Automobile Use as a Behavioural Function of Modernity:

a small and overly complicated contribution to understanding why we drive

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ABSTRACT

There is a class of automobile use and preference that car-critics have attacked as irrational on utility grounds. Taking these arguments as conclusive raises another question – why is the automobile used and preferred beyond its apparent utility? Empirically grounding any answer would be difficult, thus some have offered bits of possible explanations – emotional, psychological, sociological motivations. But none, alone or combined, seem to sufficiently explain away the resulting question. This essay calls on the under-addressed role of the cultural conditions of Modernity to help theoretically ground why the automobile may be valued beyond its apparent utility. In this address, the field of Mobilities studies is used to supply the relevant ideological conditions of geographical movement in Modernity. Modernity also brings with it a specific human-technology relationship and some primary teleological values – control, efficiency, and rationalization. The resulting argument characterizes automobile use as, in part, an instinctual drive for escape from rationalization. Where the automobile is frequently labeled as an alienating technology, a closer look at its use and the cultural conditions of Modernity reveal that it may in fact be, in part, a compensatory reaction to the alienating forces of rationalization. A rudimentary inquiry into the possibility of empirical evidence references how methods used in the World Value Survey (the foremost empirically accepted survey of Modernity-related values) could be used to test a correlation between, say, traditional (non-rational) values and automobile use. The conclusion serves as a contribution to understanding why the automobile may often be given preference beyond its apparent utility – something that is very welcome given the massive impact of automobile use and its unclear future.

Key Words: Modernity, Automobile, Mobilities, Utility, Rationalization, World Value Survey, Transportation

Table of Contents

INTRODUCTION

> *The 'motor car' is among the most significant material objects ever created by people. In their omnipresence and inalienability, cars by and large are taken-for-granted in modern day living. So much so that cars have been barely noticed by sociologists and cultural theorists (Miller 2001), and even less by consumer researchers (Solomon 1992)* (Kravets & Catherine, 2006, p. 212).

Of course, no one would argue that the automobile hasn't seen a breadth of dedicated literature.[1] However, the available sociological and cultural research may be proportionally limited given the massive impact and role in the lives of so many. The popular focus of the available literature remains that of critiquing the automobile for the consequences of its extensive use – both on individual and social scales. The car-critics strongly argue against its use on utility grounds, concluding that in many cases it would be more rational (and increase quality of life) to forgo ownership and use. Given the massive impact, and the extensive critique, it would be understandable to assume there is a wealth of correlative data on the characteristics of people that buy and use cars. However, relatively little seems to be available beyond, say, correlation between automobile use and income, family size, and urbanization. Even less seems to be established about the sociological, psychological, and cultural conditions that support automobile preference.[2] Are these considered irrelevant?

Why is it valued past its apparent utility (as argued by the car-critics)? Is there an instinctual attraction towards automobile use, and what supports it? In other words, given the impact (economically, loss of life, infrastructurally, etc.), there seems to be only a weak model of the person who favours automobile use. For instance, it's relatively unknown whether or not there is a correlation between career preference and automobile preference. What about music preference, personality type, political leaning, intelligence quotient, or religious tendencies? Do these factors correlate with automobile preference? I think you'd be excused from thinking this information was readily available – if for nothing more than automobile marketing campaigns.

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[1] To support this claim, the following is a list of books dedicated to understanding automobile use and its impacts: Dennis & Urry, 2013; Lutzz & Ferdenandez, 2010; Singer, 2013; Kay, 2013; Volti, 2006; Redshaw, 2008; Lucas et al., 2008; McLaren & Conley, 2009; Shoup, 2011; Sachs, 1992; Wells & Cronon, 2013; Lewis, 2013; Schneider, 1971; Ladd, 2011.

[2] Others have noted how there is a need for research in this area – "There is little research that I know of into why people want to move about, and why they do move. The assumption is that it is for an ulterior purpose; but I am not yet convinced that that explains enough" (Hamilton, 2016, p. 49).

One reason this information isn't widely available may be because it would likely be difficult to confirm any statistical correlations and infer any cause. Automobile use is dependent on so many factors, such that accurately isolating those in question appears to be an overwhelming challenge. However, this does not mean any attempt is futile. Happening upon correlations is not the only (or even preferred) way to find such a behavioural model. An in-depth sociological, psychological, and cultural study of automobile use and preference might supply enough theoretical grounds that such correlations could even be *predicted* with some degree of accuracy – providing some hypotheses for conducting such census research. Rather than find a correlation and reverse engineer a cause, hypothesizing a cause in theory and then finding a correlation to test the prediction may be a more reasonable way to find the outline of this behavioural model.

There is a growing recognition of the need to study the 'internal' factors that form a behavioural model of automobile use. Perhaps most directly, Schwanen & Lucas argued in 2016 that:

> *… car use may be grounded in and shaped by all kinds of pre-discursive and pre-cognitive triggers and impulses, although these have been largely ignored in mainstream transport studies to date and demand more attention from academics* (Schwanen & Lucas, 2016, p. 28).

This is part of a response to existing models of behaviour used in transportation studies that assume a rational actor who performs a skillful calculation of pros and cons.[3] For instance, Schwanen and Lucas go on to point out that, "Even when car use is a reasoned action, it is likely to involve more than a 'rational' trade-off of the costs and benefits of that action. Emotions, norms, moral and symbolic factors are also likely to be important" (2016, p. 28).

This call could be answered by a multitude of approaches. Mimi Sheller (2004) explores some important emotional factors,[4] René Diekstra and Martin Kroon (2003) offer some psychological influences, and David Gartman (2004) presents a history of cultural symbols and meanings inscribed in the automobile. All of these efforts contribute to the

[3] Sheller cites the pervasive method of treating the individual actor as rational in the following sentence: "The individualistic 'rational choice' model, which is so influential as to be taken for granted in transportation policy debates, distorts our understanding of how people (and their feelings) are embedded in historically sedimented and geographically etched patterns of 'quotidian mobility' (Kaufman, 2000)" (Sheller, 2004, p. 222).

[4] Sheller makes reference to her method of contributing as part of a new trend: "New approaches both to car cultures and to emotional cultures can aid us in shifting attention away from the counter-factual 'rational actor' who supposedly makes carefully reasoned economic choices, and towards the lived experience of dwelling with cars in all of its complexity, ambiguity and contradiction" (Sheller, 2004, p. 222).

wider socio-cultural context needed to ground a behavioural model of automobile use and preference.[5]

There should be little need to stress the importance of understanding what constitutes automobile use. Small changes in such a socially ingrained system could have massive impacts – whether it impacts the 1.3 million directly employed Americans[6], transportation's 27% of US greenhouse gas emissions[7], or the 35,000 deaths a year[8]. If there is any reason to desire a change in the pattern of automobile use, any contribution to understanding relevant behavioural influence is welcome. As Diekstra and Kroon point out, "Neglecting the car's psychological assets, common in transport research, may lead to considerable harm and ineffective political choices" (2003, p. 17). The risk of relying on inaccurate behavioural models of automobile use is nothing small.

This essay is, in part, a response to the call in the opening referenced quote of this introduction (offered by Miller 2001, Kravets & Catherine 2006) to contribute to the cultural research needed for understanding automobile related behaviour. This research is, as stated, part of establishing the relevant factors of the wider socio-cultural context. There is a widely examined sociological condition considered to make up the present (or most recent) historical period – Modernity. This condition has many faces and can be drawn upon for an increased understanding of human and social behaviour. Thus, if a behavioural model of automobile use is to see an increase of accuracy based on a cultural understanding, it seems reasonable to ground it in theories of Modernity. Given this background, the research question can be understood as follows:

> *To what extent can the cultural conditions of Modernity help explain automobile preference that appears to exceed its utility?*

This essay will first survey existing literature on automobile use to orient the reader and make sure existing arguments are not repeated. After chapter 1 puts boundaries on that which is to be studied and explained, chapter 2 will introduce a theory of Modernity and its potentially relevant behavioural influencing factors. This theory includes a particular way humans tend to interact with technology, and specific values considered products of Modernity. Chapter 3 will introduce a map of how mobility has been ideologically weighted throughout Modernity, and how this could contribute to understanding automobile related

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[5] Senja Laakso (a Doctoral researcher at Helsinki University) has also summarized this trend: "Consequently, research has recently shifted to emphasise the importance of understanding the broader contexts in which travel choices are made and mobility practices performed (Cairns et al., 2014; Shove et al., 2015)" (Laakso, 2017, p. 1).
[6] U.S. automotive industry generates four jobs for every worker it directly employs. (2017). Ns.umich.edu. Retrieved 18 June 2017, from http://ns.umich.edu/Releases/2001/Mar01/r031501d.html
[7] Sources of Greenhouse Gas Emissions | US EPA. (2017). US EPA. Retrieved 18 June 2017, from https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions
[8] U.S. Department of Transportation, NHTSA (2017). Crashstats.nhtsa.dot.gov. Retrieved 18 June 2017, from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812384

behaviour. These first three chapters will form a library of relevant cultural factors that are argued to be (largely internal, non-cognitive, habit/practice related, dispositional) behavioural influences.

Chapter 4 will introduce an operational step, relating the cultural theories in the preceding chapters to automobile use and behaviour. As such, quotes used in chapter 4 will include a direct reference to the automobile. This survey largely concerns how others have characterized automobile use, and then relates these characterizations to aforementioned behavioural influences of Modernity. Chapter 5 will consider what might be needed to empirically ground the hypothesis of Chapter 4, and whether or not there is reason to believe it could increase accuracy of behavioural automobile use models. Where the automobile is often considered an exemplar of some values in Modernity, the perspective taken in this essay is that there is reason to think it may be a reactionary impulse of defiance to other values – mainly rationalization. In short, automobile use may in part be a compensatory reaction to Modernity, and influenced by a traditional vs. rational value.

This study serves as a contribution to the project of theoretically grounding and understanding automobile related behaviour – its impact may be big, small, or none. The conclusion merely serves as one hypothesis, and the nature of the topic makes it difficult to empirically test. Nevertheless, the conclusion is, if nothing else, intuitively compelling in theory and may serve to help guide future automobile related behavioural research. Given all the variables at play, any indication of a correlation is worth attention.

CHAPTER 1

PARAMETERS OF THE PROBLEM

Understanding Auto-Dependence

Since the introduction of the Ford Model T, the role and meaning of the personal automobile has drastically changed. No longer is the car considered a mere auxiliary luxury – something above and beyond anything needed for daily life. Today, the average person relies on this century old technology for exercising even the most basic of activities. The existence of the car seems to have created its own demand. In order to get to work, visit a neighbour, or access food, subjects now have to afford and isolate themselves in a dangerous four wheeled (often) fossil fueled metric ton steel cage. Did the automobile solve a problem, or create one? This chapter is meant to deal with the question – *what are the automobile related decisions in need of further explanation, and what theories and methods will be used to address them?*

Critique of the automobile has seen a breadth of dedicated literature. There is a long list of quantifiable social scale effects to consider – automobile accidents, poor health and associated medical costs, poor air quality, climate change, resource intensive manufacturing, etc. But there is also a list of social scale impacts more difficult to quantify – such as bolstering individualism through lack of social interaction (Conley & McLaren, 2009), or socioeconomic divides as a result of highway design (Lewis, 2013), or wars over oil.

The potential social scale impacts are clearly powerful and widely influential.[9] However, in the project of understanding decisions to use automobiles, the role of social scale impacts is difficult to establish. There is not necessarily any solid ground for assuming that social scale impacts play a role in the decision-making process of individuals. For the purposes of this essay, the burden of social impact will not be placed on the individual. Instead, when searching for an explanation of decisions, only direct individual consequences of decisions will be considered. If it can be argued that individual's decisions to invest in automobile dependence may conflict with the goals and values of the individual (rather than only the social, as is also argued by many car-critics), then either the individual is not fully informed, or there are other explanations than individual rationale process.

[9] It is clear that individual automobile use impacts others, and these (social) impacts are what most authors who write on the automobile address. For instance, "The costs of the car, then, go beyond the financial as they generate multiple social costs for people, habits/lifestyles and the environment" (Dennis & Urry, 2013, p. 39). However, as this text studies individual behaviour, the impacts that only affect others will be left out – as accounting for such an impact on individual behaviour is unreasonable (or at least left for another time).

The Argument against Automobile Use for Individual Benefit

The argument against automobile use on an individual scale is often made up of health, financial cost, and community.[10] Structuring one's life around automobile use produces unhealthy subjects through a lack of physical activity – as Catherine Lutz and Anne Lutz Fernandez point out by claiming that "in the past two decades, the number of trips Americans take on foot has declined 42 percent" (2010, p. 177). This is clearly a direct individual level (as well as social scale) impact – as Lutz and Fernandez go on to point out that "people who shift from driving to taking public transit are, on average, five pounds lighter than they were when using their cars to get to work" (ibid, p. 180). The argument against car use on grounds of health (for the individual) also includes the impact of dangerous chemical off-gassing in new automobiles. When combined with sitting in traffic, "we are exposed to significantly more air pollution than in any other environment" (ibid, p. 183). The added risk of personal injury needs little emphasis, whereas "calculated as casualties per billion kilometres travelled, a train-passenger is five times safer than someone in a car" (Hamilton, 2016). Health is clearly a relevant impact to consider when deciding whether or not to use automobiles.

An even more quantifiable impact on the individual is financial cost. The American Automobile Association has calculated that the average American spends one sixth of their income on automobile use and ownership (Singer, 2013, p. 16, and AAA 2017). In Britain, Kerry Hamilton claims that "Transport's share of energy-use has doubled since 1970 (despite oil crises); and in terms of financial cost, transport's share of the household budget has doubled since 1953, and now, at 15 per cent" (2016, p. 53). For those who have other reasonable means available (walking, bicycle, transit, or as will be surveyed, the means of living closer to vital interests), this is surely a much higher cost than making use of those alternative transportation methods. In fact, the money saved by using alternative methods could, in some instances, pay for the difference in housing costs required to live closer to those alternative means.

While health and cost may be the most quantifiable impacts of automobile use on the individual, depending who you ask, they may not be the most impactful. Another category of critique is that of individual social interaction and community. For instance, Singer summarizes this argument by claiming that "Giving up your car commits you to your neighbors and commits you to collective social relationships because you are more dependent on your immediate neighborhood for employment, goods, and services" (2013, p. 10). While this is more difficult to measure, and may have a wider range of attributed value

[10] Summarized by others as follows: "First there are disadvantages that as with the advantages are personal in nature and concretely experienced, such as economic costs and car dependence" (Hagman, 2003, p. 5).

than health or finances, it may still be considered to constitute a major impact on the individual.

I would like to assume that the decisions to use automobiles, against all of these critiques, are not simply explained by ignorance or disregard for finances, health and community. Perhaps there are explanations that go beyond a cost-benefit calculus – beyond what the car-critics might see as a 'rational' decision. There are many possible factors that could be considered part of the explanation. Perhaps automobile use could be explained by; status symbols[11], nostalgia, weather avoidance, creature comforts, etc. There also exist more psychological contributions to an explanation. For instance, Csikszentmihalyi, a well-knowing psychologist for his theory of flow, has argued that driving is one of the few remaining accessible sources of experiencing flow (1997). Perhaps driving produces a behavioural reward system because of the experienced flow. Perhaps that experience is a benefit that outweighs the costs argued by the car-critics. Any of these could serve as part, big or small, of an explanation. However, there is apparently a discrepancy in the values attributed to these factors. In other words, the extreme car-critic would dismiss whatever value and behavioural influence ascribed to these other motivations as irrational.

The Resulting Actions in Need of Explanation

In many cases an individual's decision to invest in automobile dependence (or use) could be described as an act of necessity, and these will be considered in *no* need of further explanation. For instance, one's affordable living location could be a distance from their working location whereby automobile transportation is the cheapest, fastest, and only reasonable option. Many of those car-critical arguments which rely on social scale impacts also tend to blame social scale factors for individual automobile use and dependence. These arguments tend to include a history of government led initiatives that entice automobile use, including heavy subsidies and incentives for highways and roads – thus making it the most reasonable option for travel. For instance, comic artist Andy Singer offers an explanation of "Why We Drive," and distinguishes his argument as follows*:*

> *Many people believe that America's addiction to automobiles is a cultural problem … In reality, our country's automobile addiction has more to do with politics, government agencies, and our tax structure* (2013).

This immediately limits the range of his explanation to those decision that can be considered (for practical purposes) of necessity. For instance, despite these political forces, automobile

[11] For instance, "As Bourdieu puts it, culture symbolizes class, but in such a way as to cause a misrecognition of its real basis. Early automobiles clearly conferred cultural capital on the high bourgeoisie in American society by testifying to its removal from necessity" (Gartman, 2004, p. 172.)

use is not, in all cases, necessary for daily life and social participation. Andy Singer himself has never owned a car, suggesting there is at least exists a class of individuals that *voluntarily* depend on automobile use.

These individuals could reasonably walk, bike, or use transit for accessing vital interests, however decide to own or frequently use automobiles. There are also those decisions whereby the individual voluntarily decides to live in a location whereby automobile use is the only reasonable means of transportation. These individuals could be said to voluntarily embed themselves in automobile dependence. They could, for instance, financially afford to live closer to work or transit but for some reason choose the larger house in the suburbs. Those decisions to live whereby automobile transportation is the only reasonable means will be dismissed from this essay. The value of a 'big house' against transportation use deserves a separate response. This is why focusing on those decisions which can be strictly categorized as voluntary (and only related to individual impacts) deserves attention – and a separate answer to *why we drive*.

In other words, there are two limiting factors on the range of decisions to be explained in this essay. First is that those decisions considered *of necessity* will not be addressed– they deserve a separate answer, and one that has been offered by many car-critical authors. Second is that any impacts which cannot be seen to directly impact the individual (in other words, exclusively social scale impacts), will not be addressed. This is because it's difficult and presumptive to assume anyone takes into consideration the well-being of others. For instance, this essay will not include the motivation of future environmental as a factor in their decision-making process.

This focus sets itself against a large portion of car-critical arguments, and is itself not to be considered car-critical. Rather, this study aims to contribute to the explanation of those decisions that are frequently attacked by car-critics. If, as the car-critics argue, automobile use is often embraced at the expense of the user, then that embrace demands a fuller explanation and understanding.

The Standard Explanation

Those who own an automobile despite the availability of other transportation means could be said to have invested in a 'capability benefit' – they have the *option* of fast self-directed long-distance travel on a whims notice. Regardless of whether or not an automobile is used, it is *available* for use. This is why it could be said that users invest in a 'capability benefit', because regardless of actual impact on transportation, the individual has an added capability. This is also why it is difficult to account for in rational utility calculations. In a

cultural study of the automobile, Wolfgang Sachs (and many others[12]) argued that this (what is being referred to here as the capability benefit) is the most obvious reason given for preferring the automobile over other means of transportation:

> *Again and again traffic analysts have plunged into intricate investigations of why so many people prefer a car to the bus, streetcar, or subway, only to arrive at the obvious: in order to be independent in time and space and also socially, by being able to choose one's own means of transport* (Sachs, 1984, p. 97).

This 'capability benefit' will be considered a standard explanation of those decisions listed above – those decisions to own an automobile despite the availability of other means. Thus, the discrepancy between the car-critics and car-owners could be explained if the difference in value ascribed to the capability benefit were understood.

To the car-critic, the *capability* and the *big house* are often not worth the costs of automobile use and ownership. Thus, understanding why there is a discrepancy in the value attributed to these benefits would help explain automobile use and provide a response to the car-critics. Of course, these benefits are not the only possible explanations of the discrepancy. Perhaps there are other values at stake – ones not shared between car-critics and car-advocates.

There is a category of thought that characterizes automobile related decisions into a study of "auto-anthropology" (Lemonnier, 2013). An anthropology-*esque* perspective appears extremely useful in studying the decisions at hand. For example, it takes into consideration specific social practices, emotional and nostalgic involvement, or status symbol explanations of automobile related decisions. While these may contribute to a *fuller* explanation (and may be complimentary to the focus of this essay), this essay will start from a different level of abstraction, namely the cultural context that constitutes those practices and decisions.

In review, social scale impacts may be vast, but this essay will focus on direct individual impacts – as to avoid needing to assume that individuals account for the well-being of others. Automobile use that can be considered 'of necessity' will not be addressed. Instead, this essay will focus on the decisions to own and/or be auto-dependent when there are other means of transportation available. The reason why these need further explanation is because

[12] For instance, "How do users describe the advantages of car use? To a direct question most of them answer that the car provides freedom—the freedom to go wherever one wants, whenever one wants. The car makes one independent of other means of transport. There is no need to check bus schedules before going somewhere or to be in time when one is coming back. With a car one is able to control one's own time. The car also makes one independent others" (Hagman, 2003, p. 3).

the car-critics argue that automobile investment is often done at the expense (not the benefit) of the user. The capability benefit is one possible answer, requiring an explanation of the varied value ascribed to it.

Automobile preference is to be considered hereafter as those decisions that seem to fall prey to the car-critics arguments against automobile use for the individual. It is those decisions to invest in automobile dependence when it is clearly not necessary. Automobile preference gives priority to automobile use, despite its negative impact and all the possible benefits of living automobile-free.

