fact that they are mostly only staying for six months to a year means they have no attachment to the bikes and just need to ‘survive’ until the end of the semester like Jason illustrated previously in the materials section.

In looking at competences the interviewees experience was typically one filled with ease. The lack of large hills and extraordinary distances meant that cycling was not physically exhausting. At the same time the materials from the previous section brought the necessary competences to cycling down to the bare minimum, especially in comparison to other cities where the interviewees lived. There was, however, an absence of skills regarding repairs which led to the interviewees seeking out specialists.

5.1.3. Meanings

Unlike the case in many cities, when in Uppsala, beeping and honking from car horns is a rare disturbance. My observations told a story that was reflected by those told by the interviewees. Drivers seem to be calm behind the wheel, and most importantly, very patient when dealing with cyclists. Even bus drivers, with packed buses and schedules to keep, remain respectful of cyclists, even when they are breaking rules. After months of living in Uppsala Harrison was still shocked at the respect:

Coming here and living in Uppsala you have these pedestrian and bike crossing, and I’ve found that all cars always stop for bike riders and I can never believe it. Like are they really tolerant and nice to bikers? (Seen in Fig. 6.)

Andrea, 25, from Romania, who primarily walked, mentioned that “drivers are strangely polite to pedestrians,” and when comparing to the situation in her home city, a 20 year old from Canada, Noelle stated “people have way more respect for bikers here.” This behavior was a very common theme throughout the interviews. Practices are always in competition for practitioners (Shove et al., 2012), however, the practitioners need not be in competition themselves. In many places such as Adelaide, Australia (as Harrison previously described), the practice of cycling and the practice of driving cars are competing for the same space, the road. This puts the practitioners in competition with each other as well (cyclist vs. driver). Because in Uppsala there is much less competition for road space, biking in Uppsala does not have the same stigma as it does in other cities; the bicycle feels like a legitimate form of transport for everyone, not just the enthusiast, and so, drivers respect them. In the materials section there was no mention of performance equipment usually associated with enthusiasts; no expensive road bikes, no lycra, helmets, tools. For Kaarina, this changed her perspective on cycling. She said, “I had never thought of cycling as being a way to get somewhere, I always thought it was like if you want to do sport, then you go cycling. But here, here is really different. So, these are the first times, almost, that I went cycling in my normal clothes and with school books and computer with me.” (22, Finland).

Cycling in Uppsala is inclusive, anybody can ride their bike, it is not only for students as Noelle also pointed out “it’s more accepted, like people always have kids on the back,” speaking of the common sight of children in specialized seats being transported by their parents. Not as common, but also seen in my observations is children being escorted in the front of cargo bikes.

Aiding to this idea that bikes are accessible, is the idea that they are the cheapest way of getting around town besides walking. Lucas worked out that “technically, I spent 1,000 krona on my bike and if I took the bus I would spend 1,000 krona every two months.” Furthermore, not only is the bike accessible to just about everyone, but it is accessible at any time. The interviewees really stressed that they enjoyed the freedom they get from biking. “I really like the idea of biking everywhere. Here in Uppsala it’s faster than the bus, cheaper. It’s flat so it’s easy, so it’s alright. You don’t have to respect a time schedule. If you want to party and come home very late, it’s okay, you don’t have to wait [for a
Fig. 6. Seen here is an example of drivers waiting for cyclists at a pedestrian and bike crossing. Photo: the author.

...bus],” suggested Céline. Kaarina adds, “it feels quite free because I can decide when I leave, and which route I take and if I want to stop or not. It’s very rarely that I would get irritated while biking,” hinting that other modes of transportation can, in fact, get irritating. This quote segues nicely into another theme that was expressed in different ways throughout the interviews: mental health.

Cycling symbolized relaxation to some, meditation for others. Noelle used it as a time to listen to music stating “I have a biking playlist for when I go to school. It’s kind of like my meditation now.” To others, like Vita, it acted as their morning coffee:

I love it, biking. Especially if you’ve had a slow morning, getting that fresh air to you face, especially when it was cold it was quite refreshing. It was like having a coffee. By the time you’ve got here, you’re more alert than if I’d gotten in a car and driven to class.

