

# **“When We Do Nothing at All?”**

*Understanding Energy Consumption in Norwegian Households*

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It would be wrong to underestimate the pressure or oppressio, continuous and often unnoticed, of the ordinary order of things (Pierre Bourdieu 2000: 141).



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## List of abbreviations

ANT – Actor-Network Theory

CECED – European Committee of Domestic Equipment Manufacturers

ECEEE – European Council for an Energy Efficient Economy

FIVH – Fremtiden i våre hender / The Future in Our Hands

IEA – International Energy Agency

IPCC – Intergovernmental Panel on Climate Change

NAV – Norges arbeids- og velferdsforvaltning / The Norwegian Labor and Welfare Administration

NOU – Norges offentlige utredninger/ Official Norwegian Reports

OCF – Our Common Future (the 1987 “Brundtland Report” by WCED)

OECD – Organization for Economic Co-operation and Development

SIFO – Statens institutt for forbruksforskning / National Institute for Consumer Research

SSB – Statistisk sentralbyrå / Statistics Norway

SUM – Senter for utvikling og miljø/ Centre for Development and the Environment (University of Oslo, Norway)

UNDP – United Nations Development Programme

WCED – World Commission on the Environment and Development

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Kristin Gregers Eriksen  
Oslo, November 2010



# 1 Introduction

*“Household appliances have a lot to offer in energy saving”*

This conviction was stated in a keynote speech at a consumer electronics trade fair by a large manufacturer (Gutberlet 2008: 2). It reflects what I argue is the current regime of thinking about how to deal with environmental challenges. Dominated by the capitalist logic where growth is imperative, problems are answered by more production: correctives, often in the form of new, improved technology (Princen et al. 2002: 17) – while lifestyle, material standards and what are seen as the indisputable qualities of life, remain unquestioned. The keynote address was titled *Innovative Household Appliances: Saving Energy without Sacrificing Convenience*, convenience here understood to represent one such quality central to modern society.

In the context of climate change, using less energy on a global scale is imperative. Energy use is responsible for 65% of global greenhouse gas emissions; in the past three decades, energy supply has increased its emissions by 145% (UNDP 2008: 40). In the OECD countries, 40% of emissions come from the residential sector. Furthermore, rich countries account for only 15% of world population but 45% of emissions, whereas low-income countries are home to some 30% of the people and only 7% of emissions (ibid: 42). Moreover, energy is an important aspect of development, and provision of energy services to the poor is a pressing need. Energy is “providing essential services for human life” (WCED 1987: 168). That will have to entail major reductions in energy consumption in the rich countries.<sup>1</sup>

Energy consumption is environmentally significant in many ways. Modern households are not only energy- but also technology-intensive (Aune 1998: 1),

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<sup>1</sup> It is often argued that the highly industrialized countries also have a historically determined responsibility, in that the problematic amounts of anthropogenic effects on the climate system are estimated to have been set off with the coming of industrialization, around AD 1750 (IPCC 2007, WCED 1987).

and these technologies demand resources and energy through their production and transportation, as well as generating large quantities of problematic waste, given their frequent replacement by new models and equipment. Princen et al. (2002: 8) argue that while few environmentalists are willing to dispense with the technologies we take for granted they are eager to produce energy with least damage to the environment. In fact, viewing technology as the sole savior is an external way of dealing with an issue that reaches deep into our ways of life. Norgaard and Wilhite (2004) describe the current views on efficiency as a self-deception in energy policy, that can be seen as a discursive formation (re)producing the idea of technological efficiency as the sole means for lowering energy use. Consumption and lifestyle are overlooked. If all else remained constant, technology might help reduce environmental impact. Consumption can be said to amount to a significant part of this “all else” and it is in no way stable: for many resources, per capita growth in consumption is expanding twelve times faster than population growth (Princen et al. 2002: 4). Hence, understanding consumption is crucial for explaining as well as reversing this trend.

