

# A Transformative Practice? Meaning, Competence, and Material Aspects of Driving Electric Cars in Norway

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This is the final, uncorrected version of the paper “A Transformative Practice? Meaning, Competence, and Material Aspects of Driving Electric Cars in Norway”. The final, corrected version: <http://www.berghahnjournals.com/view/journals/nature-and-culture/9/2/nc090203.xml>

Please, cite as:

Ryghaug, M. and Toftaker, M. (2014): A Transformative Practice? Meaning, Competence, and Material Aspects of Driving Electric Cars in Norway, *Nature and Culture* 9 (2), 146-163.  
DOI: <http://dx.doi.org/10.3167/nc.2014.090203>

## Abstract

This article focuses on the introduction of electric vehicles in Norway and how electrical cars are understood culturally in relation to conventional car use. Theoretically, elements of social practice theory and the analysis of processes of domestication are combined to frame practical, cognitive, and symbolic dimensions of electric car use. The empirical data consists of individual and focus group interviews with electric car users. The analysis unpacks the implications of user-designated *meaning* in driving practices, *competencies* considered necessary when driving electric cars, and the *material aspects* regarded as critical features of electric car driving. Preliminary findings suggest that the practice of electric car driving alters user habits by making transportation needs more salient and raises both the technological and energy consumption awareness of users.

## **Keywords**

domestication theory, electric vehicles, energy culture, mobility, pro-environmental behavior, social practice theory, science and technology studies

This article focuses on the introduction of electric vehicles in Norway and how these modes of transportation are understood culturally in relation to conventional car use. In the early 1900s, automotive engineering stabilized around fossil fuel powered engines, while electric automotive engines became marginalized and seemed like a failed technology (Hård and Jamison 1997). Subsequently, alternative vehicle concepts have had a very difficult time catching on, even though engineers repeatedly have pointed out that the design quality of electric propulsion systems is both high and feasible (Hård and Knie 2000).

Yet in the twenty-first century, the electric car is becoming a viable alternative to the fossil fuel powered car. Norway is one of the world's leading electric car societies where the transition to electric road transport is most advanced, with many more electric cars than any other European country. In 2010, Norway had 151 electric vehicles per 100,000 conventional vehicles, in contrast to Austria and the Netherlands, which both had ratios of 5 electric vehicles per 100,000 conventional vehicles, and Finland with a ratio of 1: 100,000 (Dirks et al. 2011). Even though recent numbers summarizing sales demonstrate a boost in electric car sales in Western Europe, the relative share of electric cars sold is still low (0.2 percent) compared to Norway (2.86 percent) (NEU 2013).

Frequently, electric vehicle transport deployment begins with national action plans that involve "learning by doing," demonstration pilot projects and the introduction of the electric vehicle as a work car (Dirks et al. 2011). This is linked to the need for infrastructure adjustments, in addition to financial incentives, since electrical cars are relatively expensive.

A common challenge is the lack of consistent and stable institutionalized rules and national policies.

Conversely, Norway has several institutionalized rules in place for increased uptake of electric vehicles in the transport sector (Climate Cure 2020 2012). The rapid expansion of electric cars in Norway to date has most likely been prompted by strong financial and regulatory incentives such as free access to public parking, toll roads, ferries, and charging stations, in addition to reduced taxes and the opportunity to utilize bus lanes. The import of conventional cars is heavily controlled through strict import regimes and purchase taxes, with the result that conventional vehicles can be twice as expensive in Norway than in other European countries. Although the electric car is expensive for its size and comfort class, it is a viable alternative in many Norwegian households. In the Ministry of Transport and Communications' National Transport Plan (NMTC 2013), the Norwegian government states that the existing incentives to promote the electrification of the transport sector will continue until 2017 or until the number of electric vehicles equals 50,000.

Although institutionalization and infrastructures can assist in the increased use of electric cars, we assert the need for a less "technocentric" and more user-friendly approach to studying sustainable energy transitions. In order to be successful, alternative technologies like the electric vehicle need to generate sufficiently strong support beyond the institutional level, for instance by providing users with alternative values and expectations without challenging accepted standards of socio-technical behavior (Hård and Jamison 1997). As a result, scholars have argued for the need to include the public when researching processes of technological innovation, policy development, and policy implementation (Shove and Walker 2007). Therefore, this article looks at the practical, cognitive, and symbolic dimensions of electric car use inspired by social practice theory (Schatzki 1996) and the analysis of processes of domestication (Sørensen 2006).