They each put it in different ways, however, it seems that cycling to them, carried with it this meaning of stress relief. Physical health was also brought up a few times. While the interviewees enjoyed being active, some recognized, not only the positive personal impact, but the global impacts of their actions as seen here: “I like the fact that I’m doing exercise when I’m biking, and it’s environmentally friendly,” (Ana, 22, Portugal).

Others enjoyed how cycling meant getting closer to nature, and how it cultivated a feeling of curiosity of their surrounding in a way that driving or public transport could not replicate. Kutzi articulated this point nicely. “Even though I do the same trip over every day, I see different things like ‘oh that tree has flowers’ or ‘that tree doesn’t have flowers anymore.’ That’s what I really love about biking, the view, the nature. It makes me feel like I kind of belong...When I take the bus I don’t care about what is outside, I just use the phone and am just aware of the bus stop...The relation with space is totally different. When I’m on the bus, I’m not there, I’m in the phone, and when I use the bike, it’s impossible to not be there.” During my observations I have seen bikes parked on the side of paths when their owners were in the grass picking flowers. One could also find people stopping their bikes on bridges to take pictures of the river and the cathedral in the city center. These types of experiences could not be afforded if driving a car or bus.

The interviewees experience with regards to meaning was described in a variety of ways, yet a few themes were apparent throughout. The respect from drivers, which would more so be a meaning for the practice of driving, seeped into the practice of cycling via the perceptions of the cyclists. This allowed space for other meanings like relaxation, meditation along with a connection to nature. Finally, there is
this idea of accessibility surrounding cycling in Uppsala. Students can get a bike for cheap and use it at their convenience, going where they want when they want to.

5.2 Recruitment

“Every semester, Uppsala University, together with the student nations and student unions, organise a range of activities to welcome our new international students” (Uu.se, n.d.). There is a wealth of information that is distributed concerning joining nations, getting ID cards, housing, and generally what life is like in Uppsala. Also included, are maps with bike lanes, pamphlets with rules and laws of biking, and so on. For many students, these events signify first encounters with a range of practices that they can potentially participate in throughout their time in Uppsala.

I started off this chapter highlighting the abundance of bicycles in Uppsala, not only physically, but also virtually flooding many buy and sell pages on Facebook. Similarly, when searching for housing, it is not uncommon to see ads denoting the time it takes to bike from the accommodation to popular destinations such as different campus buildings or the central station. Before some students even step foot in Uppsala they are aware of the popularity of bikes, and if they are not, once they arrive and partake in any of the welcome events mentioned above, they will immediately find out.

A number of comments from the interviews illuminated the role that seeing all the bikes and people riding them had in recruiting the interviewees. Kaarina said “because of the social, not pressure, but the habit that everybody is biking made me understand, okay, this works like this, everyone bikes here so I should get a bike as well.” For Céline “it’s super popular. Everyone has a bike so I do the same as everyone.” And Vita added “well I wasn’t going to buy a car over here, and also everyone did it.”

Like Shove and Pantzar’s (2005) findings that social networks facilitated the spread of Nordic walking, the interviews have shown that social networks also benefit the practice of cycling in Uppsala. Social networks form between new students living nearby each other and the practice of cycling spreads throughout these connections. Lucas had mentioned how many of his classmates live in the same neighborhood, some in the same buildings. The practice benefits, not only from the social connections that have been made, but also how they are maintained. As Harrison explains of cycling, “I think it’s been really good socially, you get to chat for at least 20 minutes before class, after class, organize plans, or see what everyone is doing.” So, students who aren’t regularly biking may miss out on a social aspect of being a student in Uppsala and be more inclined to start cycling.

On the other hand, substandard first encounters could turn some people away from the practice of cycling. “In the beginning, where I bought my bike, the people are not respectful of the students. We arrive, we are very lost, we don’t know what to do and they take advantage of that and make us pay way too much for bikes that aren’t working properly,” explains a woman from Switzerland. In these cases, the unfair costs, but also the whole unpleasant experience of purchasing a bike, can act as a barrier to capturing new recruits for cycling in Uppsala.