## 1.1 Rationale for choice of topic

This thesis deals with energy consumption in Norwegian households by examining the use or non-use of dishwashers, washing machines and tumble dryers. These choices were guided by the fact that Norwegian households are especially energy-intensive, and that the three selected household appliances represent differing degrees of diffusion in Norwegian homes today. All this will be further elaborated in the following. The study has three main components: energy use, everyday life, and domestic technologies. Households are seen as entry-points for studying and understanding everyday life as a social and cultural phenomenon. The choice of topic has been guided by the view that energy use is both an origin and a result of constructions of material and culture (Aune 1998:

54). The material aspect is here approached through the selected household technologies, representing the technological context *with* and *within* which energy use takes place (ibid: 3). Moreover, I wish to study energy use where it actually unfolds, that is *in practice*.

A rationale may be understood as the principles or reasons explaining a particular decision or course of action.<sup>2</sup> What then are the grounds for conducting a study of everyday life and energy use in Norwegian households? The explanatory principles of this study can be organized and summarized in relation to three aspects. In the following, I explain its significance for research, for policy-making and for the environment and development.

### **1.1.1 Importance for research**

This thesis deals with some arguably overlooked aspects in social and cultural research – perhaps due to the fact that it is located in the area of the mundane and ordinary. Quite paradoxically, they are invisible because they are in fact overtly visible. There has been a tendency to view everyday life as trivial, not interesting, or as a sphere separate from societal developments at large (Gullestad 1989). However, I will argue that what happens in the household is not independent of macro-scale developments, and vice versa (see ibid: 15; Gronow and Warde 2001). As practices related to energy use are parts of routinized behaviors that are not really visible or directly reflective, they can best be approached precisely through the everyday and ordinary.

Research on energy use has traditionally been done mainly through social economic and engineer perspectives, paving way for an understanding of the consumer as purely rational (Aune 1998: 219). Consumers have been removed from the social world of which they inevitably are part. Furthermore, a deeper

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<sup>2</sup> Based on a definition from *Oxford Advanced Learners Dictionary*. Oxford: Oxford University Press, 2000.

look at the material side and a focus on the role of technologies is crucial, as energy consumption is always mediated by technology. Shove et al. (1998: 301) argue that the separation of the social and technical amounts to a methodological problem and challenge for conducting relevant research and for fully understanding energy consumption. This calls for a symmetrical treatment of the constituents of both technologies and socio-cultural aspects, and their interdependence. Here I aim to go into the ordinary in search of the significant—in Bourdieuan terms (1977) enter the *doxa* of practices related to energy use in order to locate the *heterodox*.

### **1.1.2 Conceptualizing consumption in energy policy**

How people or the social world is conceptualized and represented in debates about energy efficiency and the shaping of environmental policy is vital for achieving change through implementation of political measures (Shove et al. 1998: 293). The tradition of energy research referred to above has again added to a view that variations in energy use are due largely to socio-economic variables, and price and information are seen as the main measures (Aune 1998: 219). Many have criticized the static and atomistic picture of consumers reflected in energy research and thus policy, dominated by the neo-economic vision of the individual *homo oeconomicus* as a rational actor “behaving” with non-conflicting motivations and in economically manipulative and predictable ways, or even seeing the human as an external attribute influencing the otherwise economical field of energy consumption (Aune 2007, Shove et al. 1998, Wilhite et al. 2000). Norwegian energy policy is extensively coined in this way, as it focuses on information, price mechanisms and energy labeling as the key measures aimed at consumers (Norwegian Ministry of the Environment 2006: 10). Although these aspects are important, energy use is fundamentally a social matter, interwoven with clusters of everyday practices and cultural significance (Wilhite et al. 1996,



Wilhite 2009). This work aims at explaining some of the ways in which energy use can best be understood as a nexus of cultural, material and social aspects.

### **1.1.3 Interrelated aspects of the Environment and Development**

“The world has enough is for everybody's need, but not enough for anybody's greed,” said Mahatma Gandhi some 70 years ago. This is illustrative for the conditions surrounding energy in the world today. Two degrees Celsius warming over pre-industrial levels is suggested as an upper bound of the threshold of dangerous climate change, and it will require global emission cuts of between 50 and 85% by 2050, as the global path today is steering towards a warming of 6°C (UNDP 2008: 27; IEA 2009). The Norwegian government has set the goal of keeping heating beneath this level as an explicit aim for its national and international climate policy agenda (Norwegian Ministry of the Environment 2006– 2007). Energy use is responsible for the largest section of emissions; hence mitigating climate change calls for a restructuring of our energy basis (Hovden and Lindseth 2002: 143). At the same time, energy is vital for development. On a global scale, 1.5 billion people lack access to electricity, which is important for among other basic health services and educational purposes (IEA 2009). In terms of net emissions to the atmosphere, one American equals 8,150 Indians (Agraval and Narain 1991: 18). It is therefore imperative that rich countries curb the amount of energy consumption. In order to do so we have to understand how. Although small and humble in such a large context, this thesis aims at adding to that understanding by asking questions of why we consume energy the way we do, and where potentials for change might be located.