Currently, there are a few studies focused on how technologies become incorporated into household practices and routines (Hargreaves 2012). This is particularly true for studies of electric cars, even though work conducted more than ten years ago advocated focusing on the *actual use* of alternative vehicles in order to establish the electric vehicle as a viable alternative to the internal combustion car (Gjøen and Hård 2002). This article is positioned to address this gap by engaging with alternative vehicles practices through individual and focus group interviews with electric vehicle users in Norway. In particular, we explore how electrical car use is understood culturally in relation to conventional car use, as well as how users negotiate and interpret electrical car technology in the context of everyday life.

### **On Car Culture: What Is Already Known about the Practice of Driving?**

Current scholarship describes “driving” as a mundane, everyday practice that has sunk into our technological unconsciousness, becoming automatic and trivial (Hagman 2010; Merriman 2007). Drivers embody and are embodied by the car, so that the driver and the car generate a type of “person-thing” (Dant 2004; Katz 2000; Thrift 2004) and can be seen as a hybrid acting according to one or several scripts (Akrich 1992; Latour 1992; Michael 2000). Sheller (2004) highlights that the emotional investments people have in the relationships between car, the self, family and friends create affective contexts that are deeply materialized in particular types of vehicles. The joy of driving, part of this emotional investment, is a major affective motive for car use (Steg 2005). *Driving pleasure*, defined in advertising and motor journalism by engine power, speed, and drivability, has been a key concept in Swedish car culture and is one of the most commonly used arguments in car advertising (Hagman 2010). However as pointed out by Sheller (2004), car consumption is always a mixture of rational choices, aesthetics, emotions, sensory responses and social responsibilities. In addition, it can be difficult to separate the value of the driving itself from the characteristics and values of

other activities in connection to driving (Handy et al. 2004) such as the aim of the journey. This perspective also supports Hagman's (2010) work, which demonstrates that user-defined driving pleasure is not linked to driving a particular car but rather to various external and situational aspects such as road quality and traffic intensity. Based on these insights from the literature, in this article we explore whether electric vehicles, which are potentially provided with scripts differing from conventional cars, may constitute a different "person-thing" or a new type of hybrid.

### **The Practice of Domesticating Technology**

In this article, elements from theories of practice and domestication are combined in order to study the understanding and use of electric vehicles. These perspectives are useful for the study of social change when looking at the way practices are transformed (Halkier et al. 2011), while recognizing the agency of material objects and infrastructures as core elements (Røpke 2009). Practice theory argues that the introduction of novel objects, such as electric vehicles, may transform existing practices, which are constituted by *materials*, *meanings*, and *competence* (Shove and Pantzar 2005). By describing how practice is transformed through the introduction of new objects, there are opportunities to better understand how values and meanings change and how new communities of practice (Lave and Wenger 1991) are shaped—that is, how changing practices evolve into new habits that in turn produce new meanings and so forth.

Domestication theory underlines many of the same aspects of use and the uptake of new technologies as practice theory does—their symbolic aspects, the practice, the cognitive aspects related to artifacts in everyday life (Berker 2011)—but it has a tighter focus on users, whereas practice theories more strongly include institutional rules (Schatzki 1996; Warde 2005). The theory recognizes the fact that technologies—like electric vehicles—are not fixed,

stable, or immutable entities, but rather acquire specific meanings and forms of use as they are adapted to household situations, and as they, in turn, influence pre-existing household dynamics (Hargreaves 2012). Similar to practice theory, the later developments of the domestication model stress how technology is appropriated in both reciprocal and simultaneous negotiations. It offers insight into changes that take place with respect to human beliefs and actions, as well as with respect to technology and the material environment (Aune 2007; Ryghaug et al. 2011). Technologies must align with pre-existing routines, practice, identities, and values if they are to be accepted.