Kutzi unlike most of the other interviewees had already been cycling before coming to Uppsala. She explains her journey from recreational cycling to utility cycling: “In my home city it was very difficult to use the bike but I started to bike there. But cars are not respectful at all and we don’t have any bike lanes there so I would use it to mountain bike maybe. But when I moved to the Caribbean, in that city, Playa del Carmen, there are bike lanes, cars are not respectful though but I felt safe if I use the bike lane. So I started to use it as my main transportation there. I lived there for one year I think. It was like the preparation for coming here…in the beginning [in Uppsala] I had to take the bus because I didn’t have a bike, but it was the first thing I acquired.” So for her, the transition was very easy, she even mentioned how the infrastructure in Uppsala, combined with the respect from drivers that she had never experienced before, made her “feel like a king.”
The materials, such as the bike lanes obviously help to recruit practitioners by making it easy and safe to ride. Vita mentioned how nice it is to be able to ride through parks in Uppsala which have paths through them compared to parks back home in Christchurch, New Zealand which have no bike paths, and leave cyclists to fend for themselves on the roads with cars. But not only do some materials aid in the recruitment process, the lack of other materials do as well. For example, Harrison describes riders where he studies, “they’re all in the lycra, tight pants, shoes. The other big thing that I’ve found here is, it’s illegal to not wear a helmet in Adelaide so, you just look like a bit of a douchebag if you’re a bike rider. But you can come here and bike casually. I wear my converses, I don’t need to wear a helmet so I don’t have to look a certain way…it’s completely different.” This was also touched upon in the meanings section, when Kaarina had never before associated cycling with anything other than sport. Different connotations and correlations that inclusive bicycle infrastructure, rather than exclusive laws and equipment, create, work to change perceived competences and meanings within potential recruits resulting in a practice that is more likely to gain practitioners. In other words, the laidback cycling culture in Uppsala makes cycling a more attractive alternative in comparison to other cities.

As for actually riding, the interviewees described being “apprehensive” in the beginning and also needing to get a “feel” for cycling in Uppsala, especially in the snow, indicating that they became more familiar with the practice by doing and learning for themselves. Many of the interviewees confessed to crashing in the ice, and learning to be more careful and go slowly in dangerous areas. Jason from the United States also talked about a learning experience that he encountered in which “I have had someone yell at me because I didn’t do the turn signal. She yelled at me in Swedish.” Maybe this is not the most common way to learn the rules, but it does show that locals are not afraid to let new recruits know that they are doing something incorrectly. They also learned quickly to use gloves. I heard a few stories of numb or stinging hands, along with regret that they did not buy nicer gloves. Céline described an unfortunate experience when she learned to always be prepared for bad weather. “In the beginning of the year, once, I went to school when it was raining without rain pants and I was wet for the whole day and I was like this is not going to happen anymore so I bought rain pants and if I see it’s raining I put on my rain pants.” It was also pointed out that “in the beginning” getting places took extra time because of the need to pull out a phone and look at directions, but with time this became less common because they had developed mental maps of the city.

Following being recruited by a practice, defection from or reproduction of that practice are the natural sequels; after the first encounter, after the trial and error process of learning to be a better carrier of this practice one either continues or not. This phenomenon is exemplified when the interviewees defect from the practice during times of particularly poor weather. If the weather were constantly in that state, the carriers of cycling in Uppsala would cease to exist. Furthermore, by taking part in the practice of cycling in their own personal way, the interviewees are reproducing cycling within Uppsala. A few of the interviewees take this further, commenting on the potential for them to continue cycling when they move back to their home countries. Kaarina said upon moving back to Helsinki “I would really like to continue biking…I will be moving to another place, I will not live anymore in the city center then, so it should be that I can bike from that place to the center. At least I want to try how it works.” Jason, when asked if he would consider biking when he got back home said “yeah, I actually would because Boulder has really good bike paths and everything…and that’s definitely an option if I have to move farther away.” He also added that some of his friends bike there, and as shown above, social networks greatly help the spread of practices.
6. Discussion
This chapter will answer the research questions and interpret results from the interviews. It also goes on to suggest improvements as informed by SPT as well as propose opportunities for further research.