Different Contexts

There are surely different contexts in which different answers may be appropriate. The first context could be understood as the period automobile use was largely not necessary for accessing vital interests, given that transportation infrastructure design was not yet entrenched in automobile dependence. After this initial hype cycle, perhaps after Robert Moses' sweeping automobile support initiatives in New York (at least, for the US), it could be understood that the new planning prerogative was automobile dependent – quickly turning what was once a novel capability into a demand. Thus, in the second period the decision to use personal automobiles was increasingly one of *necessity*. Not only is transportation infrastructure (roads, highways, bridges, railways) important for distinguishing these contexts, but so is class structure and associated status symbol. For instance, David Gartman, who has written a number of books on the cultural relevance of the automobile, claims that by the mid 1920s, "the car as a symbol of real, qualitative class differences was finished in America" (2004, p. 176). And in Britain, this "qualitative leveling did not occur in the car market until the post-Second World War period" (ibid.). The third period represents another unique context in which to consider explanations of automobile preference. The number of automobiles per capita seems to have peaked around the turn of the century, and the automobile miles driven per capita since 2009 has been decreasing (Newman & Kenworthy, 2011; Renn, 2017; Eisenstein, 2013).

The variance of these dates, and the transitional nature, is why these different periods will not be demarcated by harsh dates, but instead by cultures in which the *meaning* of the automobile changes. I appeal to a similar categorization of contexts as offered by Gartman (2004), who argues "that there have been three ages of the automobile in the 20th century, each defined by a unique cultural logic of meaning and identity" (p. 169-170). These three periods will serve as contexts in which to consider what may be relevant cultural explanations of automobile preference.

The Mobilities Response

By claiming that mobility and corresponding decisions are culturally infused - where "mobility is a way of being in the world" (Cresswell, 2006, p. 3), Mobilities studies offers new avenues for helping explain mobility related decisions. Mobilities studies can help reveal the way specific forms of, and decisions related to, mobility are ideologically motivated and value laden. The leading journal in the field, Mobilities, claims to examine "both the large-scale movements of people, objects, capital, and information across the world, as well as more local processes of daily transportation, movement through public and private spaces, and the travel of material things in everyday life" (Taylor and Francis, 2016). Because of insights this field has provided,[13] it is thought that the distribution of power throughout society can be better understood - helping explain mobile decisions and their embodied cultural significance.

Perhaps oversimplifying matters, mobilities can be thought of as particular frameworks of movement. In these frameworks, specific movements are ascribed various meanings and values. The field has taken on the task of revealing how these meanings are constructed, and how they in turn influence thoughts and actions that extend outside the realm of movement and mobility.

Thus, at least for the purposes of this essay, movement will be understood as having meaning beyond its function of changing location. This meaning traverses' levels of abstraction – from culture, to values, to mobilities, to movements. The field has provided novel insights and examples that help explain historical movements. For example, Cresswell surveys a history whereby mobility becomes value laden with a sense of immorality. The mobile subject was, at one point, the vagabond - an unpredictable, scary, masterless, illegible nomad. This is a very different value laden *mobility* than the one associated with freedom and liberty - like represented by the Southwest Airlines slogan '*A symbol of freedom*'. The field of Mobilities studies has done well to provide examples of the different ways mobility can be value laden, culturally meaningful, and how it's constructed as such.

The main premise of Mobilities studies is that movement is about more than "getting from A to B" (Jenson 2013, p. 87; Cresswell, 2006), which opens a category of possible explanations of movement related decisions to consider. If movement, and specific forms or ways of movement, are value laden, then voluntary preference given to automobile use may have different explanations given certain mobilities and contexts. The decision is not one of simple calculation between costs and benefits – like time, health, social interaction, or finances – where the arguments of the car-critics against automobile use may seem *rational*. Mobilities studies reveals, rather, that "everyday-life mobilities," and hence, decisions to be

[13] This shift in perspective is considered by some as a paradigm shift within the social sciences (Faist, 2013).

mobile in specific ways, "are produced by and re-produce culture and social norms" (Jenson, 2013, p. 103). This field will be used to help ground how automobile use related decisions might be influenced by culture as specified by the particular characteristics of mobilities in Modernity.

Transportation Planning

It is becoming increasingly apparent to a variety of disciplines that mobility, and hence transportation planning, is about much more than solving a function of cost and time. As already established, the decision to use an automobile is (frequently) not of financial benefit. Most practically, this is being considered by transportation planners as a challenge to *utility maximization* theories (McFadden, 2000). Traditionally, (and even currently) transportation planning is built on the assumption that mobile subjects will choose the destination and method of transportation that maximizes a cost-benefit calculus - taking into consideration things like time, financial burden, and value of the destination. This is increasingly seen as insufficient, especially when anticipating large scale patterns of movement.

This has, in turn, fostered a recognition of the need to take the wider sociocultural picture into account when imagining (predicting, anticipating, and planning) the future of transportation.[14] European Union research funding reflects this recognition, and includes public funding for the project of anticipating a transportation *paradigm shift*, and references the need to consider the "dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices" (European Commission, 2016). This serves as evidence that more than '*fast, cheap, and safe*' are to be considered influential in the travel decision making process.

In an attempt to provide a useful integrative framework for predicting travel behaviour relevant to environmental concerns, Bamberg et al. argue how personal norms play a role "in the decision to use public transportation means instead of the car" (2007). According to this argument, public transportation *means* more than just its function of movement – travel mode decision making is also a function of norms.

Those arguments that reveal a history of how the automobile has come to be a necessary tool for social participation and accessing vital interests, like Singer's 'Why We

[14] Another instance of recognizing the need to understand the wider sociocultural context is offered by Fraedrich et al. (2000), in a study of autonomous automobiles. In this study, they point out that there are multiple paths down which this technology will be realised – and the technical capabilities of the technology itself are not what will determine which path it takes (ibid.,). This argument accepts the thesis that travel mode decision making is not a simple function of 'fast, cheap, and safe'. Predicting travel behaviour demands understanding, and even operationalizing, the cultural context.

Drive' and many others,[15] will be considered only partial explanations – as they do not exclusively address those decisions that can be reasonably labeled as voluntary.[16] This essay adopts the premise that the individual will not always choose the method of travel that optimizes a function of cost, safety, and time – but that there are meanings, values, norms, and ideologies that influence these decisions.[17]

A Function of Modernity

Given the argument to take into consideration the wider sociocultural when explaining travel behaviour, those characterizations of culture that have seen a wide range of dedicated literature serve as potential grounded points of reference. One such cultural characterization is that of Modernity. Modernity can be thought of as a description of a particular cultural frame, and specific patterns of decisions can be labeled as characteristic of this frame. For instance, Karl Marx connects certain social phenomena to that cultural frame of Modernity:

> *For Marx, what was the basis of modernity was the emergence of capitalism and the revolutionary bourgeoisie, which led to an unprecedented expansion of productive forces and to the creation of the world market* (Larraín, 2000, p.13).

Thus, those activities or decisions that can be understood as constrained by, and/or a product of, these fundamental social phenomena, can also be considered as coherent with the logos of Modernity. Weber, who also coincides Modernity with the rise of capitalism, specifies *rationalization* as a feature of Modernity that can be used to help explain social phenomena (while Weber and Marx both coincide Modernity with the rise of capitalism, they differ in the role they attribute to religion in producing capitalism). Weber helped operationalize the culture of Modernity by describing how rationalization plays a role in the lives of the subjects within Modernity. For instance:

> *Roth and Schluchter distinguish three areas where Weber thought rationalization could increase: the control of the world through calculation, the systematization of meaning and value into an overall*

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[15] Singer, 2014. There are a number of other books that cover the history of transportation infrastructure investment in the United States, showing how automobile use has become a necessity for so many – for example, Beauregard, 2006; and Lewis, 2013; Kay, 2012; Shoup, 2005; Gutfreund, 20004; Jones 2008,

[16] To be clear, these other arguments focus on how government tax and infrastructure has made automobile use a near necessity. Because these decisions to use an automobile can be explained as 'of necessity' in these situations, they will not be addressed in this essay.

[17] In other words, this study could be said to look past utility maximization for fuller explanations of automobile related decision making. Briefly - it is increasingly argued that if mobile behaviour (also to be referenced as mobile actions in this essay) is to be predicted and explained, including automobile use patterns, the sociocultural context must play a role. For more examples of arguments that the wider socio-cultural context needs to be considered for accurate transportation planning, see van Laer et al., 2014, or Brown 2008

> *consistent ethical view, and the methodological living of daily life according to rules (1979, 14-15; cf. Gerth and Mills 1975, 55)* (Kolb, 1988).

These characteristics of Modernity can seem vague, but if the wider-sociocultural context is to be used for explaining travel behaviour, a cultural frame as Modernity serves as a (almost necessary) backdrop on which to study behaviour.

Method

Highlighting a few important features of the question and context will help provide grounds for understanding the methods employed in this essay. Firstly, the question seeks relations not yet explicitly revealed. It is not a critique, or an application, of any existing theory. Therefore, systems of deconstruction or methodological doubt are largely ineffective. Secondly, the question seeks an answer that moves beyond factors considered part of the individuals conscious decision-making process. In other word, causal connections between the hypothesised answer and automobile behaviour are (for most purposes) not deductively provable. This means that methods of logical, or even conceptual, analysis are difficult to satisfy. There is little or no objective evidence available, because the question decisively requests an answer that moves past factors that can be considered part of the conscious decision-making process. The relevant variables are 'latent' and do not rely on deductive causal support. If a relation is proposed, it could easily be happenstance or coincidental.

Rather, this essay is an exercise that includes searching for existing theories and explanations of behaviour that may encompass the behaviour in question. In the form of a literature survey, this essay will compare the relevance of sociological and philosophical theories that offer general and speculative explanations of types of behaviour. This exercise could be compared to a ‘comparative-descriptive’ research method. Generally, in comparative-descriptive methods, multiple subjects’ descriptions of and/or behaviours in shared circumstances are compared for similarities and differences. The reason why this essay takes from this method is because descriptions of car-user’s behaviour are being compared to other’s descriptions of behaviour on a more general level. These descriptions are being compared for similarities, in search of shared ground where cultural theories of Modernity may relate to, and help explain, specific behaviour. For instance, if car use is described by a user or researcher as X, and a cultural theory of Modernity claims X as part of it’s prognosis, then a possible relation can be considered. The ‘comparative-descriptive’ method is more often characterized as method used when designing a survey or interview, where questioning subjects is part of the practice. This essay relies on, and compares, existing descriptions in search of common ground. Therefore, it is more abstract and less

clinical or empirical. It's referenced here to help describe the way literature is being researched and used.

This essay will not defend an original position on the behavioural impact of a phenomenal experience. In other words, it is not an exercise of phenomenology. Though, if it is to rely on phenomenological theories, it's on intentional phenomenology, whereby all intentional states are derived from phenomenal intentionality. This allows for behavioural influences to exist apart from conscious intentions – for example, in a realm of non-cognitive disposition shaped by phenomenal experience. This relation is discussed in more detail in chapter four.

Assimilating descriptions of general behaviour with specific behaviours through descriptions is not a conclusive method of argument. Perhaps it only applies to those who hold the descriptions. It presumes *if* X descriptions of behaviour are accurate, and *if* Y theory of Modernity can be understood to generally help account for X types of behaviour, then the relation may exist as one possible part of an explanation. The task at hand involves finding, and cementing, X descriptions of behaviour – as to some degree describing both the specific behaviour in question and more general (cultural) categories of behaviour. The conclusion does not argue past its available evidence, and serves as a theoretical hypothesis based on relations between descriptions of the influence of culture, and the (unintentional) ideological functions of automobile use.

Conclusion

This essay has highlighted a class of decisions regarding automobile use as needing better explanation. This class excludes those decisions that can be considered *out of necessity* – whereby automobile use is the only reasonable means for accessing vital interests. The remaining decisions include those to use an automobile where other comparable means (time, cost, safety) of transportation are available. For the sake of simplification and limiting the scope, the influence of social scale impacts on decision making will not be considered – as a premise for many car-critics is that it's often even better for the individual's sake to opt out of automobile use.

This is meant to build on, and help address, those points raised by car-critics. If the decision to use personal automobiles is, as the car-critics may argue, to the detriment of the individual, then why is it used so pervasively in the Western Modern world? The capability benefit is a frequently offered response for automobile preference, and this essay will include a consideration of why it may be valued beyond its apparent utility.

The field of Mobilities studies argues that movement is often value laden and ideologically framed. These insights offer a potential avenue for helping to explain decisions

to use certain forms of transportation that do not seem to strictly conform to theories of utility maximization.

To further highlight the relevance of these questions, this chapter highlighted the increasing awareness of the insufficiencies in utility maximization transportation prediction models. This emphasizes the need to take into consideration the wider sociocultural context when explaining and understanding travel behaviour. This proposal, alongside the insights from Mobilities studies, opens up a huge range of possible avenues for contributing to the project of explaining travel behaviour. For the sake of scope and simplification, this essay takes on one theory as worth drawing upon for grounding that wider sociocultural context – a culture of Modernity. And this culture is to what this essay will now turn.

CHAPTER 2

MODERNITY

The previous chapter, by setting parameters, has arrived at a question – namely, how can cultural theory of Modernity help explain individual decisions to favour personal automobile use. The next step demands answer the question - *how, and in what way, can Modernity be used to generally help explain behaviour?* This is a large topic in itself, but as there is extensive literature dedicated to the influence of Modernity, this essay can rely on previously grounded theories.

This chapter will first provide bounds on the specific theory of Modernity under consideration. This will include a survey of which characteristics to include and exclude. Then, the relevance of a relationship between Technology and Modernity will be considered, followed by the way other authors have established connections between these levels of abstractions – between Modernity and specific decision-making processes. Specifically, this chapter must provide some grounds for establishing the influential range and model of the "decision-making structures of modern society".[18]

There are many ways the concept is used, and not all will be addressed in this text. Thus, it's important to clarify what is *not* being considered. Even within that which *is* being considered, there are countless positions that could be seen as relevant. That is why this essay will include a narrow and heavily related range of authors – largely constituted of critical theorists. There are not meant to be any challenges to the author's arguments in relation to Modernity. Much of the explanatory power of a behavioural model is in its usefulness – regardless of its ontological status. One need not be critical of culture to make use of a behavioural model used by Critical Theorists.

Differentiation

In this essay, it is to be understood that Modern-*ity* is not synonymous with modern-*ism*. Modernism may be most often understood as a post traditional movement, seen across many disciplines – from art, literature, and architecture, to industry and science. Modernism could be associated with pop art, minimalism, industrialisation, or even the rejection of religious belief. This is *not* what is being addressed in this essay. For instance, a value of minimalism will not be tested for influence on mobile behaviour. In general, modernism can be associated with specific movements in disciplines that are also often considered

[18] The concept of "decision making structures" is one example of how culture is referenced as a force at play in specific decisions, and is a reference to Haferkamp & Smelser, 1992.

contemporary. It's possible that these movements could be connected to Modernity – but that is not the topic being addressed.

Nor is Modernity being addressed in a strictly sociological manner. One of the most referenced authors on Modernity, Anthony Giddens, has authored a number of books that could be relevant for establishing the influence of Modernity on decision making – for instance, *The Consequences of Modernity* (2013), or *Modernity and Self-Identity* (2013). However, most of his theories address Modernity as a sociological and institutional phenomenon, rather than strictly cultural. In order to establish a workable theory this essay will avoid strictly institutional theories, and focus on a cultural theory.

In fact, Stjepan Meštrović's points out that Giddens' representation of Modernity neglects theories of a cultural context, and fails to take "into account the people, habits of the heart … traditions, customs, and intellectual currents surrounding them" (1998). While institutional and cultural theories of Modernity often overlap, Giddens work is referenced here to highlight a difference in various theories. While surely useful, institutional theories constitute a face of Modernity that may deserve a separate answer. In mobilizing a cultural theory, this essay can focus on the habits, traditions, and intellectual currents. A cultural theory can more directly address the earlier referenced EU funded research initiative to consider the "dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices" (European Commission, 2016). Rather than focus on social *organization*, this essay will focus on values and norms.

Weberian Modernity - Who, and What, is Relevant?

The face of Modernity to be considered in this essay is a description of a particular (and perhaps related) set of norms, attitudes, behaviours and values summed up as a culture. While it is much more than a designation of a historical period, it has been associated with some general dates by which these sociocultural norms became dominant. Some say a culture of Modernity can be considered to have arisen post-medieval, or post-enlightenment, while others argue that the industrial revolution serves as a better reference. The theory of Modernity being referenced here could be most closely associated with Weber's iron-cage, which he associates with the rise of capitalism.

Max Weber can be understood, along with Durkheim and Marx, to be one of the primary founders of sociology. Weber can also be understood, along with Freud, Marx, and Hegel, to have developed the foundational theory of Modernity that serves as inspiration for the Frankfurt School of Critical Theory. Critical Theory can be associated with Western Marxism, as can Zygmunt Bauman – who offers a range of arguments on Modernity and the social phenomena that it encompasses. Even though Bauman may not be considered a

Critical Theorist, his working theory of Modernity is largely Weberian. Bauman will be important in this study because of his many references to the role, and influence, of mobility.

Starting from a Weberian theory of Modernity demands addressing Weber's main contributions – methodological antipositivism and individualism. These theories argue that social phenomena cannot be empirically studied. This is because the researcher's *perceptions* of the actions are first ideologically framed, and "social phenomena must be explained by showing how they result from individual actions, which in turn must be explained through reference to the intentional states that motivate the individual actors" (Heath, 2017). Because methodological individualism is used to explain social phenomena, and not individual action, it is not necessarily relevant for the purposes of this essay. In fact, this essay might depart from methodological individualism in some sense, because it does not necessarily assume individual action to be the direct result of intention. For instance, one method for explanation that avoids methodological individualism is *practice theory* – which has already been defended as a relevant method for understanding mobility related phenomenon:

> *Practice theory avoids methodological individualism, and thus enables empirical analysis of the complexities of a phenomenon such as mobility. This is possible by turning attention to technologies and infrastructures, shared rules and understandings of normality, as well as social and personal norms that constitute practices (Halkier and Jensen, 2011; Higham et al., 2013)* (Laakso, 2017).

But again, practice theory aims to explain a phenomenon as a formed habit, as opposed to the individual actions within that phenomenon.[19] This essay will turn to cultural explanations of behaviour for answers – and start from a particular theory of Modernity. However, because the of methods and theories replied upon, its explanation can only really be understood as coincidental – with no way to establish causal proof of the connection.

Without demanding methodological individualism, this essay will rely on Weber as providing a foundational theory of Modernity. The primary tenet is that Modernity represents a culture in which rationalization, efficiency, and control are teleological values – sought out for their own sake. The theory of Modernity being operationalized in this essay is based on what could be considered a *traditional* theory of Modernity. This is largely because the theory is characterized by Max Weber's perspective, who is considered one of the first authors to write on Modernity (along with Marx and Durkheim). Weber attributes the rise of capitalism to a protestant 'work ethic' whereby the sinner's repayment is to work and toil.

[19] For instance, Barthes has argued that the car "is a habitat before being a means of transport" (Barthes, R. (1972), Mythologies, London: Cape).

This makes it possible for work to be done in the name of God, giving a moral colour to labour and professional life – even establishing a sort of religious and spiritual guilt as a motivation to labour. According to Weber, this served as a catalyst for the rise of rationality and efficiency as values heralded for their own sake. Capitalism, along with the power given to science, and then secularization and the destruction of miracles, left no source of meaning – leading Weber to claim that "The fate of our times is characterized by rationalization and intellectualization and, above all, by the disenchantment of the world" (Weber, 1946). This can be considered the foundation on which Weber builds his theory of Modernity.

Part of this foundation is a transition from what is referred to as 'substantive' rationality, to 'formal' rationality. In speaking on the departure from a tradition of substantive rationality, Kolb summarizes Weber as follow:

> *Modernity is not just a weakening of such a tradition but a reversal. No longer will calculations of efficiency and consistency be limited by a given substantive set of values and ways of life. Rather the norms themselves will be judged in terms of their efficiency and consistency in achieving chosen goals and meanings. Those chosen goals and meanings have no further legitimation; they are simply chosen* (Kolb, 1988).

The main difference can be thought of as follows – in a culture of pre-Modernity, meaning was *prescribed* (from religion, folk lore, or culture) and the task of the individual was thus set accordingly, using efficiency or rationality only as a means to those prescribed ends. In Modernity, meaning and ends are left to the individual, and since there is no legitimate source of meaning prescribed of which to direct efficiency and rationality, these features take over as ends in themselves.

Prima-facie Relations to the Behaviour of Automobile Use

Looking back on the research question of this essay, it becomes apparent that placing value on the 'capability benefit' could be associated with this description of Modernity. For instance, when means themselves become the ends, what better way to achieve *means* than in *capabilities*? Considering means as ends in themselves, the capability benefit is self-sufficient – an end in itself. It supplies the *benefit* of having the means to satisfy any end that arises requiring transportation. If the individual's end is to produce means, the car provides this sense of meaning.

Automobile use may serve as an easy answer to the overly-complicated process of making a rationally optimized decision. When mode choice is between walking, bus, metro, biking, and driving, the equation of costs and benefits gets overly complicated. How can one reasonably calculate the value variances in health, safety, work-time, cost, community and convenience every time they choose a mode of transportation – yet alone dedicate your

future self to a single mode that supposedly maximizes these chances? As other's have made clear, "optimisation, …, is unrealistic as a behavioural axiom as it assumes 'superhuman' abilities in ordinary users of transport systems to perceive differences, process information and make comparisons" (Schwanen and Lucas, 2016). Avoiding the problem altogether, and dedicating oneself to automobile use, may be the least burdensome option.

Taking public transit instead of the car, in the name of these incalculable values, may feel like a leap of faith. This could be summed up as the theory that decisions in Modernity give heed to quantifiability.[20] Horkheimer and Adorno point this out – "For enlightenment, anything which does not conform to the standard of calculability and utility must be viewed with suspicion … anything which cannot be resolved into numbers, and ultimately into one, is illusion" (1973). The most quantifiable values at stake in transportation means are time and cost. Thus, if the argument against automobile use involves values like social interaction and avoiding the anxiety of traffic, the temptation is weak – because these values do not conform to the quantifiability of Modernity.