Following practice and domestication theory, our research questions are formulated as follows: How is the knowledge of driving electric vehicles enacted in everyday life? What competence is involved and what cultural meanings are ascribed to it? How do the practices of electric car driving develop and circulate, and by which means do they reach and capture new recruits? This means that we are interested in how the practice of electric car driving is shared and transmitted from one carrier to the next. Although relevant links to institutional context are provided in this article, we empirically focus on users and their practices. This is related to what often is described as “careers” within practice theory (Shove et al. 2012). A career often starts when outsiders become novices who are drawn into and simultaneously defined by the practices in which they engage, or by which they are caught. As people become committed to their practices, their status often changes and they become what Lave and Wenger (1991) refer to as “full practitioners” in their community of practice. However, the sequence and stages vary from one practice to another and are carried out by individuals with different degrees of experience and commitment (Shove et al. 2012). In this article, we describe some typical “career” features of electric car drivers.

## **Method**

We conducted qualitative focus-group interviews and individual interviews. The interviewees were recruited by a combination of methods in order to get a variation of different users with different experiences; some were recruited through the electric car vehicle society meetings and websites, some were randomly contacted while parked on the street, and some were sampled through “snowballing techniques” (Atkinson and Flint 2004). We conducted five focus-group interviews, four at a university campus not far from the city center, and one at a workplace. Both settings provided comfortable environments, where respondents appeared to speak freely. However, many of the groups were fairly homogeneous in terms of opinions. When differences occurred, they did not seem to have any perceptible impact on the level of discussion activity. To supplement the group interview data, we also interviewed twelve people with electric car experience. Nine of these interviews were conducted by telephone, and three were realized at the respondent’s workplace. The alternate interviewing techniques did not yield significantly different responses, and the total sample is therefore treated as one.

<<INSERT TABLE 1 HERE>>

Table 1. Overview of background variables of all interviewees

In total, twenty-nine people between the ages of twenty and seventy were interviewed. Although the sample size does not allow for statistical generalization, the sample does represent a range of age, gender, geography, and considerable variation in social background variables such as education and employment. It was also important to reflect variation in the sample in terms of driving histories and experiences of the respondents, as well as the types of car models driven. Administered by the authors, the interview guide protocol was flexible enough to allow respondents to discuss other topics that they felt were important. However, interviewers checked that the topics in the interview guide were covered throughout the

discussions and facilitated the participation of each interviewee. Usually, the groups debated eagerly and freely in a way that spontaneously led them to cover many of the questions in the interview guide.

The majority of the interviews were conducted between July and November 2010, with the last in March 2012. The recorded interviews lasted between one to one and a half hours and were subsequently transcribed. We have translated the quotations used from Norwegian in a manner that retains their intent and tone. The strategy of analysis was inspired by grounded theory (Strauss and Corbin 1998). We began by examining the transcribed interviews for salient categories, which were given a label or a code. We then grouped these codes to find related subcategories that might be linked to more comprehensive categories. In this process, quotations were selected to represent the various categories and positions as accurately as possible. Finally, we tried to integrate categories by making use of the generic properties of domestication theory and practice theory as a basis for narrative making.

### **Meaning, Competence, and Material Aspects of Driving Electric Cars**

Norway has outlined a set of institutionalized rules (Schatzki 1996) in order to promote electrification of the private transport sector, which suggests that buying and driving an electric car could be motivated by other concerns than the environment. In line with this, most of the electric vehicle users we interviewed said that saving time and money were their primary reasons to purchase electric vehicles, while very few stated climate change or the environment. A male driver in his thirties stated, “For me, the thing with the environment is only a bonus. It is not essential.” Later, in the same focus group another young man added, “Environmental considerations weren’t important to me either, but you drive [an electric car] with a clean conscience.”



A general interest in technology was another factor mentioned in the interviews. This seemed to be particularly true for the early adopters of electric cars who had owned more than one electric car as a result of their interest in vehicular technology. The early versions of electric cars were regarded as interesting challenges, as they offered plenty of possibilities for owner modification, as opposed to newer car models. For those owning newer types of electric vehicles, the argument was almost the opposite. It was the simplicity and the fact that the car was considered to be relatively maintenance free that had attracted the buyers.