6.1. Relating back to the research questions
To recap; throughout the introduction I highlighted some of the negative effects that driving personal vehicles brings about. As a growing field of literature suggests, utility cycling, can help mitigate those negative effects. The problem then becomes how to get people to ditch their cars in favor of the bicycle. SPT offers a holistic approach to solving this problem in which practices, made up of elements whose compositions are ever changing, are at the forefront of analysis. By investigating the makeup and interaction of these elements (seen in Fig. 7), as well as how the practice as a whole interacts with closely related practices, one can expect to find insights on how the practices in question are produced and reproduced, how they capture and retain carriers, how they evolve, or eventually die out. With this in mind, and the results from the interviews laid out, looking back at the research questions leaves a lot to be discussed. So:

*How do international students experience the practice of cycling in Uppsala?*

*What is the process of international students picking up cycling when they move to Uppsala for school?*

![Fig. 7](image). Summary of the composition of the different elements making up the practice of cycling in Uppsala informed by the interviews.

One of the interviewees explained it quite plainly for me when asked why they choose to use the bicycle as transportation. “Probably just the convenience of biking, it’s just so much faster.” After conducting the interviews and observing cyclist behavior, it seems as if that easy answer holds some
weight. In many cases, the practice of cycling is just the quickest and cheapest mode of transportation in Uppsala if one has the physical ability. Even in winter, with a bit of caution and appropriate clothing, the snow and ice cannot hold back the cyclist. Nevertheless, that brings in more complexity to this answer, because, of course, things are not that simple. At this point it would be helpful to focus on the interactions between the elements of the practice at the heart of this thesis.

6.1.1. Interaction between elements

Without the necessary materials, such as the aforementioned clothing, it would not be at all convenient to bike around Uppsala. Similarly, without the lanes, the signs, the parking, the pumps, bike shops, the abundance of bikes themselves, the convenience and efficiency of cycling in Uppsala would greatly deteriorate. At the same time, the meanings, like convenience, that are harvested because of the materials that are in place also create an environment that encourages more investment in materials in a recursive nature that SPT highlights.

It is unclear if one initiates the other, but the meanings and materials, enabled by a low level of necessary competence (which is also influenced by the other two elements), create a positive feedback loop where they build upon each other to create a thriving practice. For example, one of the interviewees mentioned how he was surprised that drivers were tolerant and patient at pedestrian and bicycle crossings. I organized that quote under the meanings section to highlight the interaction between drivers and cyclists, though it could have just the same been put in the materials section to concentrate on the crossings themselves. The point I am making is that in regard to the elements of a practice, the whole is greater than the sum of its parts. They are not in isolation, the bicycle crossing is not merely a structure, and there is no predetermined concept of tolerance lingering in the minds of each driver. This relationship is a recursive process in which materials and meanings are bouncing back off one another, daily, with interaction between driver and cyclist, cyclist and crossing, crossing and driver, and so on to produce and reproduce new meanings, and then perhaps new crossings, making it easier for people with less competence to cycle, and the process continues.

This complexity exemplifies why typical views of social change, looking solely at either individual behavior or structures are inadequate at addressing the whole picture. It is neither the overarching structures such as bike lanes, nor the individual behavior of choosing to ride bicycles that bring about change, but rather, a process of both of these forces influencing each other. If anything, this study shows the chicken or egg argument is unimportant, extending the argument made by Larsen that developing a cycling city “necessitates planning of practices-as-entities by supportive planners and politicians” (2017, p. 889). Municipalities like Uppsala that show the political will to promote utility cycling through the funding of education campaigns, safety programs, winter competitions, investment in infrastructure, and so on, are proof of the mutually beneficial relationship of materials and meanings where geography and terrain don’t render the average person incompetent. Although, it is important to note that Uppsala winters prove that the average person is extremely capable even in somewhat extreme weather, meaning that competences are also shaped by and interwoven into the meanings and materials of a given practice.

I stress this, because it is not uncommon to hear the argument from policy makers, that the (low) number of cyclists does not justify spending money on bicycle infrastructure. As city planner Brent Toderian retorts to these types of statements, “it’s hard to justify a bridge by the number of people swimming across a river” (Andersen, 2014).