Critical Theorists

Critical Theory is a school of thought that uses this face of (Weberian) Modernity to reflect on the human-condition, in an attempt to liberate the subject from any associated negative effects. Authors in this school of thought position Modernity in a pejorative light by arguing that these values are circular, self-defeating, distract from what actually gives meaning in life, and culminate in alienation and dehumanising effects. As earlier mentioned, this essay need not take a positive/negative position on culture. Rather, it only need reference the theory of Modernity as a model of human behaviour. The reason this essay calls on the school of Critical Theory is because associated authors supply arguments that describe the way Modernity impacts human behaviour. It provides one more step for determining the way Modernity impacts automobile related behaviour.

[20] Part of this equation is the ease with which the utility is calculable. For instance, it could be answered as simply as by Nietzsche's Egoism – "Egoism is the perspective law of our sentiment, according to which the near appears large and momentous, while in the distance the magnitude and importance of all things diminish" (Friedrich Nietzsche - The Gay Science Book III - Aphorism # 162). But others have characterized the difficulty in performing a calculus of utility with specific reference to automobiles - "for a great many families, life without a car is unthinkable, and would certainly be less rich in opportunity and enjoyment. This unthinkability is not because of a lack of imagination: it is because, for most people who now have a car, to give it up would involve profound changes in life-style. If people have chosen where they live, where they work, where their children go to school, all on the basis of having cars, then the short-term alternatives to having and using cars are truly hard to see. ... Freedom of choice is also part of it. Notoriously, one person' s freedom can confine someone else. Public transport is not the answer here. And that is a big problem. For excellent reasons, we resist governments telling us how to live" (Presenting Travellers Preference - 206, p. 28). This also means that "Knowledge about the advantages, or the use-value, of cars—that, although in one sense a tool, is also a part of the environment of the user—is gleaned in the own practical use of it. Knowledge production is situated in situations where the users get immediate feedback. There is little room for interpretations" (Hagman 2003).

The following text taken from the Stanford Encyclopedia of Philosophy (and summarized warning of the Critical Theorists) can be taken as a starting point, or catalyst, for determining the relevance of considering Modernity as a function that helps explain automobile preference:

> *On the one hand, exact calculability and predictability in the social environment that formal rationalization has brought about dramatically enhances individual freedom by helping individuals understand and navigate through the complex web of institutions in order to realize the ends of their own choice. On the other hand, freedom and agency are seriously curtailed by the same force in history when individuals are reduced to a "cog in a machine," or trapped in an "iron cage" that formal rationalization has spawned with irresistible efficiency and at the expense of substantive rationality* (Kim, 2012).

The car serves as such a convenient analogy to this description of culture that one can't help but consider whether or not car dependent decisions could be better explained by such a theory. For instance, the car, on the one hand, enhances freedom by supplying the individual with what has thus far been referred to as the 'capability benefit'. On the other hand, the car turns the subject into unit of traffic, spending more and more time behind the wheel performing zombielike mundane routine tasks, and as has been argued, the capability benefit quickly turns into a demand.[21] As John Urry so daringly argued, the car turns into the "literal iron cage of Modernity" (2004, p. 28). This relationship (between the car and Modernity) offers an opportunity for possible explanation of decisions to favour automobile use, going beyond standard utility maximization and taking into consideration the wider sociocultural context of Modernity.

The critical theorists are useful when testing the influential range of Modernity on individual decisions and decision-making processes because they detail how Modernity manifests in social practices – an almost necessary component of being critical of culture. Even though Bauman may not be a critical theorist, the theory of Modernity he uses is closely related to that which serves as a foundation for critical theorists. As Bauman's contribution to a theory of mobility will be used later, it's helpful to use his interpretation of a Weberian Modernity:

> *Weber foresaw the impending triumph of 'instrumental rationality': with the destination of human history as good as an open and shut case, and the*

[21] Many others have recognized this dual nature of the automobile on freedom. Most directly, Dennis and Urry have written: "It can be said that the car system is a Janus two-faced creature. Inhabiting the car can be positively viewed in terms of freedom and flexibility; and yet it constrains car 'users' to live their lives in stretched out ways" (2013 ,p. 38).

> *question of the ends of human actions settled and no longer liable to contest, people would come to preoccupy themselves mostly, perhaps solely, with the issue of means …* (Bauman, 2000).

Thinking back to the issue of automobile use, this claim walks hand in hand with the (somewhat comedic) paradox surrounding the circular nature of automobile dependence – illustrated by Singer below (Image take from Singer, 2013, p. 14):

The above comic serves as an analogy of the circular nature of preoccupation with means alone – the character in the comic is caught in a system that values instrumentality and means as ends on their own. Again, the car can be seen as a "literal iron-cage of modernity" (Urry, 2004, p. 28) – both producing a need and satisfying it with no escape.

The coincidence between these examples of automobile use and critical theorist's descriptions of Modernity are evidence of how culture can contribute to the understanding and explanation of automobile use related decisions. However, these are general relations, and do not much contribute to, say, predicting the future of automobile use. In order to find more grounded explanations that can be operationalized for use in transportation planning, Modernity will need to be broken down into more tangible decision-making influences of which can be (empirically) connected to factors that make up automobile use decisions.

Periods of Modernity

A single theory of Modernity cannot describe all culture, in all contexts, in all included time periods. The theory of Modernity being operationalized in this essay is considered descriptive – thus it's only relevant if it accurately describes the social formation and model of behaviour under study. Rather than consider all Western social contexts since the beginning of capitalism as obedient to a single description of Modernity, there are different

periods that can be considered distinguishable. These different periods make for one more step of descriptive specificity.

The most frequently discussed/disputed characterization of Modernity is whether or not current Western culture (since maybe 1990, or Post-Fordism) has moved on to a condition that needs to be described as *post*-Modernity. Or, on the other hand, do the main characterizations of Modernity still hold? Most current authors argue that the main tenets still hold, but that culture has in fact changed enough to warrant a slightly different description – one of *late*-Modernity. Because this essay will use Bauman to help operationalize the role of mobility in Modernity, his position on the changing character of culture will be adopted.

> *What was some time ago dubbed (erroneously) 'post-modernity', and what I've chosen to call, more 'the final state of perfection', is the growing conviction that change is the only permanence, and uncertainty the only certainty. A hundred years ago 'to be modern' meant to chase 'the final state of perfection'– now it means an infinity of improvement, with no 'final state' in sight and none desired* (Bauman, 2000, p. 8).

This change is not considered to fundamentally discard the main features of Modernity. As Bauman continues, the most one can say is that society is "modern in a different way" – and what remains is the "thirst for creative destruction" (2000, p. 51). If culture has not changed drastically enough to be considered one of post-Modernity, what, if anything, has changed? Another reason why this essay will look beyond critical theorists is because within that field, the periodization within Modernity has seen little attention. But Bauman has provided a useful relation:

> *…, our society is definitely and resolutely not hospitable to critique in the mode which the founders of the critical school assumed and to which they addressed their theory. In different, but corresponding terms, we may say that a 'consumer-style critique' has come to replace its 'producer-style' predecessor* (Bauman, 2000, p. 47).

It's no doubt difficult to understand how this describes a change on the level of individual decision making. Oversimplifying matters, the characteristics of Bauman's 'liquid' Modernity could be understood as the persistence of change and the triumph of uncertainty. Whereas in Modernity, "institutionalized norms and habitualized rules" remained in favour (Bauman, 2000, p. 47). The individual in liquid Modernity, (which Bauman generally associates with the turn of the century) is frequently changing their adopted norms or traditions. The main tenets of a Weberian Modernity – teleological rationalization, efficiency, and control – remain in favour, but there is no longer a standard method of deployment.

This description of a change in culture is not all too different than that offered by other authors. Giddens, who focuses on the organization and institutions within Modernity, argues that in late-Modernity "social practices are constantly examined and re-formed in the light of incoming information about those very practices, thus constitutively altering their character" (Giddens, 1990, p. 38).

In the project of explaining automobile preference, this change needs to be taken into consideration. For instance, if automobile use was part of a traditional practice in Modernity, then in late/liquid Modernity this could no longer contribute to an explanation in the same way. The time period in which this change can be noticed is considered to be as early as 1960s and as late as 2000. Though because this is considered a shifting landscape (as opposed to an abrupt change), the dates are relatively unimportant. The main point is that the individual is becoming more and more 'fluid' – less defined by institutions and social norms, and increasingly self-defined, adopting new and changing forms of identity and traditions.

As has been established, there seems to be a changing trend of automobile use. Perhaps the trend can be mostly explained by changing financial landscape. Or, perhaps those cultural features that constitute automobile preference are changing. This is why different periods of Modernity demand consideration. This provides two major opportunities to study the explanatory role of culture when anticipating trends in automobile use – the emergence and social embedding of the car in Modernity, and a new use pattern in liquid Modernity (associated with the previously referenced context of post-millennial).

Technology as Cultural Product and Producer

It is useful to consider how it is that, as many have argued, *modern* technologies can be explained as products of Modernity. Specific technologies can be considered "products of modernity, and bear the imprint not only of the behaviors of actors immediately involved in their construction, but also of the larger sociocultural and economic conditions within which they are developed" (Brey, 2003). This recognition is required for understanding the influential range of Modernity. Where Brey points out that both behaviours and sociocultural conditions are required for explanation, this essay has a different focus. Instead, his essay focuses on the relationship between those sociocultural conditions (Modernity) and the behaviours in question. This is because this essay is not seeking to explain the formation of a technology, but the use *of* that technology. This difference will be seen in the section that follows (Subsumptive Analysis) when considering an example.

The relationship between Modernity and technology is not to be understood unidirectionally. Technologies are not only products, but also producers, of the sociocultural context. As Brey has plainly put, "Technology has catalyzed the transition to modernity and

catalyzed major transitions within it" (2003). Because of this co-constitutive relationship, understanding technology can help in the project of understanding culture. But it opens up another possibility of explanatory power in the relationship between Modernity and automobile use. For instance, in studying the relationship between Modernity and automobile use, it might be worth considering whether or not the automobile (and automobile use) can be understood as a catalyst of late/liquid Modernity. This will be considered in the following chapters, where the role of mobility in culture is studied.

Instead of focusing on technology as either product or producer of sociocultural contexts, another option is to consider a particular *relationship* between the subject and technology as a characteristic of Modernity. In the tradition of critical theory, this relationship is foremost established by Heidegger – who argues that "Everywhere everything is ordered to stand by, to be immediately at hand, indeed to stand there just so that it may be on call for a further ordering" (1954). The car-critic would quickly draw a comparison to the personal automobile – and especially to the focus of this essay, namely automobile preference. For the person who buys an automobile, anticipating little use, and knowing it to be more costly (or even slower) than other means, their decision can surely be characterized as in line with Heidegger's description of using technology to order the standing reserve. The car sits in the garage, a means constantly on reserve, merely to be ordered. Even without being used, the car has served its purpose of being available and providing the owner with means, regardless of ends.

What was introduced in chapter 1 as the 'capability benefit' can now be understood as characteristic of a particular human-technology relationship. The mere *capability* provided by automobile ownership is considered at least part of the explanation to give preference to automobile dependence. Regardless of use, the automobile in the garage satisfies the yearning for the standing reserve. The discrepancy in value given to the capability benefit between the car-critics and car-owners can be understood by degree in which the individual participates in this human-technology relationship.

Because this essay is concerned with automobile *use,* whether or not technologies are *products* of Modernity is less relevant. In considering the influence of technologies on sociocultural contexts, an incidental connection has presented itself - between automobile use and the rise of late Modernity. The range of possible explanations is limited to those that directly impact the *behaviour of actors* – or decision-making structures influenced by values, norms, practices, beliefs, etc. As will be seen in the following section, this essay looks past the *construction* of technologies in order to understand *use*.

An Example of Subsumptive Analysis

Rosen has provided a convincing case study of the connection between culture (in his case, post and neo modernity) and a specific technology (1993) – one this essay can use as an exemplar on which to ground operationalizing Modernity. Rosen adopts the premise that post-modernity represents an identifiable change in culture, then accepts that a new form of industry (post-Fordism) can be said to be associated with, or a product of, the transition from Modernity to postmodernity. Following this, Rosen points out that one feature of post-Fordism is product differentiation, then goes on to argue that because the mountain-bike sees constant product differentiation, it is a product of post-modernity. Reviewing these steps, Rosen moves from post-modernity to post-Fordism, from post-Fordism to product differentiation, and from product differentiation to a specific technology characterized by product differentiation.

Because each step references an identifiable phenomenon that can be labeled as part of the step before it, Rosen can make this abstract connection (Philip Brey (2003) has categorized this method as *subsumptive analysis*). However, this case study is relatively unique in that it appeals to heavily referenced, and relatively *tangible* institutions. For instance, rationalization is less tangible than product differentiation. Nonetheless, taking a cue from Rosen, Modernity could be operationalized for decision making as follows: As studied, where Weber points to rationalization as a phenomenon of Modernity, he also points to three categories of phenomena to which rationalization has room to expand – for instance, the methodological living of daily life according to rules. Following a similar method, a decision to set a daily reminder, or even an alarm clock, could be considered as a product of Modernity.[22] While having fewer steps, this nonetheless performs the same operation as Rosen's mountain bike explanation. This operation moves from Modernity to rationalization, from rationalization to daily routine, and from daily routine to the decision to set an alarm. The task then becomes to apply these steps to decisions involving use of new/different technologies – looking for influence of a cultural context.

But there is another difference between Rosen's case study and that at hand. Brey characterizes Rosen's argument as developing a "modest expectation that Raleigh will invest in product differentiation, since firms engaging in product differentiation is part of the transition to post-Fordism" (2003, p. 32). Though any possible *causal* relation here seems to remain secondary. For instance, this expectation exists not because the decisions of the Raleigh product design team are somehow influenced by values, norms, or epistemologies,

[22] This connection – between Modernity and the alarm clock has been made by several authors. See, for instance Bassler (2012) or Kelly (2011).

but because participating in product differentiation developed as a necessary practice for competing in the market. As Rosen argues:

> *… there are hints that its organization is shifting towards something like neo-Fordism. Raleigh came late to mountain bikes, and consequently lacked credibility among the specialist, as opposed to the mass, market. Its response to this loss of credibility was the establishment during the 1980s of a well-funded Special Products Division* ***which demonstrates Raleigh's recognition of the need to respond to market demand for flexible specialization*** (Rosen, 1993, p. 503, bold is not original, and added by author).

Thus, the decision to participate in product differentiation could be *explained* as one of cost optimization and revenue maximizing. Because Rosen's argument is an address to the social construction of technology (SCOT), this is not a problem. For instance, this argument helps answer the question 'How is it that the conditions came about such that Raleigh would consider it in their financial interest to invest in product differentiation?' It does not, however, explain decisions that are exclusively delimited from financial optimizing (or utility) explanations – such as those being considered in this essay. The explanandum at hand – namely those decisions that *cannot* be explained by financial optimization, apparent utility, or necessity – requires a different type of connection.

The operational link in the case of the mountain bike is the impact of the changing values and ideologies of post-Modernity that result in post-Fordism, which then trickle down to the conditions that put financial strain on Raleigh to conform. It is only in this way that the decisions of Raleigh can be considered as products of post-Modernity – that the decisions would not have happened without a transition to post-Fordism, which in turn would not have happened without the change in values and ideologies of post-Modernity.

But because causal chains can be understood to go on infinitum, this critique is relevant to both Rosen's case study and the explanandum at hand. The difference is that such an institutional argument would only be effective in determining the class of automobile use related decisions excused from consideration in this essay – those that can be characterized as *out of necessity* or as financially optimized.

However, it does lay out a method for relating decisions to the wider sociocultural context. For instance, those *voluntary* decisions to use automobiles, despite the extra financial cost, health, and safety hazards – could be responses not to post/neo Fordism – but the *mobilities* that constitute that context. Just as product differentiation could be described as a characteristic of post-Fordism, perhaps there are classes of actions and decisions that can be described as characteristics of particular mobilities. Where post-Fordism characterizes a market response with a driving force of finances, mobilities characterizes

specific “constellations of movement” (Cresswell, 2006) with a driving force of social norms and ideologies – avoiding explanations that rely on financial incentives. This reveals a way to use subsumptive analysis to link Modernity to specific automobile use related decisions - through meso-level mobilities.

Decisions in Modernity

This essay is not the first to reflect on the way Modernity can help explain and understand specific decisions (though may be the first to consider, in this way, *these* specific decisions). Given the vagueness and generality of what has been characterized as a culture of Modernity, many have argued that specific values and attitudes can be *generally* characterized as products of Modernity. Perhaps in an empirical overreach, a group of sociologists in 1966 developed a list of questions for individuals whereby an “Overall Modernity” (OM) score could be calculated for a given person and region (Smith and Inkeles, 1966). By specifically defending that Modernity describes a psychological character of an individual (as is done in this study, ibid, p. 376), it stands to reason that understanding that character can help explain specific decisions and preferences.

The OM score is not the only case study for use in this method. For instance, the World Value Survey (WVS) is another more recent effort to map individual’s values through location and time. This allows for correlative connections between, for example, economic resources and specific values.

> *When growing individual resources widen the scope of possible human activities, the strive for self-realization, autonomy and emancipation finds greater leverage, strengthening people's desire to have free choice and control over their lives* (Welzel et al., 2003).

This finding supports the argument from the previous section – that technology can influence a culture of Modernity. Apparently, as technology increases available resources, people’s desire for freedom and control tend to increase. The previous examples (OM score and WVS) demonstrate that measurements of values and cultural characteristics can be scored based on behaviour and survey response. That is, that values and culture are models of behaviour.

If any of these determinants could be tested against individual automobile preference, then correlative connections could be defended. However, it would be nothing more than finding two dips in charts that happened to be at the same time in history – suggesting there’s a connection demands a much higher burden of proof.

Because this would demand an intense empirical study with lots of interviews, perhaps there is a more *theory laden* method for revealing possible connections. For

example, if there are types of decisions that could correspond to possible explanations of automobile use, then a presumptive connection could be established. However, this method is extremely speculative and would be insufficient for reasonable explanation on its own.

Methods for Operationalizing Modernity

It appears as if there are three general methods for exploring the influential range of Modernity in the category of technology related decisions. The first is what can perhaps be based on a (maybe Heideggerian) characterization of the human-technology relationship. This could involve exposing that/how an individual uses technology to serve as standing reserve – an explanation of actions that goes beyond financial or time incentive. But this could also include describing technology (automobile) use in terms of Modernity as characterized by Weber (or Bauman or Horkheimer and Adorno) – namely in the spirit of rationalization, efficiency, and control as ends in themselves. The problem with this method is that it is often rather abstract and lacking empirical support.

The second method referenced here for testing the influential range of Modernity is through using meso-level descriptions of decision influencing factors – like certain institutions or specific mobilities. This demands detailing how those features of Modernity have caused certain mobility frameworks, and then how those in turn influence decisions to use automobiles. This is related to what Brey (2003) refers to as subsumptive analysis, and what Rosen (1993) uses to operationalize the wider context in terms of SCOT. However, this method seems to work best with institutions and responses characterized as constrained by a specific structure. Like in the example, as a result of post-Fordism, the market demanded product differentiation, and Raleigh conformed. But the research question of this essay requires explanations that exclusively *cannot* be characterized by financial incentive.

The third method would perhaps be the most empirically grounded if it were directly available. It demands relating specific decisions that have been accepted as products of Modernity to the mobile actions in question. If a correlative connection could be made between a value in the WVS (or other example measurements of values in Modernity) and decisions to use automobiles, then a relationship (positive or negative) could be established between Modernity and the explanandum. Alternatively, if given responses on the WVS test can be related to the decisions at hand, then theoretical connections could be defended – though they would be very speculative. The main problems with this method are that those decisions considered products of Modernity are themselves highly disputable, and connecting a level of Modernity to given decisions only implies *that*, not *how*, there might be a connection.

Each method has its strengths and weaknesses, and given the lack of possible empirical evidence for explaining the decisions at hand (as the decisions are almost defined

by the car-critics as lacking the possibility of rational explanation), considering all three may be the most appropriate response. An introduction to method one has related 'means as ends in themselves', and 'standing reserve', to the particular automobile use practices at hand. If a theory of mobility can be substantiated as a product of Modernity, then method two (subsumptive analysis) may prove valuable for the explanandum. If possible, the most effective way to use method three may be to use the Modernity measurement determinants to support the arguments of method one and two - a particular human-technology relationship and specific meso-level mobility. The next chapter will detail how mobility is ideologically weighted in Modernity, allowing use of method two and three.

Conclusion

This chapter has been dedicated to describing and differentiating a specific theory of Modernity to reference hereafter. In review, Modernity is to be understood as a specific set of teleological values that tend to describe Western cultural and ideological perspectives and ways of thinking. These values are control, efficiency, and rationalization. This involves a transition from formal to substantive rationality – whereby rationality and means are valued as ends in themselves. This can be considered a traditional theory of Modernity, where the main authors drawn upon are Marx, Weber, Durkheim, and even Freud. Critical Theorists build on, and use, this theory to help explain and understanding social phenomena and behaviour. This is why authors in this field will be called upon for comparing the behaviour of automobile use. Along with the three methods referenced above, this cultural theory of Modernity can be used to help understand and explain specific behaviours.