Recruitment factored into social acceptance. We noted that most interviewees acted as very enthusiastic advocates for the electric vehicle. Many also told stories that led us to believe that they regularly behaved as promoters of electric vehicles both at their work place and among friends. In this way, the interviews gave the impression of electric car driving as taking place in articulated communities of practice (Lave and Wenger 1991). A man in his thirties said, "It's like belonging to a 'clan' when you buy yourself an electric car." Some of the interviewees already had long careers as drivers of electrical vehicles and acted as full practitioners, while others were novices. Interviewees also demonstrated a strong willingness to share experiences with other electric car drivers and possible new recruits. This suggested that the drivers constituted an informal group where many acted as dedicated spokespersons for the benefits of this particular way of mobility. Simultaneously, we observed something of a paradox in the way they spoke about recruitment, since some drivers wanted to keep the benefits of driving electric vehicles to themselves.

Nevertheless, a shared feature of the electric car drivers in our study was that most seemed to have based their decision to buy an electric vehicle on advice from people they knew and trusted. However, they usually added that they did not buy one before they actually had tried driving an electric vehicle themselves. For example, a woman in her thirties reported, "I had wanted to buy an electric car for a long while, and then my lawyer had one

and offered to let me test hers. It was really a lot of fun, so then it didn't take long before I went ahead and got one for myself.” The experience of driving an electric car seemed to have fostered a strong positive feeling toward electric mobility.

Throughout the interviews, we found numerous similar accounts of how interviewees became interested in electric vehicle technology through often random experiences with driving an electric car, which subsequently fueled desires to own one. For example in the following quotation, a man in his thirties explains why he purchased a specific electric vehicle brand called Buddy (see <http://www.buddyelectric.com>):

Through my job I was in a meeting with the distributors of Buddy. It [the electric vehicle] caught my interest and I tried a couple of them. My sister has a different type [of electric vehicle]. I think it was a combination of being in dialogue with the people who sell it at an early stage, getting to try it and being charmed by the way it looks.

Thus, hands-on experience also seems to be a crucial step in becoming an owner of an electric car.

Subsequently, it is not surprising that when interviewees were asked about *the meaning of electric car driving practice*, many responded that driving an electric car gave them “a good feeling.” This phrasing did not necessarily reference the kind of physical pleasures discussed by Hagman (2010) such as experiencing the silence of the engine or speed, but rather was coupled with emotions that driving the car spurred. One of the women in her late fifties said about her experience of driving her electric vehicle: “It has been a satisfaction from the start, even when someone flies past me. It’s a subjective emotion that I cannot really explain.” The positive sentiments that driving electric vehicles evoked were also related to receiving positive feedback from other people for driving an electric vehicle. Drivers reported being met with enthusiasm and curiosity, especially from young people. Interviewees suggested that this probably had to do with a general technological curiosity and

that younger people were more environmentally conscious. There was a widespread consensus that they were contributing to curbing emissions and this seemed to have made many of them adopt an identity of being a bit more “future oriented.”

The perception of these qualities also spurred the use of the car as an advertisement in a professional context to emphasize efforts to run business in a sustainable way. The owner of a coffee shop, who used her small electric vehicle to advertise her business, reported that, “people turn around, laugh, and salute me, smile and such when I drive the car.” This kind of experience was referred to more frequently among early electric vehicle owners, as the older and smaller types of electric vehicles were often regarded as a novelty on the road. Positive reactions from the public were to a smaller extent mentioned among the interviewees driving newer models of electric cars which are more conventional in appearance.

The electric car drivers in our study reported quite enthusiastic positive feelings toward their cars. Some had developed identities that they saw linked to being an electric car driver, as highlighted in the following statement by a man in his forties: “I think electric car owners are more conscious than the average car owner ... Yeah, a bit more far-sighted, and to a large extent they dare to make choices. They’re not afraid to stand out.” A grandmother in her fifties referred to her electric vehicle as her dream car, even though she would have liked it to seat five and not only four people. She explained her choice as: “I am not a luxury animal, so I do not demand a sunroof or the spotlight.”

In the literature on conventional cars, the individual mobility provided by the automobile has been read as synonymous with freedom (Gartman 2004). In addition to providing freedom of mobility for their users even if they have limited range, electric cars allow the driver greater freedom from the sense of being a polluter that may plague some owners of conventional cars.