All of the elements above that make up the practice of cycling in Uppsala, as seen through the eyes of an international student, play an integral role in the recruitment of new practitioners, or carriers, of that practice. Shove et al. mention how the practice of showering on a daily basis has already captured the general population and processes of recruitment are essentially built in to bathroom design and strengthened by expectations from family and friends (2012). Furthermore, Shove and Pantzar point
out, “as practices become more popular, so chances to participate change” (2007, p.164). Although not to the extent of showering, the practice of cycling has a strong foothold on the student population in Uppsala meaning that a lot of the processes of recruitment are embedded into the elements of a popular practice. It is for this reason that the above discussion is very important to understanding how the recruitment process is experienced by the students. It is only because of these elements that the students were able quickly catch on to what everyone is doing, so quickly that Harrison was able to be recruited within two days of moving to Uppsala. Moreover, the results support Shove and Pantzar’s findings when exploring the spread of Nordic walking, that the spread of practices is greatly aided by social networks (2005).

Vita’s comment about biking through snow and ice while some of her exchange student friends did not start biking until the snow had melted exemplifies the claim that “practitioners’ careers are shaped by an inevitable accumulation of experience,” and that, “repeated performance has the dual effect of binding the practitioner more closely to the practice in question whilst also changing his or her relation to it” (Shove & Pantzar, 2007, p.165). And it is why the municipality’s attempts to promote winter cycling, and cycling in general, through participatory challenges can be an effective way of recruiting more practitioners. In the end, practices are made up of performances so when learning and ‘gaining a feel’ for cycling in Uppsala, the students interviewed, were reproducing their own version of the practice and unwittingly developing the practice. Shove and Pantzar similarly have mentioned the dynamic relation of practice as an entity and practice as a performance and concluded “to recruit is also to change” (p. 166, 2007).

6.1.2. Interaction between practices

So, elements of a practice obviously interact in different ways to create practices that are more, or less, likely to recruit new practitioners. At the same time closely, related practices are perpetually competing for practitioners so in searching for the answer to why someone chooses to bike it is also helpful to answer why someone does not drive the car or take the bus. Most of the interviewees stated that cost was big factor. As students, they typically have tight budgets and actively try to save money. Buying a car and even buying a monthly bus pass, was too expensive, especially when compared to the bike that can be resold. Relating back to convenience discussed earlier, speed was mentioned quite a bit throughout the interviews. Google Maps will show that travel times are almost the same for cars and bikes within a reasonable distance, cars may be a couple minutes faster, but then there is parking and walking to the destination, as well as paying for parking. The couple of minutes that might be saved in the car do not justify the exponentially more expensive cost. Guell et al. also stressed this point when writing “in the context of commuting, people are constantly renegotiating the organisation of their daily travel: responding to seasonal, financial, familial and emotional changes, creating their own spaces, rendering them dangerous or safe, stressful or even enjoyable” (2012). This is especially important in the context of Uppsala when looking at the competition at play between the bus and biking during winter. Buses, to the interviewees seem reasonable at times when they think that weather renders themselves too incompetent to ride, but normally, the extra cost and time do not justify riding the bus either. This too closely relates to the argument made by Shove and Pantzar (2007) which was previously discussed, that, repeated performances of a practice bind the practitioner to a practice while changing their relation to it. What is subtly implied in that argument, while not discussed, is that repeated performances also change a practitioner’s relation to other practices. As the winter challenge shows, repeatedly cycling through winter changed those cyclists relation to the bus, rendering it unnecessary to them.

Elements are not exclusive to practices (Shove et al., 2012). Materials can be used for practices they are not intended for, and particular meanings, as seen with cycling and driving, are embedded in a wide range of practices. Another meaning, freedom, overlaps with different types of travel such as car and air travel also resonates deep within the practice of cycling. Freedom came up a lot in my interviews, and
through the lens of SPT it is clear that new recruits to a practice are encouraged by similar meanings. The interviewees that were once driving enjoyed a certain amount of freedom, and the fact that cycling has the same attribute made it easier to switch over. The interviewees that were used to using public transportation, enjoyed more freedom when they started biking in Uppsala and they made it clear that they enjoyed not having to wait for a schedule to end up somewhere that was not their destination. Same with speed. Campaigns and policy that capitalize on these meanings can be more effective in recruiting new practitioners.