There are many other theories of Modernity – from institutional to aesthetic (modernism) theories. Each theory describes a set of characteristics about culture. While any of these theories may be useful for the topic at hand, only a Weberian traditional theory will be drawn upon – if for nothing else than to limit the scope of this project.

CHAPTER 3

MOBILITIES

In order to support methods for explaining and understanding automobile related behaviour, this chapter will turn to the growing field of Mobilities studies. In review, chapter 1 placed parameters on the behaviour under consideration – which included a focus on automobile use that cannot be explained by its utility. When there are cheaper, easier, safer, and even quicker transportation means available, automobile use often still seems to be given preference. Chapter 2 introduced a few ways Modernity could help explain related behaviour – by accepting a prominent human-technology relationship, by establishing (meso-level) social structures within Modernity, and by highlighting modern teleological values and their range of behavioural influence.

Mobilities are being considered for their use in a type of subsumptive analysis (meso-level theory that allows translation from abstract theories to specific cases). This will help answer the question – *how is mobility ideologically weighted in Modernity?*

The Relevance of Mobilities to a Weberian Modernity

Mobilities studies is a field of research largely considered within the domain of sociology. Though one of the first authors in the field,[23] and likely the most cited, John Urry, argues that it is in fact a paradigm shift within the social sciences.[24] Urry makes clear that Mobilities studies covers all forms of mobility - of objects, communication, information, ideas and bodies. Thus, the field includes a wealth of thought that would be irrelevant for the purposes of this essay. The simplified premise in support of the field is that movement and mobility are representative of cultural and social forces – and have changing meaning and relevance themselves. Cultures and societies are no longer sufficient units of study, because they are merely instances and participants in different flows (mobilities) – and it is in studying these flows that useful information can be found.

There is not a wealth of authors who specialize in the field. In fact, there only is Urry, Sheller, Cresswell, and a handful of others.[25] All three of these authors will be referenced, but with emphasis on Cresswell. Urry's arguments are largely focused on situating and defending the relevance of Mobilities studies in the larger sociological discipline. Sheller has authored several publications with Urry, but has also contributed to studying the automobile. In her

[23] Though he may be the first to have pronounced the field of Mobilities studies, he attributes the original to George Simmel.
[24] For instance, in his book 'Sociology beyond societies: Mobilities for the twenty-first century' (2012), or first in his article with Mimi Sheller on 'The new mobilities paradigm' (2006).
[25] For instance, Jenson, Adey, Bissel, Edensor.

book *Automotive Emotions* (2004), she argues that the automobile is imbedded in a vast and complex emotional landscape. While useful, this will only be drawn upon if it can be directly connected to the theory of Modernity being addressed in this essay.

This is why I turn to Tim Cresswell – because he does much of the work for us. His work *On the Move: Mobility in the Modern Western World* (2006) is perhaps the foremost work relating the insights of Mobilities studies to Modernity.[26] An important premise he adopts is that "Movement is rarely just movement; it carries with it the burden of meaning and it is this meaning that jumps scales." (ibid., p. 6). In other words, movement is considered both product and producer of meaning. This essay is concerned with how these meanings – those that can be specifically situated as products of Modernity – might impact specific mobile behaviour that constitute preferred use of personal automobiles.

On the relation between Mobility and Modernity, Cresswell points out that while some "have portrayed modernity as an enemy of certain kinds of mobility, others have shown how mobility has been central to the constitution of the modern" (ibid. p. 18). Though without a clear understanding of the theory of Modernity being referenced, this claim would remain ambiguous. Keeping in my mind the main tenets of Modernity being referenced in this essay – teleological rationalization, efficiency, and control – a more specific connection is needed.

This chapter will survey specific meanings and ways of thinking about mobility in Modernity. This includes how space and time are rationalized, how the value of freedom is inscribed in mobility, ideological weights in the form of sedentarism and nomadism, and ways of thinking about mobility in terms of limit-form and flow-form. To do this, Cresswell will be compared with Bauman, who also emphasizes the relevance of mobility in Modernity. The resulting argument is perhaps an original position, namely that tourism demands limit-form ways of thinking and an ideology of sedentarism – and this mobility of tourism is what characterizes Modernity.

Rationalized Mobility

The most direct relation Cresswell summarizes between rationality and a Weberian Modernity is that "The modern world, they argue, is one in which new constructions of space and time have functionalized and rationalized everyday life" (ibid. p. 16). This relationship referenced between Modernity and rationality is, however, the opposite direction needed for determining behaviour as a function of rationalization and efficiency (instead, it establishes rationality as a function of a time-space construction).

[26] This is, of course, not because I find Creswell's arguments indefensible – if anything the opposite. However, I will not defend the origin of Creswell's arguments here, and if the reader has a problem with his contribution to the field of Mobilities studies, this part of the argument may serve inoperable.

However, what it does do is point towards the rationalization of (every-day) behaviour as a function of Modernity. This position of Cresswell is grounded in Michel Foucault's theory of Modernity – and as this essay is primarily concerned with a Weberian theory, compatibility (between Foucault and Weber) must be established. In comparing these theories, it might be helpful to position the main difference as one of focused influence and not fundamental incompatibility – for it can be considered that both Weber and Foucault "shared concern for the impact of cultural rationality upon the 'leading of life' (Lebensführung), or, more precisely, the bearing of instrumental rationality (for Foucault power/knowledge) on individual freedom" (Gane, 2004).

Based on Cresswell, who builds his theory on Foucault and Weber, Modernity brings with it rationalized ways of thinking about time and space. Given the relevance of time and space to automobile use, the influence of these rationalized ways of thinking needs to be accounted. But the contribution of Mobilities studies to understanding mobile behaviour includes more than rationalization. It is also details ways of thinking about mobility that include ideological meanings. These meanings are categorized into specific 'mobilities', and include theories of sedentarism, nomadism, and tourism.

Sedentarism vs. Nomadism

Keeping close to Cresswell, as he appears to be directly addressing a related theory of Modernity, there are two fundamental mobilities to consider (amongst many smaller 'constellations of mobility'). Cresswell paints a picture of history whereby there is a shift from what he labels a *sedentarist metaphysics* to a *nomadic metaphysics*. Sedentarist metaphysics is considered as a way to understand mobility as "morally and ideologically suspect" (Cresswell, 2006, p. 26), and one that values roots and place as consistency and points of reference. According to Cresswell, in a sedentarist metaphysics, identity is associated with place and property, inscribing the refugee and drifter with immoral intent (ibid.). Correspondingly, a nomadic metaphysics sees mobility as emblematic of freedom, while roots and place are "overly confining" (ibid., p. 26). Nomadism detaches meaning and point of reference from location, and places them on movement and flow.

Cresswell argues that, in general, a sedentarist metaphysics is no longer in operation. For instance, he thinks that "Never in history has distance meant less. Never have man's relationships with place been more numerous, fragile, and temporary" (ibid., p. 37). This transition is considered important in sociology because it shifts the focus from 'roots to routes', and from 'stasis and social order to movement and mobility' (paraphrased from ibid., p. 43-44).

This way of thinking about changes in mobility is shared with Modernity authors – perhaps especially with Zygmunt Bauman. Bauman actually argues that a "sedentary way of

life" forced out nomadism and dominated *heavy* Modernity (2013). But, like Cresswell, Bauman believes that nomadism is overcoming sedentarism. Combining these two arguments (from Cresswell and Bauman), it appears as if with Modernity came the ousting of nomadism in favour of sedentarism, and now "we are witnessing the revenge of nomadism" (Bauman, 2006, p. 35). This revenge takes place in what Bauman has referred to as *liquid* Modernity.

Though there seems to be a discrepancy in distinguishing between sedentarism and nomadism when concerning the role of 'mobility as freedom'. It seems as if 'mobility as freedom' has been associated with both sedentarism and nomadism. How can this be, while still being a distinguishing feature?

Mobility as Freedom

One of the most frequently referenced *meanings* given to mobility as a function of Modernity is *freedom*. Cresswell argues that "Mobility as freedom—as liberty—lies right at the heart of some of the foundational ideologies of the modern world", (p. 42) and even argues that "The idea of mobility as liberty and freedom would have made little sense in feudal society" (2006, p. 15) (which, he has associated with sedentarism[27]). A connection needs to be established that goes beyond simply correlating the changes in the meaning of mobility with the time-frame associated with Modernity. One argument to this effect, is that with the rise of teleological efficiency and in turn capitalism (perhaps as a result of protestant individual work ethic), mobility became an accepted practice as it was needed for effective commercial trading. Cresswell argues this way by pointing out that "commercial mobility loosened the feudal society as guilds emerged to protect commercial interests" (ibid, p. 12). It may not be rationalization that caused mobility to have the meaning of freedom, but 'mobility as freedom' can at least be considered a secondary product of Modernity.

This seems to reveal a discrepancy when considering the history of sedentarism and nomadism. While Cresswell argues that 'mobility as freedom' is characteristic of nomadism, and argues that it would have made little sense in feudal society, he also argues that it can actually run alongside sedentarism.[28]

If *freedom as mobility* is to be associated with both sedentarism and nomadism, perhaps it is not a distinguishing feature between mobilities, or maybe *freedom* itself is to be interpreted differently within different paradigms. For instance, these positions could be reconciled if freedom in sedentarism is understood in a positive sense (positive liberty), and in nomadism a negative sense (negative liberty). This corresponds to Isaiah Berlin's 'Two

[27] For instance, feudal society is very territorial.
[28] "There is a long-standing history of positive valuation of mobility as progress, as freedom, and as change, which runs alongside a sedentarist metaphysics" (Cresswell, 2006, p. 42).

Concepts of Liberty' (1969). In short, "Negative liberty is the absence of obstacles" while "Positive liberty is the possibility of acting" (Carter, 2017). The point is merely that in these different ways of thinking, there may be different impacts. If thinking in a positive sense, the result may be action-oriented and interventionist. When thinking in a negative sense, the result might inspire inaction and that of preventing intervention.

Cresswell, whether he is aware of it or not, seems to use these different concepts of liberty with different Mobilities. As in the "world of Hobbes … in this new society, happiness itself was based on the freedom ***to*** move" (ibid., p. 14, bold and italics not original).[29] And in contrast, Cresswell implicitly associates freedom with the nomad in a negative sense – he argues that "To the nomad, geographical mobility means freedom ***from*** constraint" (2006, p. 38, italics and bold not original). In this way, *mobility as freedom* can exist throughout contrasting mobilities of sedentarism and nomadism.

However, I think this oversimplifies the difference between sedentarism and nomadism. For instance, freedom from the constraints of geographical location can only exist if geographical location is somehow valued as points of reference. In other words, freedom from location is only significant if location is also significant – which demands a metaphysics of sedentarism. To assume otherwise ignores the different *ways of thinking*, and only highlights the different inscribed values of mobility.

I argue that a more forceful distinguishing factor (between sedentarism and nomadism) is actually the *ways of thinking* about mobility – in terms of locations versus flows. As will soon be covered, Endres et al. (2016) have detailed two ways of thinking – in terms of 'limit-form' and 'flow-form'. Though no one else seems to have connected these ways of thinking to sedentarism and nomadism, this essay will do so after first arguing how tourism fits within these mobilities.[30] Relating sedentarism and nomadism to automobile use would be an overly abstract exercise. What will help connect the abstract to the specific is another level of specificity in mobilities – between limit-form and flow-form and how tourism encompasses these meanings and ways of thinking.

Tourism

Before further describing what it means to embrace a mobility of nomadism or sedentarism, there's another framework worth considering – tourism. Where Cresswell points out that society has shifted away from a sedentarist metaphysics, he also points out that others, for

[29] The reference to Hobbes clearly associates this concept with the theory of Modernity being addressed by this essay – it's now clear that Creswell's and Bauman's Modernity use related time-scales. Mobility as freedom can be understood to exist throughout Creswell's Modernity, Bauman's Modernity, and thus Bauman's sedentarism.
[30] As will be reviewed, even though they do not associate these forms with sedentarism and nomadism, they do associate limit form with Western Modernity.

instance Dean MacCannel, argue that "the tourist was and is the epitome of modernity" (2006).[31] Putting this against Bauman's argument that sedentarist mobility dominated Modernity, the possible discrepancy must be addressed.[32] Is tourism compatible with sedentarism? Could both be descriptive of the dominating mobility of Modernity – or are they in conflict?

This and the following section will argue that tourism adds a negative liberty way of thinking to sedentarism – and provides the value of escape and retreat.[33] Once tourism is understood in its context and in relation to other mobilities, a more descriptive and compatible map of mobility throughout the periods of Modernity can be referenced and used for explanation.

The following paragraphs will test if tourism can be categorized as either nomadic, and/or sedentarist. In *"A Companion to Tourism",* Alan Lew, Michael Hall, and Allan Williams offer a detailed description of these mobilities – and specifically a description of tourism and its relation to Modernity:

> *... tourists might be understood to seek escape from the hyper-rationality of logos modernity, to rest and relax, have a holiday, a break from the everyday world of production (work) and reproduction (home). ... In the end, the tourist never really escapes, and the implication is that she or he probably does not really want to anyway. From this perspective, the tourist ultimately confirms the rationalizing power of Enlightenment modernity* (Lex et al. 2004, p. 287).

This characterization of the tourist is not, at least at first glance, reminiscent of the nomad. In this context tourism is, essentially, even a recognition of a sedentarist ideology.[34] The nomad, for instance, embraces statelessness, the absence of 'fixed address', and the absence of 'man-land relations' (Bauman (2013) argues that man-land relations are characteristic of sedentarism). Whereas tourism demands the value of place as necessary for authenticity, as "... tourism and consumption are invested in the possibility of authenticity, particularly in past times and distant places" (Lex et al. 2008, p. 328). The paradox of the tourist in the above description reveals that the tourist might in-fact *confirm* the value of man-land relations. In other words, it seems as if tourism cannot embody values characteristic of nomadism. At least, it's an awareness and recognition of the influence and power of sedentarism. At most, it's self-deception – a mere *feeling* of escape from the 'rationalizing power of Enlightenment' (from above quote, Lex et al., 2008, p. 287). Where Cresswell

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[31] This argument is held by others, such as Lew et al. (2004), MacCannell (1989), and Kaplan (1996).
[32] Bauman references 'heavy' Modernity here, but I have taken this to represent the same period being addressed.
[33] Perhaps tourism is a transitional phase between sedentarism and nomadism.
[34] A related debate would be whether the tourist herself recognizes the function of tourism as escaping sedentarism, or whether this recognition is simply by creating the categorization of tourism.

argues that *mobility as freedom* would not have made sense in feudal society, it seems as (as presently understood) if *tourism* would not make sense in a nomadic metaphysics.

For instance, tourism without roots or a reference location no longer seems to qualify as tourism. The tourist is distinctly and purposefully 'out of place', which only further establishes the relevance of 'place'. The nomad, on the other hand, has no 'place' to be 'out of'. With this approach, tourism could be understood as a subset of sedentarism – albeit one that embraces 'mobility as both positive and negative freedom' while ideologically demanding rootedness and geographical points of reference. This is the operational step of this essay that does not seem to have been made explicit by any other surveyed author – that tourism can be understood as a *type* of sedentarism, and explicitly *not* nomadism.

The following argument remains: When tourism is added to sedentarism, 'mobility as freedom' gains a negative conception. With the description of tourism from Lex et al. in mind, this negative freedom is understood as an escape from the rationalization of Modernity (from above quote, Lex et al., 2008, p. 287).[35] Tourism is essentially the addition of a negative liberty conception to 'mobility as freedom' in sedentarism.

Limit-Form vs. Flow Form

What was seemingly an important distinguishing factor between sedentarism and nomadism, according to Cresswell, was conceiving of freedom as the ability to cross borders, versus the freedom from constraint of borders. I have highlighted that freedom from the constraint of borders only makes sense if borders are still given reference and meaning – characteristic of sedentarism. I have also highlighted that tourism introduces a negative freedom way of thinking to sedentarism. These arguments reduce the apparent distinction between sedentarism and nomadism. What the following additional specificity will do, is help distinguish between them and emphasize the role of tourism.

Another characterization of mobility is by either 'limit-form' or 'flow-form' (Endres et al., 2016). These are considered distinct ways of *conceiving* of mobility. In limit-form:

> *Mobility occurs when one is taken from a space of belonging to cross a border and attain a new anchoring. … Mobility is experienced brutally when the border is crossed, inaugurating a new era of belonging. Rather than gradual movement, it is primarily a switch 'to the other side'. Mobility thus requires an effort, an investment in the means – symbolic, practical,*

[35] There is another indicator of the important of location to tourism. The fact that hotel chains and resorts attempt to remain relatively consistent across locations demonstrates the important of location in tourist ideology. For instance, the tourist escape is quantified simply by moving to a different geographical location. Going to the same Hilton resort in one's home city is not offered the same ideological status of the tourist escape – only when that Hilton is in some contrasting location does it qualify. Even if the events are the exact same – same room, same shows, same food – the one with a different location is the escape.

> *financial, etc. – that make it possible to cross over* (Endres et al., 2016, p. 14).

This limit-form conception of mobility is associated with Modernity (ibid., p. 15).[36] When considering the ideological framework of tourism, limit-form seems to be the corresponding way of *conceiving* of mobility. For instance, what defines tourism is the explicit crossing of borders and areas – to 'the other side'.[37] This definition of limit-form mobility also helps relate tourism to sedentarism. This essay adopts the position that sedentarism demands *conceiving* of mobility in this limit-form. As will be seen, sedentarism and tourism are incompatible with the conception of *flow-form* mobility summarized below:

> *… in this particular way of conceiving mobility, the prototype for international mobility will not be migration – leaving for good one's country and settling somewhere else – but rather, the Erasmus way of travelling: accumulating experiences and contacts through travels, becoming a 'citizen of the world', mixing identities and always being on the move. It is more about the abolition of borders than about authorisations to cross them* (Endres et al., 2016, p. 15).

Because tourism is defined by crossing borders, it does not coincide with this flow-form conception of mobility. Sedentarism is also incompatible with this conception – for in flows alone there are no conceivable bounded spaces to act as points of reference. Nomadism, however, coincides nicely with flow-form mobility. Perhaps not coincidentally, *limit-form* and *flow-form* might also be understood to correspond with positive and negative freedom. In limit-form, mobility is conceived in the *ability* to (authorisations, freedom to*)* cross borders – also a feature of tourism. Whereas in *flow-form*, mobility is conceived as a freedom from the existence of borders altogether – also, a way to understand nomadism.[38] Tourism remains, as it were, in the 'authorisation to cross them'[39] – cementing it as a limit-form mobility.

It is an original position of this essay to claim that limit-form and flow-form mobility correspond accordingly with sedentarism and nomadism.[40] A second position, that builds of

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[36] The authors specific 'Western' Modernity, which for all intensive purposes is the same culture being addressed in this essay.

[37] On detailing what constitutes *limit-form* mobility, Endres et al. (2016, p. 20) argue that "The border itself is one-dimensional and has no 'thickness', like a razor's edge. On the other side is the stranger, uniformly foreign." This is used to compare the experience and *conception* of mobility as it fits with tourism.

[38] The use of positive and negative liberties in relation to these ways of thinking is merely to highlight how they correspond with sedentarism and nomadism through their shared concept of freedom. As a reminder, 'mobility as freedom' was argued to be thought of in corresponding positive and negative conceptions with sedentarism and nomadism.

[39] From the above referenced quote (Endres et al., 2016, p. 15).

[40] Of course, it could be argued elsewhere – but I have not come across this explicit position.

the first, is that because tourism demands limit-form and geographical points of reference, it is incompatible with nomadism.

This is a rather monotonous theoretical exploration, but what it allows for is a more definitive position on the ideologies and ways of thinking about mobility in Modernity. The resulting position taken in this essay is that, in Modernity mobility is thought of in sedentarist terms supplying meaning to geographical location. Tourism offers another layer of specificity by characterizing movement in both positive and negative liberty terms – the freedom *to* cross a border is what provides an escape (freedom from). For instance, in feudal society one can imagine that tourism wouldn't have had the same meaning of retreat and escaping rationalization as it does in Modernity. In fact, tourism seems to be what supplies sedentarism with the negative liberty of escape.

At this point in the argument, the relevance to automobile use surely seems far too abstract. However, when the next chapter surveys characterizations of automobile use, the relevance of sedentarist escapism as a convolution of both positive and negative liberty will come into focus, and hopefully contribute to the understanding of automobile use in Modernity.

Summary of Modern Mobilities

This chapter has laid out a map of mobilities within the periods of Modernity. When trying to use Cresswell and Bauman to understand the ideological weight of mobility in Modernity, a new position has evolved. This new position holds that tourism ideology adds a negative way of thinking about freedom to mobility, and demands sedentarist and limit-form ways of thinking about mobility. An important feature of tourism is a mobility rooted in the value of place and origin. This is incompatible with a flow-form mobility of nomadism. This rather abstract and elaborate exploration of mobilities helps establish the relevant ideologies and ways of thinking that can now be applied to the behaviour of automobile use. For instance, where tourism adds a negative way of thinking about liberty to mobility, so maybe this way of thinking transcends to automobile use. Or, maybe the ideological weight of place, and limit-form ways of thinking, impacts automobile related behaviour.

The next chapters will take this map of mobilities, with special attention to tourism, and expose how it might relate to automobile use and preference. This will include a more specific study of automobile use – including (in chapter 5) if automobile use is conceived of differently according to the various contexts introduced in chapter 1 and the periods of Modernity addressed in chapters 2 and 3. The next chapter (4) will also use the methods of operationalizing Modernity introduced in chapter 2, alongside a more specific consideration of automobile use, to form a coherent contribution to understanding automobile preference as a function of Modernity. The following will act as a type of summary and implementation

of the arguments thus far. What are the most relevant and defensible methods and arguments, revealed thus far, for helping understand and explain automobile preference?