With regard to *the competence needed to drive an electric car*, the respondents reported no particular needs. On the contrary, such cars were perceived as being particularly easy to drive, as well as simple, reliable, and maintenance-free. Yet the interviews showed evidence that social learning (Sørensen and Williams 2002) is taking place after acquiring an electric car as the users claim to have changed the way they drove their car after their first period of “getting to know it.” This change had two different features. First, many of the respondents described a transformation of their driving style because of the battery limitations on driving range. For instance, many claimed to have acquired a better, internalized understanding of the car’s maximum driving range as they became more experienced. Their trust in the car increased, which eventually made them less afraid of running out of power and made them extend their driving range. Many also reported how they learned to handle other features of the car, such as knowing when to turn on or off the heater in the car in order to extend the durability of the batteries. One respondent also reported that he was rougher with the car in the beginning before getting more tuned in to the technical specifics of the car. The outright learning-by-doing aspects of electric vehicle driving seemed more prominent among those driving older or earlier models of vehicles. Without doubt, the cars definitely went through domestication processes where the cars increasingly were “tamed” as the users became more experienced.

Second, the practice of electric car driving seemed to foster an altered driving pattern, which particularly manifested itself in a more careful and less aggressive style of driving. This effect was noted by Gjøen and Hård (2002) and is evidence that domestication processes act in multiple avenues. The car becomes tamed, but the artifacts also help domesticate the user. In this manner, it seems that electric car drivers became somewhat more technologically aware than people driving conventional cars. Driving an unconventional car seemed to pull people out of “technological unconsciousness” as driving did not feel as trivial and automatic

to the interviewees as earlier studies of conventional car drivers have reported (Hagman 2010; Merriman 2007). This suggests a paradox with respect to competence. On the one hand, the interviewees reported that they did not need any training before driving. On the other hand, they explained how their knowledge of electric car driving increased over time as well as their sensitivity toward the practice of driving. This suggests that the material particularities of electric cars also play a role in this relationship.

The material aspects of electric car driving have received a significant amount of attention in the media but are often referred to as barriers to increased use of electric vehicles. The most frequently mentioned material aspects include the size, the usually lightweight material components of the car body, the electric engine powered by loadable batteries, and the driving range, which is the result of these qualities. These features were all discussed in the focus groups. However, surprisingly, the driving range of the car was seldom considered to be a significant problem by experienced drivers of electric vehicles. Owned by our interviewees, the electric cars were mostly used for driving within the city limits or commuting back and forth to the city center. Within the household, the electric vehicle was generally regarded as an excellent “number two car,” whereas the conventionally powered car was used for longer trips. However, many of those who reported buying the electric vehicle as a number two car stated that it quickly became the most used car in the household. The conventional car was used mainly for weekend trips and holidays.

More surprising was the fact that infrastructure, in the form of charging facilities, was considered adequate to most of the interviewees. Many of the drivers reported that they seldom needed to charge their car in places other than at work during the day or in their own garage at home during the night. The small size of the car was highlighted as an advantage because it made the vehicle easy to park and to maneuver in city environments. The combination of its small size, electric engine, and fast acceleration were also emphasized as

features that made the car comfortable to drive. It was also seen as fun and with good road handling ability, thus clearly stressing the point made by Hagman (2010) that the pleasure of driving is not related with standard parameters such as speed or engine size. The pleasure of driving seems linked to a combination of contextual factors, ranging from easy handling to the feelings the car evoked, personally and among others. Many also pointed to the body of the car being made of plastic as a benefit, as it made them less worried about denting it. For example, a male respondent in his thirties observed, “It is the perfect car. You don’t need to concern yourself about it. It is made of plastic, and it is super-solid.”

However, the small scale and the materials of the car were also perceived as having some negative effects related to safety. Electric car drivers typically regarded their vehicle as less crash resistant than a conventional car. One of the interesting consequences of this perception was that people claimed to have developed a more careful style of driving, as mentioned previously. Interviewees also reported that this behavior spilled over to when they drove conventional, fossil fuel cars and that they believed they had become better drivers in general as a result of driving electric cars.