By concentrating on making cycling quicker, cheaper, and freer, or making cars (or buses) slower (through less lanes and more cycle crossings), more expensive (through higher parking fees or registration fees), and less free (traffic, regulations) municipalities can encourage more people to cycle. Molina-García et al. call for similar interventions to increase cycling among university students (2010).

Elements are also not exclusive to locations. Bicycles are everywhere. This is obvious as can be, but it is important when thinking about how practices spread. Two of the interviewees mentioned that because of their experience cycling in Uppsala they would like to continue the practice in their home country. They may not be keeping the same bicycles but with them they will take knowledge of how they relate to the materials, and additionally the ideas and skills they have developed from their performances in Uppsala. That, in a sense, brings Uppsala’s version of cycling to different countries and cities around the world and with it processes of transplantation, transformation and novel integration from one practice to another, as stressed by Shove and Pantzar in looking at digital photography and floorball (2007).

6.2. Connecting practices

This discussion about the way practices spread along with the earlier discussion (6.1.1.) about the dynamic relationship between practice as an entity and performance also calls attention to an important issue of scale that hasn’t yet been addressed in this thesis. In light of the big picture, global scale dangers that were presented in the introduction of this thesis, why study a very particular, local practice in a relatively small city in Sweden?

Quite simply put, “global changes in climate, environment, economies, populations, governments, institutions, and cultures converge in localities. Changes at a local scale, in turn, contribute to global changes as well as being affected by them” (Wilbanks and Kates, 1999, p.601). It’s simple mathematics: every single person that rides their bike instead of driving is one less person contributing to the GHG emissions of cars, which warm the whole planet. However, when looking at the social landscape that results in people riding their bikes, as this thesis has done, it is not scale that is important, but rather connections (between the elements, the practices, the practitioners, and so on) as the discussion thus far might have hinted at. Bruno Latour, a sociologist who contributed greatly to the creation of Actor-Network Theory (ANT), a school of thought which is closely related to SPT (Alhonnoro, 2014), claims that “in the social domain, there is no change of scale” (Latour, 1999, p.18). Latour problematizes the dichotomy of agency and structure as well as the words actor and network from the “theory” he helped create, saying that these positions are rather “two faces of the same phenomenon, like waves and particles” going on to call the social a type of circulation, that is reminiscent of SPT’s view of agency and structure as recursive (ibid. p.19). The misinformed debate about agency (micro) and structure (macro) distorts the importance and necessity of scale. From the view of ANT, and I would argue SPT:

Macro no longer describes a wider or a larger site in which the micro would be embedded like some Russian Matryoshka doll, but another equally local, equally micro place, which is connected to many others through some medium transporting specific types of traces. No place can be said to be bigger than any other place, but some can be said to benefit from far safer connections with many more places than others...what is now highlighted much more vividly
than before are all the connections, the cables, the means of transportation, the vehicles linking places together (Latour, 2005, p.176).

Addressing the global scale uncertainties that come along with the Anthropocene becomes less about scaling up, but more so about making more and more connections, as it is clear the interviewees of this thesis are doing by participating in the practice of utility cycling in Uppsala.

6.3. Further research and possible improvements for municipality

Social practice theory has been an interesting tool in which to examine the local practices. It has painted an insightful picture of the practice of cycling in Uppsala, and the holistic nature pointed to many connections to other practices. As Alhonnoro suggested, it would be very helpful to follow and explore these connections by intertwining an ANT perspective into practice theory (2014).

It could also be interesting to conduct a longitudinal study on exchange students to see if and how the practice of cycling changes for them. Since this case study is only a snippet of time, it cannot analyze how changing materials, competences, and meanings might change the practice. It seems as if students (at least those that do not come from vibrant cycling cultures) do not impose prior ideas of cycling upon the practice of cycling in Uppsala. In other words, they (being those who do not have deeply ingrained meanings associated with how biking 'should' be) react differently to new policy, infrastructure and so on, than those that do. Especially in a world with climate refugees and a rapidly increasing number of migrants worldwide, it will become more important to examine the effect that people who are new to an area have on "how practices emerge, evolve and disappear". In that case, it would also be beneficial not only to look at students, but, additionally, immigrants residing in Uppsala and other cities to compare the meanings they associate with cycling.