CHAPTER 4

CHARACTERIZING AUTOMOBILE USE

Throughout the previous chapters some characteristics of a Weberian Modernity have been introduced. This includes a human-technology relationship, teleological values (control, rationalization, etc.,), and meso-level social structures that are unique to Modernity. The previous chapter (3) has focused on characterizing a theory of mobility that can be studied and operationalized as a meso-level concept for helping understand mobile-related behaviour. This chapter is tasked with the question – *how does automobile use satisfy and appeal to the ideological landscape of Modernity?* These values, ideologies, and meanings work together in a way that contributes to a theoretical explanation of automobile preference. The commanding nature of the human-technology relationship, Modern values, and the role and meaning of mobility (and tourism) in Modern social structure, can all be understood as functions of a Weberian Modernity. The coincidental ease with which these characteristics can be related to each other and understood to support automobile preference is striking.

Focusing on Behaviour

Until now, it has been taken for granted that values, ideologies, and ways of thinking can impact behaviour apart from consciously weighed decisions. But this is far from a universally shared position. There are many different theories that address which factors play a role in human behaviour. Some positions hold that conscious intentions are sufficient explanations of behaviour – perhaps largely stemming from Descartes. But these would deny the premises of this essay. Instead, in order to accept or sympathize with the concluding hypothesis of this essay, other theories need to be given some room.

This essay takes as a premise that there exist instinctual behavioural influences that cannot be explained by their utility or intention. As covered in chapter 1, methodological individualism is insufficient because it is used to explain large scale phenomena, and it relies on the intentions of the individual. This essay is decisively reaching past intentions. This may limit the theories available for use to those such as practice theory, functionalism, or phenomenal intentionality theory (PIT). To the reader who firmly denies the validity of these theories, the foundational premise of this essay is invalid and hence so is the conclusion. However, to vehemently deny any explanatory power to these (or related) theories is not a common position.

As surveyed, practice theory is often used in Mobilities studies as a way to explain patterns of mobile behaviour – formed habits. This meets the requirements to go beyond

utility, but does not extend to values and ideologies. Except when a behaviour could be explained as a habit of satisfying an ideology. This may well be *part* of the equation of automobile use.[41] Functionalism may allow for connecting values to behaviours. For instance, functionalism appeals to macro-level social structures – like that of Modernity. If someone's specific behaviour can be seen to satisfy a value of Modernity, though that person had no intention of doing so, the behaviour could perhaps still be explained as serving the function of that macro-level value.

Another theory that works with the premises of this essay is phenomenal intentionality theory (PIT). This theory relies on a phenomenal state of consciousness that exists prior to intention. Intentions are then made up of phenomenal states. This is in opposition to theories that suppose all cognition is conscious.[42] There are a few variants of this theory, but the important part for this essay is the acceptance of behavioural influencing phenomena apart from conscious intentions. With this view, behavioural dispositions can exist as influenced and shaped by non-conscious phenomenal states. In order for this theory to be used, the characteristics of Modernity being addressed in this essay must be considered constitutive of these dispositions. Subscribing to this theory allows for mental behavioural influences that are not conscious – exactly those targeted in this essay.

While this essay will not include a defence of a position on behavioural influencing factors, the methods of Nigel Thrift can serve as an example of a position taken that gives breathing room to the premises on this essay. Thrift is a geographer and sociologist who is a proponent of non-representational theory,[43] - relying on both practice theory *and* non-conscious dispositions. He offers "non-cognitive thought as a set of embodied dispositions ("instincts" if you like) which have been biologically wired in or culturally sedimented" (Thrift, 2001, p. 36).[44] The highlighted factors of Modernity are being considered in this essay as part of an individual's habit and non-cognitive disposition, beyond consciously

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[41] I will not largely rely on practice theory. Though it is a big part of the field of Mobilities. It has been related to automobile use as follows – "I want to suggest that the car has become for most, though not all, people in late modern societies an embodied relationship that having been acquired is very difficult to relinquish" (Dant, 2001, p. 15). The following is a relevant difference to help understand the relevance of practice theory – "here we wish to foreground one crucial difference. In practice theory, the agent does not necessarily precede, or stand at the centre of, action as in socio-psychological and utility theories of decision-making. … Switching modes means that all dimensions of practices — the whole gamut of socialised and acculturated bodily actions, mental actions, use of material objects, knowledge and emotions — simultaneously need to be reconfigured and that the subject needs to be re-invented" (Schwanen & Lucas, 2016, p. 22).

[42] More specifically, this essay fits most closely with the acceptance of non-phenomenal intentional states – like the view "that non-phenomenal intentional states get their intentionality from functional relations they bear to phenomenal intentional states" (Bourget & Mendelovici, 2017).

[43] Non-representational theory is considered post-structuralist, and is meant to take into consideration insights from phenomenology.

[44] 'Non-cognitive' dispositions are not the only method of inscribing unconscious automobile related behavioural influences in the individual. For instance, Schwanen & Lucas point out that "Additionally, car use may be grounded in and shaped by all kinds of pre-discursive and pre-cognitive triggers and impulses, although these have been largely ignored in mainstream transport studies to date and demand more attention from academics" (Schwanen & Lucas, 2016, p. 28).

weighed values. This is in contrast to, say, the earlier referenced example of Rosen's Raleigh bicycles, where a behaviour is explained by the conscious weighing of financial utility within a Modern institution.

The research question demands dealing exclusively with behavioural influences that are non-conscious – and the above are example theories that would allow such a premise. To the reader who is sympathetic to these theories, the premises will be acceptable. Values and ideologies are considered sculptors of behavioural instincts and dispositions – whether it be through experience or practice. Individual behaviour can be influenced by values in indirect, opaque, ways that aren't explained by intention. There is a tradition of thought (as studied above) that gives room to this premise. Otherwise, if the reader holds that behaviour is only explainable via conscious intention, this essay is a non-starter and will contain no valuable proposal.

A Convolution of Escape, Freedom, and Control

The features of Modernity highlighted thus far have been targeted because of their potential for behavioural influence, perhaps with specific relation to automobile use and preference - going beyond consciously performed rational utility calculus. This section will focus on others' characterisations of automobile use, and their relation to these features of Modernity. As such, nearly every quote used in this section will include a reference to the automobile. As earlier stated, emancipation, freedom, and control in Modernity are all related, thus the following will address them in tandem – as different faces of the same behavioural disposition or instinct.

Escape

Emancipation is one of the most frequently addressed values in the World Value Study as characteristic of Modernity (and in the older Overall Modernity score). The drive for escape is characteristic of Modernity because the culture is understood to produce feelings of alienation, inspiring compensation in the form of escapism. Bauman is useful here because his theory of Modernity is rooted in Weber and he reflects on the role of the critical theorists:

> *… early critical theory saw the wrenching of individual liberty from the iron grip of routine or letting the individual out of the steely casing of a society afflicted with insatiable totalitarian, homogenizing and uniformizing appetites as the ultimate point of emancipation and the end to human misery* (Bauman, 2000, p. 49)

In other words, when asking 'what is emancipation *from*?', the answer is – routine and homogenization. At first glance, the automobile may seem like part of the problem. At least

in the US, most people drive, every weekday, the same route. This seems like a routine worthy of rebellion and emancipation. But what is the alternative? If the other reasonable option is a train or bus, these can be understood to fall prey to homogenization even more than the automobile. The car at least provides the user with the 'opportunity' to break the mold of routine traffic – whereas a train or bus confines the user to a schedule and seating in units that all look the same.

While some characterizations of the automobile treat it as an alienating technology, some have understood the allure of the automobile as exactly the opposite. Thus, rather than escape the car and its alienation, the car could be understood as the means of escaping alienation. This itself is emblematic of the contradictions in Modernity – the drive for escape is what traps the individual. Gartman, in his article *Three Ages of the Automobile*, relates automobile use to the behavioural influence of the allure of emancipation, as, for instance;

> *… people see and express themselves through the car, which thus assumes a 'different cultural form or experience among different groups' (Miller, 2001: 12). Since these subcultural expressions are intimate and diverse, 'the car has become more a means to resist alienation than a sign of alienation' (2001: 3)* (Gartman, 2004, p. 189).

In other words, whether or not it is a consciously weighed value, the use of an automobile can be partly understood as a means of escaping the alienation weighed on the individual by Modernity. This alienation is a significant focus for many theories of Modernity. Building on a Weberian Modernity, Horkheimer and Adorno argue that the products of mass consumption are a "means to compensate workers for the inhuman conditions of mass production … Foremost among these are freedom, individuality and progress" … "And the ultimate expression of this compensatory consumption has been the automobile, the individualised means of mobility that has become synonymous with freedom" (Gartman, 2004, p. 180 & p. 193).[45] If freedom is a casualty of Modernity (in actuality or in feeling), then any means that provide a feeling of freedom can be understood as compensation and escape. Gartman claims that Americans (in the first of his three stages of automobility) "express individual freedom and escape from mass production by taking to the roads" (2004, p. 184).

This perspective relates the three features being considered here – escape, freedom, and control. What provides the user with an escape of Modernity is the feeling of freedom.

[45] One could argue that the working conditions of mass production are no longer dominant. If this were the case, under the hypothesis of this essay, that in itself may be a reason to predict an influence in automobile ownership – fewer people need the escape from rationalized daily work. However, rationalized work can also be seen to be shifting from the assembly line to the computer screen – perhaps requiring a similar escape.

What provides the user with a feeling of freedom is a sense of positive liberty[46] – control. This is why all three are deeply related and cannot be considered in isolation, but rather as different ways to describe the same behavioural influence of Modernity.

Freedom

Escapism is but one way to reference this aspect of automobile seduction – the meaning and role of freedom is yet another. If there is a substantive difference, perhaps this is it: freedom exists as a recognizable goal, one that is even given social status, whereas escapism may reference more non-cognitive behavioural drivers. When one leaves the manufacturing assembly line or an administrative desk job, and enters an automobile, he or she may be subconsciously reaching for an escape from the alienating work. This escape is provided because of a sense of 'control' – something taken from them on the assembly line and in their repetitive administrative tasks.

It has been argued in this essay that freedom has a unique relationship with mobility in Modernity – one characterized by limit-from, positive freedom, and sedentarism – producing a unique ideology of tourism. The behavioural influence of a perceived (consciously or not) freedom is frequently attached to the automobile. This impact is difficult to measure but should not be underestimated. For instance, as "Rajan (2006, 113) elaborated, the car as a principal technology of liberal democratic societies, with its promise of freedom (of choice) and individuality, reinforces the modern teleology…" (Endres et al., 2016, p. 93). This characterization of freedom (of choice) can easily be considered as a narrative of positive liberty, emphasizing the importance of control (as follows below).[47] Mimi Sheller, an author in the field of Mobilities studies, argues that "… driving offers many people a feeling of liberation, empowerment and social inclusion" (2004, p. 230). Again, the automobile is prescribed the ability to compensate for the casualties of Modernity.

Control

The lure of control in Modernity is evident in several ways. The most evident role of control is emphasized in the World Value Study, and as one of the considered teleological values of Weberian Modernity.

> *When growing individual resources widen the scope of possible human activities, the strive for self-realization, autonomy and emancipation finds greater leverage, strengthening people's desire to have free choice and control over their lives* (Welzel et al., 2003).

[46] Something taken from them in their daily life of rationalized behaviour.
[47] The emphasis on control is important because it is what the automobile provides – a valued experience beyond its utility function of transportation.

This single sentence relates emancipation, freedom, and control as a type of unified objective. Even though emancipation and freedom may in fact reference the same move, freedom may invoke a sense of positive liberty, whereas escape seems to correspond with negative liberty. Again, the difference may only be in ways of thinking, but these ways of thinking can nonetheless shape behaviour. The level of positive freedom may be measured by the according sphere of control, and this is often what gets associated with automobile use. Very plainly, in writing on motives of automobile use, Mei-Po Kwa and Tim Schwanen point out that "people may prefer to drive because it induces joy and/or a sense of control and power (Steg, 2005)" (2016, p. 12). As referenced earlier, these same authors, in a different article, point out that these motives can be "pre-discursive and pre-cognitive" (2016, p. 28). Another defense of non-conscious automobile seduction of control is offered by Tim Dant in an article on the contradictions of the car:

> *The process of driving is largely unconscious, an embodied skill which becomes a taken for granted way of moving through space – it is at between thirty and seventy miles an hour that the car/driver in modern societies conquers space* (2001, p. 17).

In this example, the method of conquering space is argued to have become a habit and practice of individual experience – perpetuating automobile preference to satisfy the addiction. This reference to conquering space introduces yet another facet of this automobile seduction of control. The power at the hands of the driver is immense, and its attraction is difficult to quantify. How powerful is the allure of conquering space? Adorno suggests "which driver is not tempted, merely by the power of the engine, to wipe out the vermin of the street, pedestrians, children and cyclists?" (Adorno, 2005, p. 40). The automobile clearly satisfies an urge to conquer – which in Modernity is understood as the freedom of movement across geographical space.

Driver or Passenger?

The concept of conquering, overpowering, and being in control, can perhaps be summarized by a driver/passenger spectrum.[48] The train may not induce the same seduction as the automobile, as the user is much less involved in the conquering. In at least some sense, as

[48] Adorno is not the only one to point out this aggressive motivational force - "In the car, the individual has an instrument, a weapon - for which a driving licence is the only form of permit required - with which he can threaten the lives of other road-users." (Diekstra, & Kroon 2003, p. 11).

passengers rather than drivers, those on a train are being conquered. This difference is summarized well in a history of the automobile:[49]

> *Automobiles promise to resurrect the old independence of self-propelled vehicles, to help individual authority regain its own, for they offered emancipation from the inconveniences of the railway: … No more being ordered around by shrill whistles; no more surrendering the baggage into who knows what kind of hands. Gone forever the undignified existence of a passenger* (Sachs, 1992, p. 94).

The automobile is often considered by the car-critics as an alienating technology. But is it not also an escape from the alienating experience of being conquered by space, technology, and time schedules?[50] These factors create an ideological spectrum between a passenger and a driver. The spectrum has little to do with utility, and more to do with ideology and experience. The choice between the automobile and the train may have less to do with cost, health, and time than often presumed, and more to do with the instinctual aversion to being a passenger.

What a closer look at the cultural values of Modernity reveals, is that excess rationalization and the lack of control of the train (or maybe public transit in general) make it an ideologically inferior means of transportation. Setting aside utility allows for increased consideration of instincts and experiences that influence behaviour. There seems to be a spectrum of driver to passenger – the freedom to be in control provides an escape from the rationalized monotony of being a passenger.

More to the Capability Benefit

These cultural influences on individuals' automobile disposition add new insights to what has thus far been referenced as the 'capability benefit'. The utility of fast, long distance travel on a whim's notice may not be sufficient to explain automobile preference. Not because it is not influential, but because it does not encompass all that characterizes a cultural disposition towards automobile preference. Suggesting that the capability benefit alone explains

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[49] Another very similar historical account critiquing the train because it turns the subject into a passenger is offered by Bierbaum: "The train merely transports us; it bears no relation to real travelling. We are forced to be passive - whereas travelling is the ultimate expression of the freedom of movement. The train subjects us to a timetable, makes us the prisoners of a schedule drawn up by someone else, shuts us up in a cage that we cannot even open, let alone leave if we wish to.... Anyone who calls that travelling might just as well call a military parade a walk in the woods (Bierbaum 1903)" (Diekstra, & Kroon 2003).

[50] The paradox is, of course, that the automobile grossly alienates its user from the surrounding community. But the decision to forgo automobile use for the sake of community involvement seems to demand a conscious effort – whereas the escape from alienating rationalization seems to play an instinctual non-cognitive role. This essay is by no means to first to highlight the paradox – "The very freedom that the car promises is contradicted by everyone else's enjoyment of that same freedom" (Dant, 2001, p. 3) – however, this essay takes a unique perspective by emphasizing the importance of rationalization in the process of gaining freedom.

automobile preference may give too much weight to the utility of that benefit. For instance, suggesting that "alternative modes and particularly public transport do not adequately meet people's need for flexibility and spontaneity" (Schwanen & Lucas, 2016, p. 20), implies a high utility attached to the convenience of spontaneous travel. But this need not be the case. This still assumes the user is making a rational cost/benefit calculus (albeit one that, according to the car critics, over-values spontaneous travel). Automobile use, ownership and preference need to be understood in light of the potentially powerful influence of emancipatory, control, and freedom values – and in particular, distinguishing between a driver and a passenger.

Another addition to the capability benefit answer is the impact of a social status weight added to the freedom of movement. Again, there is an additional reason for automobile preference that can be included in that capability benefit – the individual freedom of movement has a social status implication. Time and time again, the automobile is understood as a status symbol of financial wealth. Though according to Gartman, as mentioned in chapter 1, by the mid 1920's in the US the class division status symbol was largely gone.[51] However, there is another status that the automobile provides. Given the association between individual freedom and mobility brought about in Modernity, the 'capability benefit' ascribes the owner with the different social status – that of a 'free' person.

> *Indeed, early cars were less a means of regular movement than a way of demonstrating speed and social superiority over others. These features were reflected in the design characteristics of early European cars. And yet in the last century automobility became more deeply embedded for its 'social' features and for many people it offers a source of freedom, the 'freedom of the road'* (Dennis & Urry, 2013, p. 36).

Again, the automobile is not only a status symbol of wealth, but a status symbol of individual freedom (regardless of its actual impact on individual freedom). A hypothetical example may help ground this concept. Suppose there is a person of obvious tremendous wealth, known to all as such. This person decides that, for the sake of health and social interaction[52], they will rarely use an automobile. Clearly an automobile is not needed as a status symbol to prove their financial wealth. However, the lack of automobile use and ownership would likely characterize this individual in a different social status. The wealthy person who exclusively

[51] Yes, decisions between automobiles may still represent class difference, but the difference between car and no car doesn't have the class status indication it did before the 1920s. According to Gartman, by the mid 1920s "the car as a symbol of real, qualitative class differences was finished in America" (2004, p. 176).

[52] The desire for social/community involvement may be an important indicator – "As Alfred Adler (1929) and others have explained, the greater the desire for power, the less human behaviour is motivated by community interests and empathy with others" (Diekstra, & Kroon 2003, p. 11). In other words, the characteristic drive for power may be exponentially influential as it not only increases desire for one, but decreases desire for the other.

uses public transit is likely viewed with suspicion (at least in the US). Somehow, they are seen to be lacking full social participation. Thus, the automobile, and the capability benefit it provides, is not only a status symbol of wealth, but a status symbol of freedom (again, regardless of its actual impact on individual freedom). This becomes evident with the conditions of Modernity and the ideological relation to mobilities. The benefit of spontaneous, immediate, and fast freedom of movement is, again, not valued merely for its utility, but for ideological reasons.

The passenger and the pedestrian are ideologically inferior to the driver, because they are not free from the time-table and rationalized system of public transit. In Modernity, where mobility is synonymous with freedom, those who are not drivers and in powerful, conquering control of their own mobility are considered casualties. The influence of the individual's non-cognitive predisposition to *being a driver* should not be left unaccounted.

Tourism and the Automobile

"It's not just a car, it's your daily retreat" – 2017 Lexus Commercial[53]

In chapter 3, a survey of ideological frameworks of mobility was offered. Modernity is argued (by Cresswell, and MacCannel) to encompass an ideology of tourism. This is a distinct framework of mobility, as at the beginning stages of (or before) Modernity, sedentarism dominated culture. Both Cresswell and Bauman argue that nomadism is starting to regain its hold. While there are some signs of rejecting ideological tourism,[54] this essay will adopt the premise that tourism still dominantly describes ideological mobility in Modernity. Tourism is argued, in chapter 3, to demand a sedentarist metaphysics – and this is what supplied geographical location with the meaning of escape. Take, for example, the fact that tourists often go far away, only to experience what they could have at home – a Western Hotel, with Western amenities and entertainment. The mere fact that it is in a different location is what qualifies it as an escape. This value of location, what I consider sedentarism, is what gives mobility the value of freedom – the meaning of escape. In other words, geographical tourism is incomprehensible in a nomadic metaphysics.

If mobility in Modernity is to be understood from the position of tourism, the automobile also needs to be understood from this same position. To help in this understanding, first recall the description of tourism used in chapter 3:

> *tourists might be understood to seek escape from the hyper-rationality of logos modernity, to rest and relax, have a holiday, a break from the*

[53] Lexus ES Commercial 2017. (2017). Commercial Song. Retrieved 16 May 2017, from https://commercial-song.net/2017/02/lexus-es-commercial-2017/
[54] As offered in chapter 3.

> *everyday world of production (work) and reproduction (home)* (Lex et al. 2004, p. 287).

This clearly sheds light on the role of the automobile in Modernity. When Lexus sells their new SUV as a 'daily retreat', they are directly appealing to the ideology of tourism that dominates Modernity. This can also be seen in Gartman's history of automobile development:

> *By molding the surface of these cars into the smooth, rounded, varied shapes of luxury cars, car stylists like Earl covered over the offending reminders of work and allowed them to perform their escape function unobtrusively. As Earl put it, he tried to* ***'design a car so that every time you get in it, it's a sigh of relief – you get a little vacation for a while'*** *(Sloan, 1972: 324)* (2004, p. 178, bold not original).