The somewhat larger, newer types of electric vehicles were viewed as resembling conventional cars. Consequently, size, driving range, and charging infrastructure were considered more problematic with newer vehicles than the older, smaller versions. Thus, the newer full-size passenger electric cars seemed to be perceived and used more like conventional cars. As a result, these new models had higher expectations tied to their performance, while the older, smaller electric cars were regarded as short distance urban vehicles that performed perfectly for this purpose.

Scholarly literature on cars describes driving as a mundane everyday practice that has sunk into our technological unconsciousness and become automatic and trivial (Hagman 2010; Merriman 2007; Thrift 2004). Overall, the new and somewhat different qualities and

user scripts (Akrich 1992; Latour 1992) of electric vehicles that diverge from conventional cars actually appear to encourage drivers to be more technologically sensitive. Electric car driving raised driver awareness with respect to mobility due to the limits of the cars' material agency (i.e., limited driving range, which in turn requires better trip planning), but also because of the positive emotional response that the cars generated.

### **Electric Car Driving and Circuits of Practice**

Our study indicated that the electric vehicle driving practice may have spillover effects to other social practices, such as energy consumption within the household in general. To give an example, many of the interviewees reported that the practice of driving an electric vehicle made them more environmentally aware and more conscious about their energy usage in general, as the scarcity of energy resources became more visible to them when driving an electric vehicle. This excerpt from one of the focus group interviews illustrates this point:

D: I want to make a comment related to environmental issues. My main motivation [for buying an electric vehicle] was partly technical and partly economy, to an equal degree. But, after becoming an electric car driver, I have begun to change, to think differently in relation to what energy is and how we use energy, not only in our homes, but all over the globe, and how we manage available energy, which is also an environmental issue. And this line of thinking has accelerated and grown so that I have become more occupied with and attentive towards which obvious processes lead to increased energy consumption all over the world.

A: I totally agree.

D: So that, by being an electric car driver I think you get a more vigilant relationship about what energy is and what I consume by the way I act.

A: Because, I will add to this, energy is a scarce resource, and you are watching it on your electric car, which leads to the fact that you think more about it in your house also, and other places, at work ... turn off the light, you get better... because you really can feel the scarcity of energy when you drive an electric car.

C: And I even notice it when I drive a petrol car. I have a completely different driving style [now].

As became clear during our research, the interviewees described a situation where driving an electric car sensitized them to their energy consumption in their everyday life outside of their vehicles. Many of those who reported buying the electric vehicle because of technological interest or desire to save time and money, and who had not been particularly engaged in environmental issues before, reported that they had become more aware and engaged in energy related issues after becoming electric car drivers. Thus, some of our respondents reported stories that indicated that their driving behavior was affecting attitudes and choices, and not the other way around as most theories of behavioral change predict. Of course, we cannot establish through this study whether these spillovers to other energy related practices are real or imagined.

### **Conclusion: The Electric Car as a Vehicle of Transformative Practice**

In this article, insights from elements of two distinct but interrelated theoretical bodies of knowledge, domestication theory and practice theory, have been combined in order to better understand the introduction of electric car technology and its role as an energy consuming practice. This study of the practice of electric car driving makes it evident that electric car driving embodies various qualities, some of which stand in contrast to what is normally perceived as typical features of electric cars and their usage. First, contrary to what is commonly perceived, the embodied qualities of electric car driving demonstrate a strong



emphasis on comfort, and driving electric vehicles is experienced as comfortable. Second, the findings show that the material agency of the electric vehicle facilitates a transformation of driving style. Third, the study highlights that driving an electric vehicle seems to make transportation needs and habits more visible to the users. This is due to the material features of the electric car, which in many cases forces one to think about the range and capacity of the car in daily life. Fourth, electric vehicle driving also appears to be linked to consumption as social performance, as electric vehicle driving seems to be performative of environmental concerns and is normative. In other words, as an increasing number of people drive electric cars, it demonstrates that it could be a reasonable choice for others. One of our respondents remarked that we should have interviewed those driving petrol cars and asking them about why they continue. The statement underscores the perspective held by many already using electric vehicles that the practice seems like the obvious and most reasonable environmental choice.