As I am nearing the end of writing this thesis, I have noticed a new bike share increasing its presence around town. EUBike is a dockless bike share which is connected to an app that advertises 10 free rides. This is a new development for Uppsala that has not had a bike share system in place. It should be interesting to see how the influx of new students next semester utilizes these new bikes. A bike share has the potential to alter how cyclists are recruited to the practice of cycling here in Uppsala. Especially with 10 free rides, students do not have to financially commit to buying a bike before they are able to test out what it is like to bike in Uppsala perhaps allowing someone who may not have bought a bike the confidence to take that first step. In addition, the many visitors to Uppsala will have more options than the bus or walking if they are not lucky enough to have a friend with an extra bike lying around. The increasing amount of bike shares worldwide has been accompanied with an increasing amount of literature on the subject (see Fishman, 2016). Additionally, a growing amount of research indicates that despite some barriers “improved integration of cycling and transit has the potential to overcome the fundamental limitations of each mode by combining their opposite strengths of flexibility and action radius” (Kager and Harms, 2017, p. 4). This opens the door to recruit practitioners that may have been excluded otherwise, yet to my knowledge there is no analysis of bike shares integration with rail from a practice-oriented approach. Griffin and Sener mention that “the planning of bike sharing in conjunction with passenger rail stations may leverage each of their advantages,” but to do so there is a need “to address the issues from a broad perspective while developing partnerships for effective planning between bike share companies, transportation agencies, and the public” (2016).

As previously mentioned, SPT stresses the influence that closely related practices have on the reproduction and recruitment of other practices in that bundle. Practices such as using rail and public transport can amplify or be amplified by cycling. It is a shame that the travel survey
(Resvaneundersökning hösten 2015, 2015) did not look into rail, specifically its relationship and bundling with buses and bicycles. The travel survey also fails to take into account people driving into or out of Uppsala and how that practice competes with rail (ibid.). Adopting a practice-oriented approach to cycling policy could aid the municipality in promoting cycling in line with their environmental goals. Because practices do not adhere to man-made borders, a practice-oriented approach additionally highlights the importance of collaboration at different scales because of the holistic, complex approach. It recognizes the role that national policy has to play in shaping local practices in addition to the other partnerships that Griffin and Sener cited (2016). The project manager for Uppsala municipality whom I interviewed mentioned how national policy hinders the municipality’s ability to develop regional travel within the municipality due to their jurisdiction over certain roads that connect towns. More dialogue is necessary, particularly, since Sweden has such ambitious environmental goals to meet.
7. Conclusions
In spite of the clear environmental and health advantages of cycling rather than driving, many people seem unwilling to make the transition. Motivating people to change their patterns of transportation and other daily routines to embrace cycling is a complex task. By looking at the practice as a whole, SPT is positioned well to analyze those complexities. This research was aimed at providing insight as to why so many students, chiefly, international and exchange students in Uppsala, cycle as their primary form of transportation, by analyzing the practice using the theoretical framework of SPT. To do so I conducted interviews with 10 exchange and international students about their daily transportation routine as well as an interview with a project manager working for the municipality to provide the thesis with the context of what the municipality is doing to promote cycling. In this thesis I found that materials such as cycling lanes, winter clothing, pump stations, and bicycles themselves, with meanings such as freedom, nature, and convenience, along with little competence and skills necessary to participate combined to create a practice in which international students were easily recruited.

Social networks between students and a high prevalence of biking aided the practice of cycling in Uppsala with the recruitment of exchange students. The students that were recruited, through their own performances, in turn reproduce the practice, facilitating its dissemination and evolution. This thesis adds a specific look at the process of recruitment to the growing literature of Social Practice Theory. It is a process that appears to play an important role in connecting and empowering localities in order to tackle the global effects of the Anthropocene. This thesis illustrates, like much of the previous literature, that the nature of SPT can make it very helpful for policy meant to address complex issues of social change, such as those that seek sustainable solutions to growing environmental problems. Finally, this thesis calls for further research on the practice of cycling by employing SPT as well as ANT to explore populations other than students, as well as other closely related practices and beyond.
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9. References


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