This sheds light on another difference between automobiles and public transit. Most automobiles could hardly be understood as designed with rationality as the fore mostly important design characteristic. Whereas the train design is nearly exclusively rational. Now, which would the rational person choose? Tourism appears as an apparent ideology that describes the role of this rationality in geographical mobility. In both quotes included so far, escape has been considered part of the tourist experience. Escape may be experienced differently depending on the driver/passenger spectrum surveyed above. For instance, a train passenger does not escape the grip of the schedule. The direct control, the hands on the wheel, seems to be what provides the mobile subject with the experience of escape.[55] With no hands on the wheel, the subject is simply part of the greater rationalized system – a unit of luggage. In Modernity the tourist searches for escape, and this escape is provided by the experience of direct control – something that is seemingly lost in the daily life of Modernity.

The rationalization and alienation of Modernity has produced a need for a 'daily retreat' – this is the ideological frame of tourism. Accepting this ideology alongside the way automobile use is described, it becomes clear that automobile use is in part a function of the ideology of tourism – providing the user with an escape from Enlightenment.

Irrational and Ideological Automobile use

This chapter has highlighted meanings of the automobile, and related them to ideologies and values as products of Modernity. In a Weberian Modernity, and by relying on theories that allow for behavioural dispositions that transcend intentions, individual actions can be understood as influenced by the goal of gaining freedom, escape, and control. The

[55] This could also include the dimension of time as a crucial feature – as the 'hands on the wheel' satisfies Modernity's preoccupation with instant gratification – thanks to Gijs de Boer for this thought.

automobile is frequently associated with a positive liberty of control; however, it also satisfies an escapism in the form of negative liberty. The rationalization and alienation of Modernity has produced a behavioural drive for emancipation, satisfied by the irrationality of the automobile. In a world of ever increasing automation, direct human control is increasingly rare – making it a valuable exercise of irrationality. The ideology of tourism characterizes these values, including the conquering of space exemplified by the driver/passenger spectrum.[56] The sedentarism that pervades Modernity grounds the value of geographical place that gives tourism its meaning and classification as escape.

The irrationality of the automobile may be an attractive compensation for the products of Modernity. Where public transit may be rational on a utility basis as argued by the car critics, perhaps the automobile exists as one of the few remaining accessible expressions of irrationality – expensive, inefficient, unhealthy and unsafe.

The car critics do a fine job of convincing the reader that automobile use is often irrational – expensive, inefficient, unhealthy and unsafe. But in a discussion of Modernity, utility is not the only determinant of rationality. For instance, trains and buses may be cheaper, safer, and quicker in some cases, but they are also homogeneous, scheduled, routine, and follow repetitive paths – characteristic of the rationality of Modernity. Cars are not only irrational on *utility* standards, but are irrational on *ideological* value standards. They are flexible, unpredictable, overly powerful, and do not conform to values of calculability and predictability. Instead, cars offer the promise of defying routine. The car is socially accepted in spite of its irrational utility, and perhaps even *because* of it. Given if the automobile is already socially framed in this way, its ideological place as a reaction to irrationality is only given clout.

Which transportation user can say their actions *are*, or *should be*, the product of a rational cost-benefit calculation? It would be naïve to ignore the ideological values and meanings satisfied by automobile use. What value should be given to the satisfaction of an underlying drive for escape and control? Maybe automobile use is not only one of the few remaining sources of psychological flow, but perhaps it is one of the few remaining sources exercising one's need for irrationality.

The automobile has long been considered a symbol of Modernity and its values – mainly freedom, control, and perhaps individuality. But recognizing it as a symbol does little to address or account for the relative influence on behaviour. Furthermore, this is often

[56] Correlating the function of tourism itself and automobile use alone would be presumptive. What the rejections of tourism reference (in chap 3), are not of the function of tourism itself, but part of the ideologies and meanings of tourism. It is not assumed in this essay to be a rejection of the geographical ideology of place. The Lisbon "We Hate Tourists Tourism" exemplifies this issue. If automobile use is to be correlated to tourism, it is with the geographical ideology of tourism – not the function.

characterized in the light of a positive liberty, and the teleological value of rationalization is given less attention. The automobile doesn't seem to satisfy rationalized movement like a train or bus, and this is exactly the perspective taken in this essay – that its irrationality is what helps explain its preference.

When considering only those cases that can be considered irrational, a look at Modernity reveals that this may be exactly *why we drive.*[57] The French philosopher Roland Barthes' characterization of the car as a modern gothic cathedral is given new significance with the focus of this essay.[58] As the gothic cathedral may even be valued by definition because of its irrationality, perhaps so is the automobile. The automobile is not only the 'literal iron-cage of Modernity', but it is also an escape.[59]

This is based on the three general propositions; first is the car-critics suggestion that automobile use is often not rationally defendable, second is the acceptance of a tourism ideology that prescribes escape from rationalization, and third is the way automobile use has been described by users and researchers. The cumulative hypothesis of this essay and chapter, is that ***automobile use is in part an escape – an instinctual impulse to perform an exercise of irrationality.***

Romanticism and Counter-Enlightenment

There are surely existing theories that describe such a behavioural drive for emancipation from the weight of Modernity. To re-cap, this essay has relied on, and related, descriptions of mobility, tourism, and automobile use. After arguing that tourism is representative of the ideological weight of mobility in Modernity, a characteristic of tourism was highlighted as an "escape from the hyper-rationality of logos modernity" (Lex et al. 2004). In such a culture of escaping Modernity, the car is referenced as a 'daily retreat' (Lexus, 2017), a 'little vacation' (Gartman, 2004), and 'a means to resist alienation' (Gartman, 2004). It was finally hypothesized that the car satisfies the ideology of tourism as an escape from the rationalization of Modernity.

But escaping Modernity and resisting alienation is surely not a behaviour limited to automobile use. In-fact, there are domains of thought dedicated to characterizing social phenomena in this way. For instance, Romanticism is considered a movement in thought defined by its reaction to Modernity. Though its influence is often associated with transitions

[57] This is meant to give way for those cases that can be considered rational by utility standards – such as where it is the cheapest, simplest, and only reasonable method for accessing vital interests. A survey of these possible cases is introduced in chapter 1.

[58] "Searching for a fitting image for the meaning of the automobile, the French philosopher Roland Barthes came upon one of those comparisons that illumine the nature of a thing: he called the car 'the Gothic cathedral of modern times'" (Sachs, 1984, p. 91).

[59] The 'literal iron-cage of Modernity' is taken from Urry (2006). The proposition that it is also an escape is a reference to escaping the rationalization of society, culture, space, time and daily life.

of thought in specific domains – like literature, art, music and intellectual thought. In other words, it is not often used to describe a non-cognitive or instinctual behavioural influence. But it is none the less considered a reaction to rationalization, and perhaps there is room to include behaviour like automobile use. At the least, this reveals another plausible avenue for increasing the accuracy of a behavioural model of automobile use – perhaps it is worth considering whether sympathizers with Romanticism are more or less prone to automobile use.

Considering Isaiah Berlin's theory of positive and negative liberties, it's also worth considering his thought on Counter-Enlightenment. As earlier discussed, performing a rationalized calculation of pros and cons when deciding between transportation modes might be itself a reason why some take the simpler root and embed themselves in automobile dependence. Because the car is socially accepted, one is given permission to just skip the decision-making process altogether. This might also be part of a reaction to Modernity. For instance, as far as Modernity is associated with the Enlightenment, it can be understood that the Modern subject carries the weight of abolishing ignorance in their decision-making process. In writing on Berlin's Counter-Enlightenment, Mali et al. (2003) propose that "Nietzsche worried that the will to ignorance was being driven out of the soul by the force of Enlightenment. He was too pessimistic." In other words, part of Counter-Enlightenment thought argues that the will to ignorance was not completely driven out by Modernity. This will to ignorance could help explain the willingness to live dependent on automobile use. If the automobile is more expensive, more dangerous, and even slower, but provides a sense of escape from Modernity, then perhaps the individual who embraces the automobile is instinctually embracing a will to ignorance.

This section is meant to highlight that acting in rebellion of Modernity is field of thought in itself. The hypothesis that automobile use may be part of this reactionary impulse was arrived at without specifically relying on theories of Romanticism or Counter-Enlightenment – as these theories largely describe broader social phenomena and domain-related shifts. However, if the hypothesis of this essay is worth consideration, then maybe theories of Romanticism and Counter-Enlightenment could be extended to more specific behavioural cases – like automobile use.

CHAPTER 5

WHAT ABOUT EMPIRICAL SUPPORT?

Now that this study has argued for a theoretical hypothesis, one would naturally wonder – *can automobile behaviour be more accurately predicted as a result?* On a tacit level, the answer might be 'yes'. However, it remains a hypothesis, and as such is not likely to inspire a reactionary change in behaviour or methods – whether it be in transportation planning, policy, or user behaviour. This chapter will outline how this hypothesis could be tested to some degree. Given the complex nature of all that constitutes automobile use, alongside the non-cognitive nature of the implicated causes, measuring the actual impact on behaviour is anything but simple (if even possible). But, as earlier mentioned, there are surveys that target a measurement of Modernity-related values, and these can offer guidance for how one might give some empirical weight to the hypothesis at hand.

Prove it

This chapter will discuss some factors that may impact the extent to which this theory might turn into more than a hypothesis. Firstly, is there any room for such variables as subjective values in transportation modelling? For instance, what variables do existing automobile use predication models use, and is there evidence to suggest others may be useful?[60] Secondly, is the relevant empirical data available or retrievable? Is there census information that reveals a correlation between rational or emancipatory values and automobile use? Answering these questions will help ground the hypothesis, establishing what would be needed for empirical support.

Existing Models

First of all, it's worth establishing how much room there is for new predictive power. For instance, if automobile preference can already be predicted with a high degree of accuracy with existing variables, then introducing a new variable (such as rational values) would not be helpful.

[60] The role of transportation *planning* has been given less attention due to considerations of length, but the argument of this essay is in the same spirit of others like Hamilton who have argued that it include more than values of cost and time – "To sum up this first part of my argument: the questions to which "the car" was the answer were seldom to do with what transport policy might reasonably be expected to concern itself with – about what is the best way to move people and goods, and how to monitor and control the impact of those movements. Instead, they have been about employment (in the motor and construction industries) and about very particular notions of progress, modernity and freedom. The attraction of the car was closely bound up with the need to recover from the ravages of war and to keep Britain at the Top Table" (Hamilton 2016, p. 52).

A study by Stephen Clark at the Institute for Transport Studies at the University of Leeds surveys modelling techniques and accuracies. In his survey, the most accurate predictive model gave an accuracy of about 79% in the USA, and 63% in Great Britain when predicting number of vehicles per household (with comparable methods producing accuracies in the 70s) (Clark, 2009, p. 536). There is clearly room for other variables that may help increase accuracy. However, there are countless possible variables, and the fact that such a high degree of accuracy exists with the small selection of variables is evidence of how difficult it would be to determine the relevance of a socio-psychological variable like those considered in the hypothesis.

Though, as stated, this is not the only implication. The hypothesis of this essay is also a 'why'. Predictive automobile ownership models are based on correlative algorithms.[61] The developed algorithms supply weighted values to different characteristics and combinations – with no reason 'why' other than historical correlations. For instance, Daragay et al. produced automobile ownership per capita models based on median GDP. In their models, each country is assigned a correlative value (β) between automobiles per capita and median GDP.[62] This correlative coefficient is based on historical data, allowing for country specific predictive modelling. However, there is no attributed *cause* for the changing coefficient from country to country. The hypothesis of this essay offers a possible contribution to the missing cause – that automobile ownership may be in part a function of the individuals' held teleological values – and these may vary from country to country.

Most models use variables like gender, age, education, and income. In a study of traveller preference modeling methods by Mehbub Anwar, these are considered 'objective' variables (Anwar, 2016, p. 30). One of the conclusions of Anwars study is that 'latent variables', which he has summarized as making up the "psychological (i.e. LVs) mindset of human beings", are "found as significantly important in travel behaviour, ignoring them in the planning process could result in serious errors in public transport management" (Anwar, 2016, p. 41 & 43).

> *Thus, the transport forecasting context is an interrelationship among various observed and unobserved factors related to the transport management system* (Anwar, 2016, p. 41).

[61] The ones mentioned here use machine learning to help determine the most accurate predictive model possible using the allotted variables.

[62] The study from Daragay et al. (2006) employs an S curve Gompertz function, where the variables (γ, $\propto$, β) account for country specific saturation levels, growth rates, and steepness of GDP to automobile ownership correlation - $automobiles/capita = \gamma e^{\propto e^{\beta * GDP}}$.

There may be an accuracy limit if the only variables accounted for are those considered 'objective'. There is clearly room for model improvement, and Anwar has argued that accounting for the psychological mindset is one important way to do this.

Thus, the hypothesis of this essay is given some room. The cultural characteristics of Modernity can help describe the psychological mindset, enabling the use of 'latent variable' determinants in modeling automobile related preference and behaviour. The hypothesis of this essay presents an opportunity to help explain why, and even contribute to the accuracy of predictive models.

Impact of Values on Behaviour

Given the previous arguments, there may be room to increase accuracy of automobile use modelling through making use of phycological mindset variables. The hypothesis of this essay offers such variables, though measuring their existence is another issue. As a reminder, the hypothesis being addressed in this chapter is that – *the teleological values of Modernity inspire escapism impulses of irrationality that make up automobile preference*. The magnitude of this impact is nearly impossible to determine, though there have been efforts to estimate the relative influence of such values. Remembering the World Value Study, the influence of emancipatory values of Modernity is considered wide reaching:

> *As the cultural component of human empowerment, emancipative values are highly consequential in manifold ways. For one, emancipative values establish a civic form of modern individualism that favours out-group trust and cosmopolitan orientations towards others* (Welzel, 2010, p. 41.).

Those values and ideologies that support the concluding hypothesis of this essay, while related, are not directly correlative with the above referenced emancipative values of the World Value Study (WVS). Rather, the WVS exists as one of the few empirical efforts to survey values related to Modernity, and thus this essay will examine their possible relevance more closely. The point is that these values are considered widely influential in a range of domains.[63] The hypothesis of this essay is without a doubt related to these values, thus there is reason to consider that in their range of impact may be automobile related behaviour. The WVS is unique because it provides country specific answers to questions that are not generally observable – what Anwar (above) would consider 'latent'.

[63] Welzel characterizes one influence of emancipative values as follows: "Emancipative values change people's life strategy from an emphasis on securing a decent subsistence level to enhancing human agency. As the shift from subsistence to agency affects entire societies, the overall level of subjective well-being rises" (Welzel, C, Inglehart & Ronald 2010).

Is there any empirical evidence?

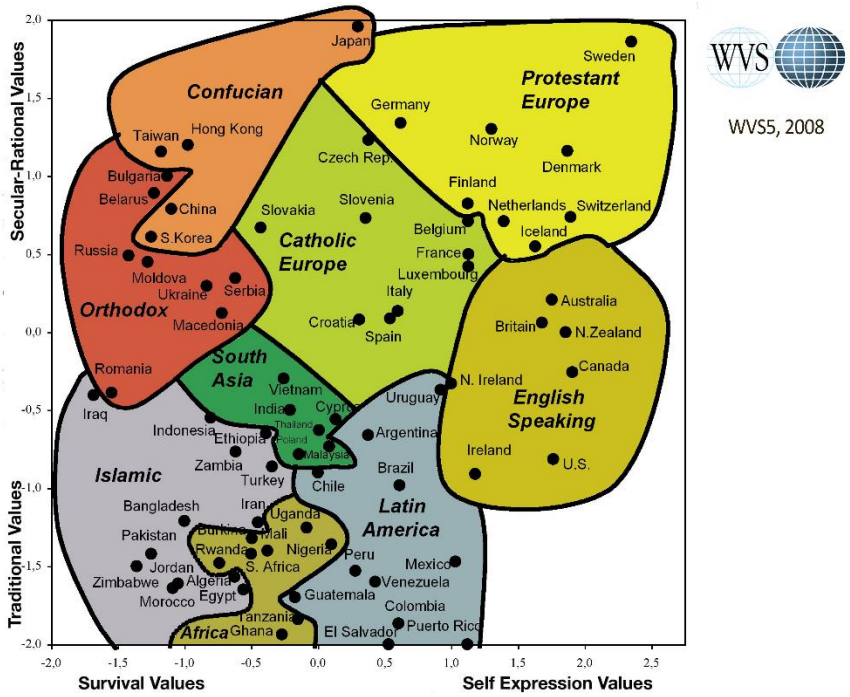
Using this hypothesis and related 'latent variables' to help increase the accuracy of automobile ownership models is complicated, if for no other reason than just that, that the variables are 'latent'. I cannot stress enough that this brief consideration is *not* meant to serve as empirical support, but rather as an example of what type of information is available, and what would be needed were the hypothesis to be empirically tested.

When concerning an empirical study of Modernity related values, the World Value Study (WVS) is the most widely accepted. This survey asks a couple hundred questions from thousands of participants in each country, and uses the responses to calculate a comparative level of 'traditional vs. rational' values, and 'survival vs. self expression' values. These are summarized by the survey team as follows (World Value Survey 2015):

> *On the first dimension, traditional values emphasize religiosity, national pride, respect for authority, obedience and marriage. Secular-rational values emphasize the opposite on each of these accounts.*
>
> *On the second dimension, survival values involve a priority of security over liberty, non-acceptance of homosexuality, abstinence from political action, distrust in outsiders and a weak sense of happiness. Self-expression values imply the opposite on all these accounts.*

Existing characterizations of automobile use, which focus on positive liberty and autonomy, might relate automobile use to a high value of self-expression. The step taken in this essay, that infers automobile use as an exercise of irrationality, makes use of the other axis – the rational/secular scale. The contribution this WVS can make to testing the hypothesis is suggestive at best. Nevertheless, if there is even any plausible correlation, it would surely warrant a more serious empirical study of the role of Modernity related values in automobile use.

The findings of the WVS are offered as a country comparison, and a timeline of country specific developments. Because the information is offered merely by country comparison, it gives little guidance for automobile use. Sure, each country has a measurable automobile ownership per capita, but each country has such varying conditions that isolating the impact of a difference in cultural values is a challenge. Nevertheless, the following will explore whether the WVS gives any reason to further consider the influence of cultural values in automobile use.



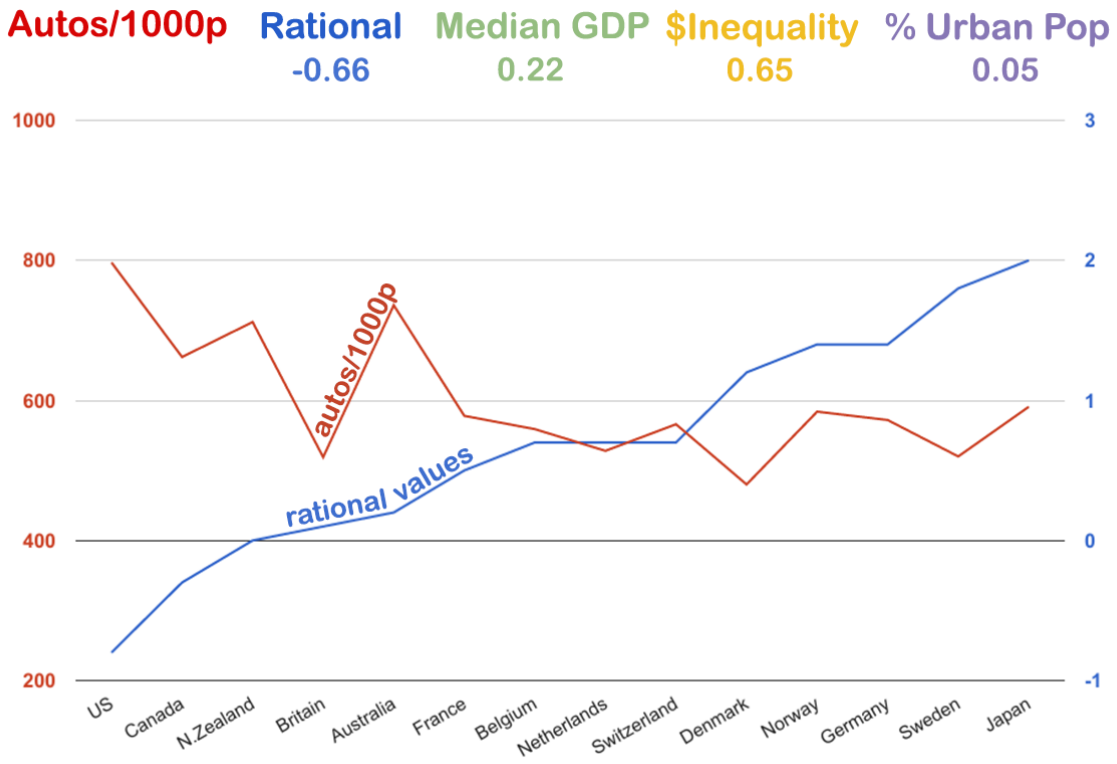
Taken from World Value Survey at http://www.worldvaluessurvey.org/images/Cultural_map_WVS5_2008.jpg

The above chart plots the country with two scores – a traditional/secular-rational score, and a survival/self-expression score. Ideally, all the countries could be used to test the hypothesis. But as stated, the country to country variance in other domains makes many comparisons futile. There is one group of countries that seem to share enough qualities to make for a relevant comparison. This is the group between Sweden and U.S. on the right side of the above chart. These countries all have a comparable median GDP per capita, allowing for the option of automobile ownership. They also have comparable self expression values, allowing for isolation of the traditional/secular-rational variable.

To do this, below is a plot of those countries in order of their level of rational values – with the rational score on the right axis. Also include on this chart is the country's automobile ownership per 1000 persons.[64] As would be expected, there isn't anything close to a perfect relationship, but it isn't obvious that there is *no* relationship to consider.