Electric car drivers claimed to be engaged in other pro-environmental practices and indicated that they had changed their attitudes and values as a result of driving electric cars. Whether the practice of electric vehicle driving spurs pro-environmental values, and possibly actions, cannot be established within the confines of this article. However, similar kinds of mechanisms have been pointed out by other researchers who have noted that environmentally friendly practices can both raise concern for environmental protection and the probability of other such practices (Bartiaux 2008; Warde 2005). Attempting to detect these kinds of energy saving effects as a consequence of electric car ownership and driving is a viable topic for further investigation.

The domestication perspective highlights that the altered materiality of the electric vehicle shifts the meaning of electric vehicle driving practice. Traditionally, electric vehicles have been small, compact cars with limited range and usage, and our analysis demonstrated

that the electric vehicle was domesticated with this script of being a “city car.” This seemed quite successful, as users of these older and smaller electric cars were content with the performance of their cars and had adopted their usage accordingly, viewing most of their features as assets. The newer, bigger electric vehicles that resemble conventional cars, were in some cases understood differently and acquired other meanings and forms of use. They were more likely to be compared unfavorably with conventional cars. This finding demonstrates one of the paradoxes related to the technological development of electric cars where developing better technologies and especially batteries to improve driving range and size of the electric car have been regarded as the keystone: as electrical cars become more and more like conventional ones, their negatives may outweigh the positives. Our interviews point to the need for developing a variety of different designs that can meet different needs. We clearly see that the small electric vehicle with a short driving range represented to many people the perfect choice that catered to most transportation needs in their daily life.

The study points to some interesting findings regarding the possibilities of reframing vehicles, a task that historically has been difficult to achieve (Hård and Jamison 1997; Hård and Knie 2000). The domestication of the electric vehicle to some extent undermines the seemingly immutable view of the design dominance of fossil fuel powered vehicles. For many years, electric vehicles have been referenced as inferior, as the next solution, or as an incomplete innovation because of weaknesses regarding size, driving range and comfort compared to conventional cars. Here, we show that electric vehicles have other qualities that have not been previously considered essential, yet highlight that electric vehicles may have other valid roles to play beyond sustainable mobility.

The electric car might have some *transformative properties* in that it reintroduces novelty to its users and resensitizes them to mobility issues. To some extent, electric vehicles contribute to users rethinking their mobility as it raises the awareness that most trips are taken

within a short range that is seldom limited by the use of electric vehicles. In turn, transportation needs and the perceived requirement of having a long range, fossil fuel powered vehicle are redefined. Paradoxically, it is the same inferiorities of the electric vehicle that appear to encourage our respondents' sensitivity toward driving and transportation needs. Hence, the development of electric cars as more similar to conventional cars may desensitize users' awareness of these issues.

Shove et al. (2012) point to difficulties in making policies for the creation of desired communities of practice such as electric driving. They see the prospect of constructing communities of practice as appealing, but it seems that the aptitude to bring such networks into being and to do so successfully is usually difficult. This is due to “the ties and connections through which practices develop and circulate, and by means of which they reach and capture new recruits, do not necessarily map onto organizational or institutional structure” (Shove et al. 2012: 67). Sheller (2004) also highlights the difficulties of creating a more ethical car culture, even though she sees greater willingness of manufacturers to produce new kinds of cars, of governments to restrict mobility, and of consumers to try to limit their environmental impact. By contrast, our study reveals that opportunities exist for policymakers to support new communities of practice in the transport sector by creating new institutional rules and active, visible and progressive policies that acknowledge that meaning is constructed to a large degree in relation to the practice and hands-on experience with driving electric vehicles. This might encourage the public to accept the electric vehicle as a viable transportation alternative. In short, our findings underscore the importance of providing the public access to electrical vehicles, as this seems to be a key factor in the recruitment process and a critical aspect of how the practice of electric car driving is shared and transmitted from one carrier to the next.

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**Table 1** ■ Overview of background variables of all interviewees

<i>Age</i>	<i>Format</i>	<i>Men</i>	<i>Women</i>	<i>N</i>
20–35	focus group	1	3	
20–35	individual	1	–	
Total 20–35		2	3	5
36–50	focus group	6	–	
36–50	individual	6	3	
Total 36–50		12	3	15
51–70	focus group	7	–	
51–70	individual	1	1	
Total 51–70		8	1	9
Total		22	7	29