[64] Data used from http://www.worldlibrary.org/articles/list_of_countries_by_vehicles_per_capita. Though it was cross referenced with other data sets, like http://www.acea.be/statistics/tag/category/passenger-car-fleet-per-capita, to make sure there aren't huge discrepancies in measurements.

Chart A



If there is any correlation worth consideration, it indicates that the lower a country's rational value score, the more likely it is to have a higher rate of automobile ownership per capita. A 0.66 correlation between automobiles per 1000 persons and rational value score is not negligible, although there are many apparent considerations in need of addressing.

Urban Population

For instance, the countries with higher rational scores also seem to be smaller in geographical size, and might have a denser population – making car use less functional.[65]

In order to test if population make up is in fact an explanation, Chart B in the appendix overlays percent of urban population per country. This is likely a better value to use than density, because a dense population could still have a high rural population. If there is a high correlation between the percent of urban population and the country's automobile ownership, then this could serve as an explanation for the correlation seen between rationality score and automobiles per capita. However, this is not obviously the case. As shown in Chart B in the appendix, percent of urban population seems to have no correlation

[65] As, for instance, Ajay K. Sanghi offers "… an empirically determined function based on the hypothesis that lower population densities and higher incomes cause higher levels of automobile ownership (1976, Abstract)."

with automobiles per capita (0.05 correlation). Thus, the urbanity of a country does not explain away the irrational-automobile correlation.

Income & Inequality

Another possible explanation in need of consideration is income related. There is a correlation between a country's income and automobile ownership. However, with a correlation of 0.22 (as shown in Chart C in the Appendix), it does not explain away the impact of the cultural value of rationality. Income inequality is also understood to have a role in automobile ownership. For poorer countries, a high income-inequality generally means more people with the opportunity to purchase automobiles.[66] On the other hand, for richer countries (like those considered in this comparison) high income inequality generally produces lower automobile ownership as it pushes people out of the automobile buying income zone.[67] Thus, for this comparison, a high income-inequality should mean lower automobile ownership – producing a negative relationship. Separating the middle class into rich and poor would decrease automobile ownership, because the poor will not be able to afford cars, and the rich will not need or buy more cars simply because they are rich. However, there is in fact a positive correlation of 0.65 (shown in Chart D in the Appendix), which in turn emphasizes the potential impact of rational values, rather than explain it away. For example, the high-income inequality in the US would indicate a low rate of automobile ownership. But as can be seen, automobile ownership in the US is high – despite high income inequality.[68] Thus the influence of traditional rational values must be strong enough overcome the income inequality, and still produce high rate of automobile ownership.

Caveats

Out of the variables that might be considered most likely to explain a difference in automobile ownership, it appears that none are as clearly related as the cultural value represented by a traditional/secular-rational score offered by the World Value Study. However, there is a significant list of caveats involved. There are many other variables not

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[66] "In a poor country where the vast majority of the population earns less than this threshold, an increase in inequality will enable the emergence of automobile demand (Storchmann 2005) (Global Automobile Demand: Major Trends in Emerging Economies: Volume 2, 2015, p. 3)."

[67] "… If on the contrary the country is rich, and inequality starts increasing, some consumers will be excluded from the automobile market. As we have seen in Volume 1, this is the case of the United States or some European countries. (Global Automobile Demand: Major Trends in Emerging Economies: Volume 2, 2015, p. 3)." It is true that if a country is rich enough, and the income inequality is of a high rate but a low variance, that it could have no correlation – pushing no one out of the automobile buying zone. But the countries considered here are not obviously in these conditions.

[68] Income inequality could compensate for some outlying data points. For instance, Britain has a relatively low automobile ownership rate compared to its neighbours on the chart, however, it also has a higher income inequality. Therefore, income inequality could help explain why (among many other possible reasons) automobile ownership is relatively low in Britain.

considered in this essay that might explain the difference. Of course, the more variables included the more likely the WVS score could be explained away. For instance, the countries with lower automobile ownership rates seem to have more public transportation options, and larger government investment in transit. Even if this is true, it might still be indicative of the same influence – the traditional/secular-rational value. Perhaps the hypothesis of this essay could help explain differences in public support for other transportation means. In other words, perhaps the people in countries with high rational values are more likely to support public transit initiatives because they don't have as strong of an impulse to use an automobile (and need for irrational escape). Thus, even if public transit levels were to represent a strong correlation with automobile ownership, the same hypothesis might be explanatory.

There is at least one more important variable to consider – the age of established urban areas. For instance, if a city's physical layout and planning was established before the emergence of the automobile, then current inhabitants might be less likely to use an automobile due to its lack of supporting infrastructure or organization. This could very well explain away the correlation. It is a fact that the countries in this comparison with high automobile ownership have relatively newer urban centers. Think of, for example, a comparison between New York City and Los Angeles. The population of NYC in 1900 was nearly 3.5 million, whereas in Los Angeles the population was merely about 100,000.[69] However, the difference in automobile ownership isn't as significant as one might think – 430 for NYC vs. 550 for LA, and 530 for San Francisco.[70] It is likely part of the explanation, though doesn't explain away the correlation being considered. If it did, then there would be another correlation in need of explanation – between age of urban establishment and secular-rational values. Also, maybe there is a difference in cultural values between NYC and LA. If there were, maybe this could help explain the decision to live in LA vs. NYC – as one with higher values of rationality might be more inclined to live in a city where automobiles are not necessary. At this point the conclusion is becoming evident – if a correlation were to be dependable, more information is needed. But, there is not obvious evidence available to discount a correlation between traditional/rational-secular values and automobile preference. If this value could increase automobile ownership modelling prediction accuracy by even a few percent, it would be useful.

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[69] Population of the 20 Largest U.S. Cities, 1900–2012. (2017). Infoplease.com. Retrieved 18 June 2017, from https://www.infoplease.com/us/us-cities/population-20-largest-us-cities-1900-2012

[70] Density, Car Ownership, and What It Means for the Future of Los Angeles. (2017). Streetsblog Los Angeles. Retrieved 18 June 2017, from http://la.streetsblog.org/2010/12/13/density-car-ownership-and-what-it-means-for-the-future-of-los-angeles/

To reiterate the intent of this section, what has been shown is that the available empirical data on the values of Modernity is not specific enough to satisfactorily test the hypothesis.

Though the point that this correlation is not immediately explained away is evidence that the hypothesis of this essay may contain some explanatory power. Again, this is not meant to serve as a proper or satisfactory empirical test of the hypothesis.[71] It is merely an brief introduction to the possible relevance of the available empirical data – which is clearly not near enough to confirm or deny a relation. Rather, it helps direct what to look for were one to perform an empirical test.

What would it take?

By the end of the previous section it became clear that in order to confidently determine any relation between cultural values and automobile use, more empirical information is needed. My point is not that the WVS should be an accepted determinant in the model of automobile ownership – but rather that it may be worth exploring the influence of modern values (especially secular-rational) on automobile related behaviour. The WVS has a relatively narrow scope of implications – to characterize the values of a country on a two-axis scale. This does not, for instance, connect the values of the individuals in the survey to more 'objective' information. For instance, if one of the questions in the WVS was 'How often do you use an automobile?', a direct personal relationship between values and automobile preference could be firmly established. This could be compared regardless of country to account for many of the other influential variables. The objective would be to establish a correlation that would give an answer such as: 'a person with a rational value of 0 is __% more likely to own an automobile than a person with a rational value score of 2.' If the WVS also included more 'objective' variables, like individual income, then a correlation could account for the impact of these variables – essentially isolating the impact of a rational-secular value.[72]

Summary

The suggestion is that empirically testing the hypothesis is very possible. If latent variables are, as Anwar suggests, under-addressed in transportation modelling, perhaps the teleological value of rationalization should be on the list of variables to test. A correlation would not only help explain *why* there is differing automobile use rates and trends, but could

[71] If any suggestion were to be taken from the available data, it would be that not the rational who are driven to automobile use as an escape from the rationality of daily life. Rather, it is the irrational who need automobile use as an exercise (escape) and statement to resist rationalization.

[72] The goal of this would be to essentially compare individuals who share as many other characteristics as possible – isolating the influence of a secular-rational score.

also increase the accuracy of automobile use predictability as far as changing values are predictable.

This chapter has served as a means an introduction to how one might go about empirically testing the hypothesis – making it a useable insight for increasing the accuracy of transportation planning models. A dedicated survey that includes one's measure of rational values, and their automobile use trends, using subjects across many cultural and geographic zones, would help determine the applicability of the hypothesis. If some person or organisation is tasked with increasing the accuracy of automobile use prediction models, and deems this hypothesis worth consideration, a small-scale survey might first help provide some confidence before investing in a large-scale survey.

The theoretical grounds of the correlation could allow for application to new or emerging technologies. For instance, when designing or anticipating the role of self-driving cars, perhaps one might design for irrationality – keeping the dispositional attraction alive. As is a theme of this essay, automobile use is far from an exclusively utility rationale decision. The future of transportation cannot be predicted by utility rationale alone, it must consider cultural values and dispositions – and rationality may be one of them.

CONCLUSION

Automobile use is a surprisingly contentious field of debate – another indication of its relation to deeply seated values. I follow Hamilton in admitting that part of this argument is meant to stir the pot, and argue that there is more to transportation than maximizing speed and minimizing cost.[73] This essay has taken as a premise that the range of socio-economic influence is likely vast (whether positive or negative), hence any contribution to understanding related behaviour is welcome. The main contribution to the discussion is a theoretical exploration of the cultural conditions of Modernity that could help explain an instinctual preference for automobile use – beyond its apparent utility. Where most relations between the automobile and Modernity emphasize the relevance of self-expression (one axis of the scale on the WVS), this essay suggests that values of rationality may also be indicative of automobile preference.[74]

Whenever variables like 'Modernity', 'tourism', or 'rationalization' are referenced, a range of definitions and specificity is needed – hence the first few chapters of this essay. The meso-level social structure of Modernity raised in the field of Mobilities studies is the ideological framework of tourism. This essay argued that tourism (as it is presently understood) demands a metaphysics of sedentarism – placing meaning in geographical location and thinking of mobility in terms of limit-form. Besides these meanings and ways of thinking, tourism also brings with it the seemingly teleological value of escape. Satisfying this tourist drive for escape means an increased sphere of geographical control at the finger tips. Tourism itself is even described in terms of escaping the rationalization of Modernity.

The rationalization of society is a conspicuous teleological value when considering automobile use. When characterizing the automobile as a symbol of Modernity, most arguments emphasize the values of freedom, control, and individuality. However, a Weberian Modernity is based on rationalization (transition from substantive to formal). What role does the automobile play in supporting or conflicting with this value? The emphasis on escape – from both the ideology of tourism and the 'iron-cage' of Modernity – persuades me to think that automobile use may be in part an escape from the rationalization of society. Perhaps the automobile user prefers it over the train because, on a sub-conscious level, the train is *too* rational. Perhaps the harsh straight-lined design, ruthless efficiency,

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[73] "I am aware that what I am saying, what I have spent the last twenty years saying, has been seen as polemical : a rather unacademic stirring of a regrettably controversial pot. ... (it) is merely a plea that transport policy should be about policy. Not about engineering, not about speed and shorter travelling times, but about the environmental, social and economic transport needs of the whole community, and the assessment and control of its impact. If you look for books that take this holistic view of transport, you will only find the work of people like those I have mentioned" (Hamilton, 2016, p. 57).

[74] Again, it's worth emphasizing that the WVS is not being argued as relevant empirical support. It's only being referenced as one method of measuring values, and how this could contribute to developing a method for empirically testing the hypothesis.

scheduled regularity and quantifiability takes away from exactly what distinguishes a human from a cog in the machine – irrationality.

The most common explanation of why automobile users continue to favour the automobile is that it supplies the utility benefit of spontaneous fast travel. But this essay reveals that this benefit is likely valued for much more than its utility. The capability satisfies the human-technology relationship of Modernity. It satisfies the drive for geographical escape that is standard of ideological tourism. Perhaps the capability of human controlled, inefficient, ineffective, costly, and dangerous travel is precisely what the Modern person needs to feel an escape from that iron-cage – the potential and exercise of irrationality.

Caveats

Before concluding, a few caveats are needed. The first is to acknowledge the lack of empirical support in this essay. That is why the conclusion has been referred to as merely a hypothesis. Furthermore, I must admit that the arguments taken from other authors are largely taken for their relevance to the topic at hand, and not their defensibility. For instance, I rely on a Weberian Modernity because it is one of the most fundamental (and flexible) theories. However, it is also one of the least empirical. For instance, rationalization of society is a relatively ambiguous characterization. It may be an intuitively approachable theme, but establishing empirical connections is difficult when possible. I cross Cresswell and Bauman because both put a large focus on the interplay between Modernity and mobility. Though I do argue for an original position in the metaphysics of mobility – namely, that tourism (as we know it) is incompatible with nomadism and demands sedentarism.

The ambiguity and lack of empirical support trickle down into this essay accordingly. While there is surely room to focus on empirical support throughout, part of this difficulty is because of the nature of the topic. The values of Modernity are not easily measured or attributed causal or correlative relation. This is why individual descriptions and characterizations of automobile use were heavily relied on in chapter 4.[75] Despite the lack of empirical support, a s portion of this essay (chapter 5) was dedicated to detailing what would be needed to accomplish more empirical grounding. The WVS offers an example to help direct research, but other methods could be used – like comparing individual's religious tendencies with favoured mode of transportation.

[75] When concerning individual characterizations of automobile use, it should be mentioned that there may be a host of other motives that could be considered instinctual that support automobile preference – for instance, even at a young age children seem to be enamoured with 4-wheeled objects. The idea was mentioned to me by Dr. Miller. Perhaps there is a deeply engrained disposition towards the physical characteristics of the car. This line of thought was not brought up in this essay.

There are also caveats in need of mention about the nature of the topic. The values of Modernity considered in this essay are likely to impact a multitude of behaviours – some of which could lead down a path to automobile preference.[76] Also, the entire field of Mobilities tends to rely on practice theory – which some have argued as completely incompatible with socio-psychological approaches.[77] This essay admittedly embraces a type of socio-psychology – and does not largely rely on practice theory. Thus, it could be argued that the Mobilities framework is not properly applied. Finally, I do not want to be uncharitable to either the car-critics or transportation planners. The car-critics do mention the role of non-utility values, like nostalgia or emotions. Transportation studies is increasingly taking into consideration latent socio-psychological factors.[78] Despite these caveats, I believe the argument remains compelling and reveals a unique path for increasing the understanding of automobile related behaviour.

The End

This essay is not, by any means, the first to argue for automobile use models that transcend utility calculations. In fact, this essay has made heavy use of Schwanen & Lucas (2016), who characterize this as a field of 'post-utility approaches' (p. 17). The argument of this essay could also be considered inspired by the transition from rational to behavioural economics.[79] In other words, this essay contributes to a field that searches for socio-psychological explanations of behaviour – what cannot be explained by a rational agent making a perfect utility calculus.[80]

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[76] In other words, maybe there is a correlation between automobile ownership and secular-rational score because the secular-rational value influences another domain of behaviour, which in turn influences one's circumstances that affect the utility of automobile use. Or, these values could impact other behavioural tendencies that may in fact compensate for the hypothesized influence of this essay – negating the measurability of any impact.

[77] "Ideas and approaches can conflict with each other. One such conflict exists between the socio-psychological approach to car use and MNP work informed by practice theory. The latter holds that bodily activity (car use) and mental activity (norms, beliefs, preferences) are so entangled that it calls into question the neat separation between the bodily and mental realm and the causal structures connecting them which are at the heart of the socio-psychological approach. Indeed, the differences in understanding car use between these strands of work are so profound that Elizabeth Shove (2010) considers them to be incommensurable in the sense that both belong to a different paradigm in the Kuhnian sense (Kuhn, 1996)" (Schwanen & Lucas, 2016, p. 28).

[78] "The criticism that RUT studies of car use tend to privilege such instrumental aspects as cost, speed, reliability, comfort, safety is certainly justified. However, a small but growing number of studies exist within the RUT tradition that actually account for symbolic, affective and social motivations for using a car. Two ways of accounting for such factors can be identified. The first consists in the extension of the observable, deterministic component of a choice alternative's utility through the inclusion of variables that measure emotions, attitudes and normative beliefs" (Schwanen & Lucas, 2016, p. 12).

[79] Perhaps not coincidentally, the hypothesis of this essay (that automobile use is in part a behavioural release of irrationality) relates well to the theme of Dan Ariely's popularized book (2009) on behavioural economics – 'Predictably Irrational: The Hidden Forces That Shape Our Decisions'.

[80] "This work in particular is also evidence of the increased influence of conceptual developments in psychology on mainstream transport studies" (Schwanen & Lucas, 2016, p. 17).

As well, this essay was inspired by the array of car-critics who strongly characterize automobile use as irrational. This is what sparked the more general question, if automobile use is so irrational, why is it still used well beyond its apparent utility? Little did I anticipate that there would be such strong indications that the answer was in the question. The automobile is favoured (in part) *because* it is irrational. Therefore, to the car-critic and their sympathizers (of which I am one): rather than baffle at the car owner's voluntary automobile dependence, one can begin to sympathize with the cultural and sociological conditions that produce automobile users. After reading the car-critic, the initial response need not be to paint the automobile user with a pejorative brush because of the negative impacts and non-utility motives (nostalgic, habitual, social).[81] Hopefully with this essay, one can begin to address the cultural conditions that inspire use – relating culture and its teleology to the impacts of inspired behaviour. In other words, if there is a problem, what is the cause – is it the automobile user, or is it the rationalization of society that creates the need for escape in the form of automobile use?[82] This essay takes seriously the critique of automobile use and tries to sympathize and understand the user – through one very narrow path of cultural understanding.

This essay has emphasized how starting from the cultural conditions of Modernity can provide theoretical grounds for performing further empirical research. Other means of transportation, especially public – like buses, trains and metros – frame the user as a unit of luggage in a rationalized system. This experience (being a unit of luggage) may be more instinctually acceptable to the person with higher rational values. It is possible that empirical research could further indicate a confirmation or denial of the hypothesised connection between values (of irrationality) and automobile use. Confirming the correlation would not only allow for increased accuracy of predictive automobile use modelling, but it would allow for the hypothetical consideration of the acceptance of emerging technologies. Where car-critics say that automobile use is irrational, car advocates may be unaware of an unconscious cultural dispositional response to say – 'yes, exactly'.

[81] I do not mean to imply that car-critical authors pejoratively paint its users, only that it is a possible response to the arguments against car use. The large emphasis on the negative impacts of widespread automobile use could be interpreted as an attempt to shame and guilt the automobile user.

[82] Of course, the answer seems to always be 'both'. I do recognize that this is a theme of the Critical Theorists – and this is done on purpose, as the theory of Modernity used in this essay is in part characterized by Adorno and Horkheimer.

APPENDIX

Chart A

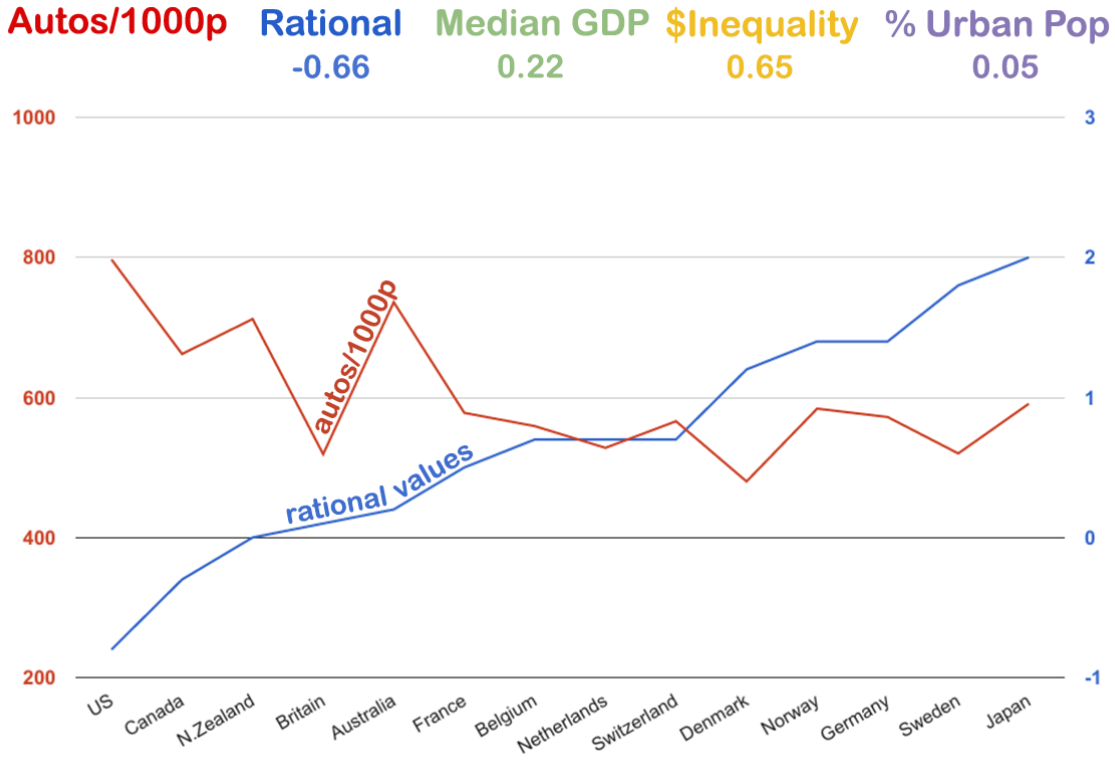


Chart B

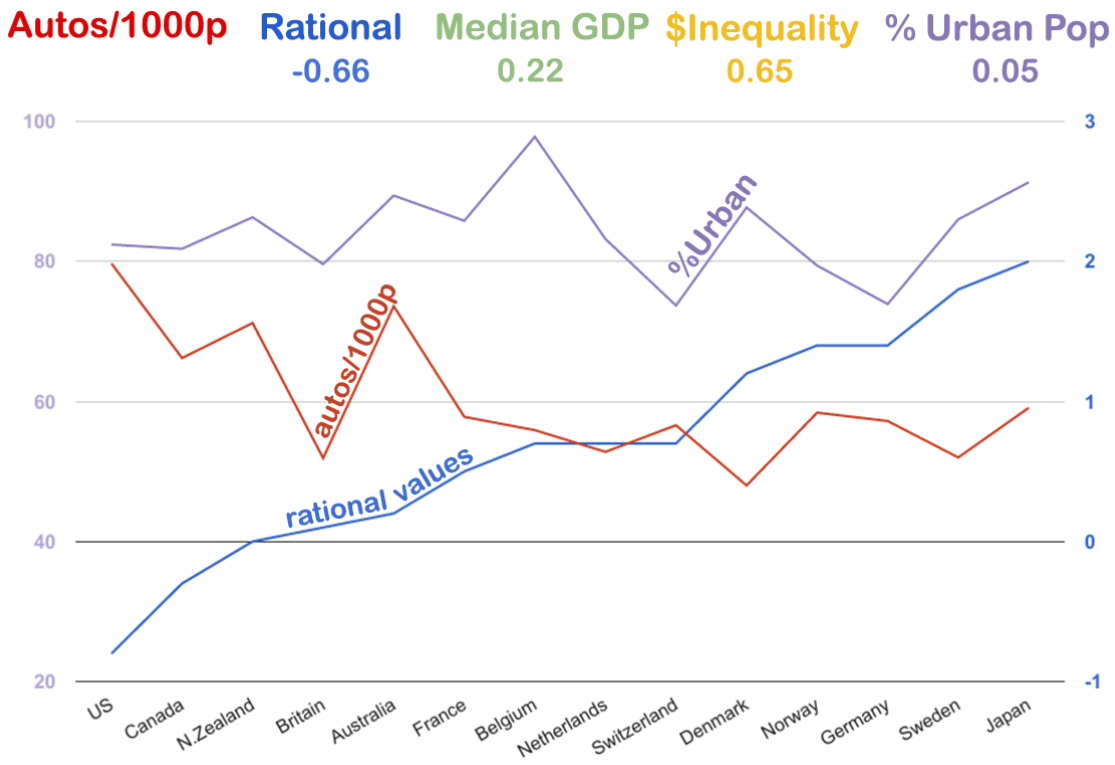


Chart C

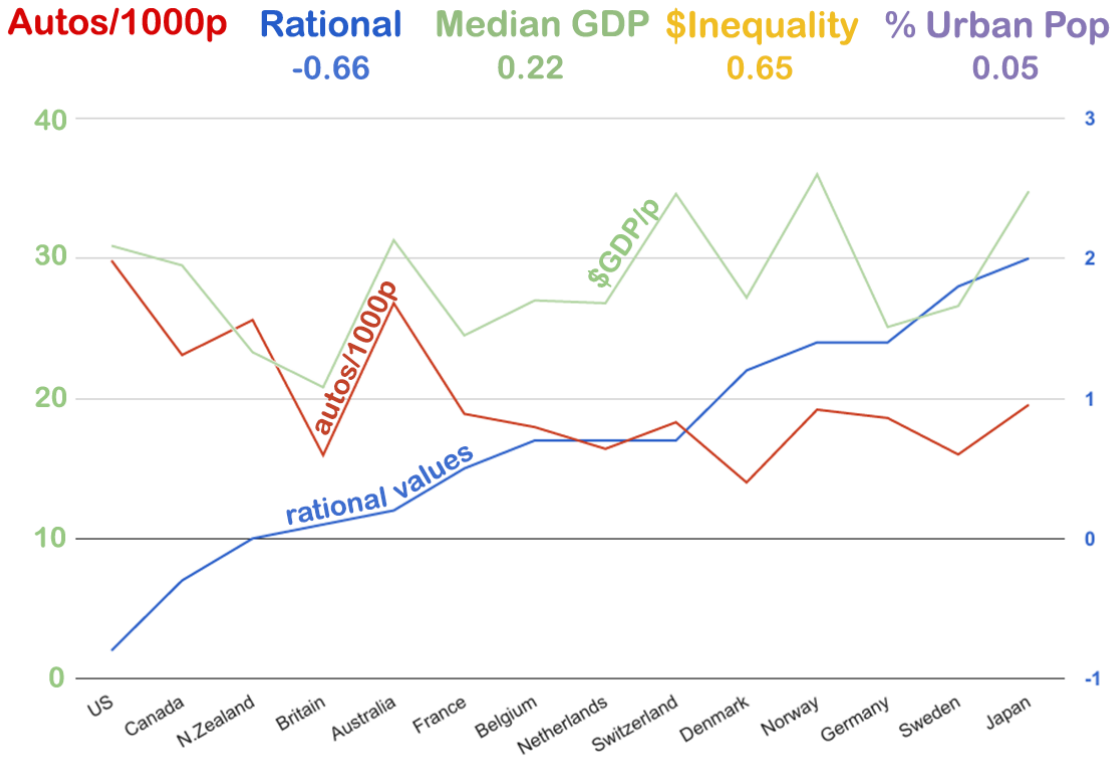
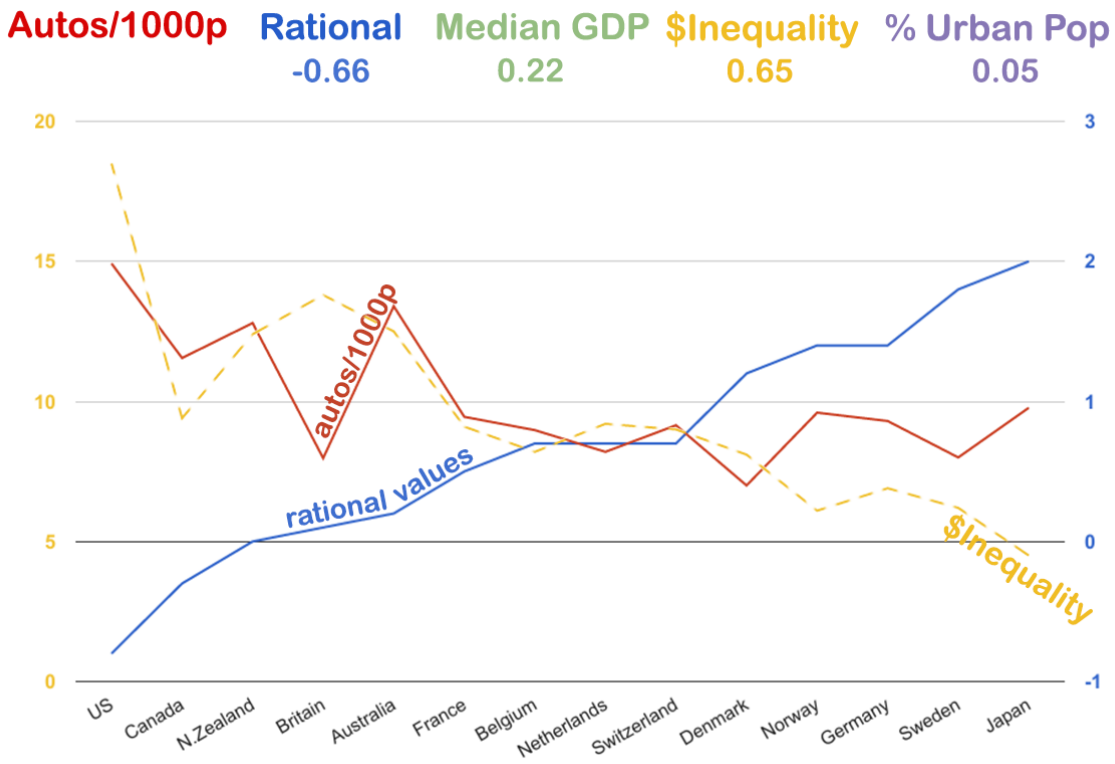


Chart D



BIBLIOGRAPHY

AAA NewsRoom. (2017). *Your Driving Costs | AAA NewsRoom*. [online] Available at: http://newsroom.aaa.com/auto/your-driving-costs/ [Accessed 20 Mar. 2017].

Adorno, T. (2005). Minima Moralia: Reflections on a Damaged Life (1st ed.). London. New York.: Verso.

Anwar, A. (2016). Presenting traveller preference heterogeneity in the context of agency theory: understanding and minimising the agency problem. *Urban, Planning And Transport Research*, 4(1), 26-45. http://dx.doi.org/10.1080/21650020.2016.1139465

Archer, D. (2017). *Copenhagen declares "The End of Tourism as We Know It" in 4-year destination strategy*. [online] Destination Think!. Available at: https://destinationthink.com/copenhagen-end-of-tourism-4-year-destination-strategy/ [Accessed 12 May 2017]

Ariely, D. (2009). *Predictably irrational.* New York: Harper.

Augé, M. (2006). *Non-places.* London: Verso.

Bassler, O. B. (2012). *The Pace of Modernity: Reading with Blumenberg*. re. Press.

Bauman, Z. (2000). *Liquid modernity.* Malden, MA: Polity Press.

Berlin, I. (1969). Two concepts of liberty. Berlin, I, 118-172.

Bierbaum, O. (1903). *Eine empfindsame Reise im Automobil. Von Berlin nach Sorrent und zurück an den Rhein ... Mit vierzig Abbildungen, etc* (1st ed.). Berlin.

Bourget, D., & Mendelovici, A. (2017). Phenomenal Intentionality (Stanford Encyclopedia of Philosophy). Plato.stanford.edu. Retrieved 6 July 2017, from https://plato.stanford.edu/entries/phenomenal-intentionality/

Brey, P. (2003). 'Theorizing Technology and Modernity,' Modernity and Technology. Eds. Thomas Misa, Philip Brey and Andrew Feenberg. MIT Press, 33-71.

Carter, I. (2017). Positive and Negative Liberty. Plato.stanford.edu. Retrieved 6 July 2017, from https://plato.stanford.edu/entries/liberty-positive-negative/

Clark, S. (2009). The determinants of car ownership in England and Wales from anonymous 2001 census data. *Transportation Research Part C: Emerging Technologies*, 17(5), 526-540. http://dx.doi.org/10.1016/j.trc.2009.04.004

Conley, J., & McLaren, A. (2009). Car Troubles: Critical Studies of Automobility and Auto-mobility. Ashgate Publishing, Ltd.

Cresswell, T. (2006). On the move: Mobility in the modern western world. 1st ed. New York, NY: Taylor & Francis.

Csikszentmihalyi, M. (1997). Finding flow: The psychology of engagement with everyday life. New York: BasicBooks.

Dant, T. (2001). *Contradictions of the Car*. Presentation, Lancaster University, Mobilities Group, Department of Sociology.

Dargay, J., Gately, D., & Sommer, M. (2007). Vehicle Ownership and Income Growth, Worldwide: 1960-2030. *The Energy Journal*, 28(4). http://dx.doi.org/10.5547/issn0195-6574-ej-vol28-no4-7

Dennis, K., & Urry, J. (2013). *After the Car* (1st ed.). New York, NY: John Wiley & Sons.

Diekstra, R., & Kroon, M. (2003). Cars and behaviour: psychological barriers to car restraint and sustainable urban transport. In R. Tolley, *Sustainable Transport - Planning for Walking and Cycling in Urban Environments* (1st ed.). Woodhead Publishing. Retrieved from http://978-1-85-573861-4

Eisenstein, P. (2013). Americans drive less even as economy rebounds. NBC News. Retrieved 16 June 2017, from http://www.nbcnews.com/business/americans-drive-less-even-economy-rebounds-8C11037698

Endres, M., Manderscheid, K. and Mincke, C. (2016). The mobilities paradigm. 1st ed. New York NY: Routledge.

European Commission (2016). Shifting paradigms: Exploring the dynamics of individual preferences, behaviours and lifestyles influencing travel and mobility choices. Ec.europa.eu. Retrieved 16 June 2017, from https://ec.europa.eu/research/participants/portal/desktop/en/opportunities/h2020/topics/mg-8-5-2017.html

Gane, N. (2004). *Max Weber and postmodern theory*. 1st ed. New York: Palgrave Macmillan.

Gartman, D. (2004). Three Ages of the Automobile. *Theory, Culture & Society*, *21*(4-5), 169-195. http://dx.doi.org/10.1177/0263276404046066

Gerth, H., & Mills, W. (1975). *From Max Weber* (p. 55). New York: Oxford University Press.

Giddens, A. (2013). *The consequences of modernity*. John Wiley & Sons.

Hagman, O. (2003). Mobilizing meanings of mobility: car users' constructions of the goods and bads of car use. *Transportation Research Part D: Transport And Environment*, *8*(1), 1-9. http://dx.doi.org/10.1016/s1361-9209(02)00014-7

Halkier, B., & Jensen, I. (2011). Methodological challenges in using practice theory in consumption research. Examples from a study on handling nutritional contestations of food consumption. Journal Of Consumer Culture, 11(1), 101-123. http://dx.doi.org/10.1177/1469540510391365

Hamilton, K. (2016). If Public Transport is the Answer, What is the Question?. Delivering Sustainable Transport, [online] pp.49-59. Available at: http://www.emeraldinsight.com/doi/full/10.1108/9780585473956-003 [Accessed 24 Apr. 2017].

Heidegger, M. (1954). The question concerning technology. *Technology and values: Essential readings*, 99-113.

Heath, J. (2017). *Methodological Individualism*. [online] Plato.stanford.edu. Available at: https://plato.stanford.edu/entries/methodological-individualism/ [Accessed 14 Apr. 2017].

Higham, J., Cohen, S., Peeters, P., & Gössling, S. (2013). Psychological and behavioural approaches to understanding and governing sustainable mobility. Journal Of Sustainable Tourism, 21(7), 949-967. http://dx.doi.org/10.1080/09669582.2013.828733

Horkheimer, M., Adorno, T. W., & Noeri, G. (2002). *Dialectic of enlightenment*. Stanford University Press.

Inkeles, A. (2010). *Exploring Individual Modernity*. 1st ed. New York: Columbia University Press.

Jetin, B. (2015). *Global automobile demand* (1st ed.). Basingstoke: Palgrave Macmillan.

Kay, J. (2013). *Asphalt nation* (1st ed.). New York: Crown.

Kelly, J. (2011). *Wake-up call: Why are we slaves to our alarm clocks? - BBC News*. [online] BBC News. Available at: http://www.bbc.com/news/magazine-12122529 [Accessed 17 Mar. 2017]

Kim, Sung Ho, (2012). "Max Weber", *The Stanford Encyclopedia of Philosophy* (Fall 2012 Edition), Edward N. Zalta (ed.), URL = <https://plato.stanford.edu/archives/fall2012/entries/weber/>.

Kolb, D. (1988). The critique of pure modernity: Hegel, Heidegger, and after. University of Chicago Press. p. 11.

Kravets Olga and Sutton-Brady Catherine (2006) ,"When Cars Are More Than Cars", in AP - Asia-Pacific Advances in Consumer Research Volume 7, eds. Margaret Craig Lees, Teresa Davis, and Gary Gregory, Sydney, Australia : Association for Consumer Research, Pages: 212-214.

Laakso, S. (2017). Giving up cars – The impact of a mobility experiment on carbon emissions and everyday routines. Journal of Cleaner Production.

Ladd, B. (2011). *Autophobia* (1st ed.). Chicago, Ill.: University of Chicago Press.

Larraín, Jorge. (2000). "Identity and Modernity in Latin America". Cambridge, UK: Polity; Malden, MA: Blackwell. ISBN 0-7456-2623-8 (cloth); ISBN 0-7456-2624-6 (pbk)

Lemonnier, P. (2013). Auto-anthropology, Modernity and Automobiles. In: P. Graves-Brown, R. Harrison and A. Paccini, ed., *The Oxford Handbook of the Archaeology of Contemporary World*, 1st ed. Oxford: Oxford University Press, pp.741-755.

Lew, A., Hall, C. and Williams, A. (2004*). A companion to tourism*. 1st ed. Malden, Mass.: Blackwell Pub.

Lewis, T. (2013). *Divided highways* (1st ed.). Ithaca: Cornell University Press.

Lutz, C. and Fernandez, A. (2010). *Carjacked: The Culture of the Automobile and Its Effects on Our Lives*. 1st ed. Palgrave Macmillan.

Lucas, K., Blumenberg, E., & Weinberger, R. (2011). *Auto motives* (1st ed.). London [u.a.]: Emerald Group Publ.

McCullough, M. (2017). *Car use declining in North America - Canadian Business - Your Source For Business News. Canadian Business - Your Source For Business News.* Retrieved 14 June 2017, from http://www.canadianbusiness.com/business-news/industries/consumer-goods/car-use-declining-in-north-america/

McFadden, D. (2000). Disaggregate behavioral travel demand's RUM side. Travel Behaviour Research, 17-63.

McLaren, A., & Conley, J. (2009). *Car troubles: Critical studies of automobility and auto-mobility*. Farnham, England: Ashgate Publishing.

Meštrović, S. G. (1998). *Anthony Giddens: the last modernist*. Taylor & Francis.

Mali, J., Wokler, R., Lilla, M., Hausheer, R., Robertson, J., McMahon, D. M., ... & Confino, M. (2003). Isaiah Berlin's counter-enlightenment. Transactions of the American Philosophical Society, 93(5), i-196.

Misa, T., Brey, P. and Feenberg, A. (2003). *Modernity and technology*. 1st ed. Cambridge, Mass.: MIT Press.

Newman, P., & Kenworthy, J. (2011). 'Peak Car Use': Understanding the Demise of Automobile Dependence. World Transport Policy And Practice, 17(1), 31-42. http://dx.doi.org/ISSN 1352-7614

Redshaw, S. (2008). *In the Company of Cars* (1st ed.). Farnham: Ashgate Pub.

Renn, A. (2017). Have we really reached 'peak car'?. the Guardian. Retrieved 16 June 2017, from https://www.theguardian.com/cities/2015/apr/30/have-we-really-reached-peak-car

Rifkin, J. (2000). *The age of access.* New York: J.P. Tarcher/Putnam.

Rosen, P. (1993). The Social Construction of Mountain Bikes: Technology and Postmodernity in the Cycle Industry. *Social Studies of Science*, 23(3), pp.479-513.

Rosenthal, E. (2017). *Opinion | The End of Car Culture. Nytimes.com.* Retrieved 14 June 2017, from http://www.nytimes.com/2013/06/30/sunday-review/the-end-of-car-culture.html

Roth, G., & Schluchter, W. (1979). Max Weber's Vision of History (pp. 14-15). Univ. California P.

Sachs, W. (1992). *For love of the automobile* (1st ed.). Berkeley: University of California Press.

Sanghi, A. (1976). The relationship between population density, automobile ownership and automobile use: Its role in transportation planning. *The Annals Of Regional Science*, 10(1), 118-127. http://dx.doi.org/10.1007/bf01291240

Schwanen, T. and Lucas, K. (2011). Understanding Auto Motives. In: K. Lucas, E. Blumenberg and R. Weinberger, ed., Auto Motives: Understanding Car Use Behaviours, 1st ed. [online] pp.3-38. Available at: http://dx.doi.org/10.1108/9780857242341-001 [Accessed 21 Apr. 2017].

Schneider, K. (1971). *Autokind vs. mankind* (1st ed.). New York: Norton.

Sheller, M. (2004). Automotive Emotions. *Theory, Culture & Society*, *21*(4-5), 221-242. http://dx.doi.org/10.1177/0263276404046068

Sheller, M., & Urry, J. (2006). The new mobilities paradigm. Environment and planning A, 38(2), 207-226.

Shoup, D. (2011). *The high cost of free parking* (1st ed.). Chicago: Planners Press, American Planning Association.

Singer, A. (2013). *Why We Drive: The Past, Present, and Future of Automobiles in America* (1st ed.). Microcosm Publishing.

Smith, D. and Inkeles, A. (1966). The OM Scale: A Comparative Socio-Psychological Measure of Individual Modernity. *Sociometry*, 29(4), p.353.

Urry, J. (2004). The 'System' of Automobility. *Theory, Culture & Society*, 21(4-5), pp.25-39.

Urry, J. (2012). Sociology beyond societies: Mobilities for the twenty-first century. Routledge.

Volti, R. (2006). *Cars & culture* (1st ed.). Baltimore: Johns Hopkins Univerity Press.

Weber, M. (1946). Science as a Vocation. In *Science and the Quest for Reality* (pp. 382-394). Palgrave Macmillan UK.

Wells, C., & Cronon, W. (2013). *Car country* (1st ed.). University of Washington Pres.

Welzel, C; Inglehart, Ronald (2010), "Values, Agency, and Well-Being: A Human Development Model", Social Indicators Research, 97 (1), doi:10.1007/s11205-009-9557-z.

Welzel, C., Inglehart, R. and Kligemann, H.-D. (2003), The theory of human development: A cross-cultural analysis. European Journal of Political Research, 42: 341–379. doi:10.1111/1475-6765.00086

Welzel, C (March 2010), "How Selfish Are Self-Expression Values: A Civicness Test", Journal of Cross Cultural Psychology, 41.

World Value Survey (2015). Findings and Insights. Worldvaluessurvey.org. Retrieved 16 June 2017, from http://www.worldvaluessurvey.org/WVSContents.jsp