### 1.1.4 Background premises

The choice of topic and the forthcoming work is based on some important premises that need to be accounted for. Firstly, I base my work on the assertion that climate change is a physical reality and largely anthropogenic, and that it can and should be mitigated through a reduction in green house gas emissions, to which energy is fundamental. This is grounded in works published by the Intergovernmental Panel on Climate Change (IPCC). Their latest report (2007) states a near worldwide scientific consensus that global warming is unequivocal and very likely due to anthropogenic forcing through greenhouse gas emissions since the coming of industrialization.

A second and fundamental premise is the framework of *Sustainable Development*. The mandate of SUM, where I have studied in preparation for this work, is to “promote scholarly work on the challenges and dilemmas posed by sustainable development” (SUM 2010). The term was launched with the report *Our Common Future* (OCF) by The World Commission on Environment and Development (WCED), as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987:43). It takes into account both the requirement for development and meeting needs of the poor, and the ability of the environment to meet future needs. Energy consumption is central to the concept, and OCF called for a 50 per cent reduction in per capita energy consumption in rich countries:

The Commission believes that there is no other realistic option open to the world for the 21<sup>st</sup> century. The ideas behind these lower scenarios [i.e. the 50 per cent reduction] are not fanciful (ibid: 174). [...] It is clear that a low energy path is the best way towards a sustainable future (Ibid: 201).

However, despite visions and global initiatives like *Agenda 21* and the *Kyoto Protocol*,<sup>3</sup> energy use is still increasing (UNDP 2008). It is in context of this

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<sup>3</sup> **Agenda 21** is a program run by the UN developed on the background of Sustainable Development as goal. It was established in Rio in 1992 and is a blueprint of action to be taken globally, nationally and locally. It includes a chapter dedicated to consumption (Chapter 4). The **Kyoto Protocol** is a protocol to the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC is an international environmental treaty with the goal of achieving

contradiction my thesis is located, aimed at tracing some of the inertia and the resistance to proposed changes. It is a complex issue that needs to be approached from multiple directions. I here choose to focus on everyday life, inspired by the assumption that it is precisely in those areas of life and especially in the domestic domain, where action proceeds with little reflection, that much of the conservatism of a system might be located (Ortner 1984: 150). Moreover, I consider it a fruitful starting point, which again might come to implicate other interesting areas of inquiry.

## 1.2 Research questions

What is the purpose of this study? My objective is to add to the mutual understanding of everyday life and energy use. The core intention is to help explain why household energy use seems difficult to reduce, and how this might be interrelated with the organization of everyday life. On this background, I have developed an overarching research question:

*Looking at everyday practices, where can the resistance to and the potential for change in energy consumption be located?*

This does not imply that energy use is understood as static or segmented. Quite the contrary: it is approached as something dynamic and constantly evolving, but it seems difficult to maneuver towards a decrease. As energy use has interpenetrated everyday practices (Otnes 1988), a study of these might help

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adding to the explanation. The analytical approaches that will be applied can roughly be divided into two components, and I will thus answer this question through the following sub-objectives:

- A) *To look into how the organization and construction of everyday life practices influence and get influenced by energy use.*
- B) *To spot what implications the interactions between users and household technologies have for the way energy is consumed. How is agency distributed in this context?*

Relating to the first sub-objective, everyday life will be approached through looking at the organization of space and time and making of habits and routines. What is the practical role of energy use for these actions? How are these practices socially and culturally significant? What are the implications for how energy is consumed? In the second perspective, the same everyday practices are studied with “technology lenses.” In what ways do household technologies influence energy use? How does this material context matter?

My goal with this is not to reveal an overarching truth, but rather to use the question and objectives as gateways into the field of study and add to our understanding and knowledge of everyday life and energy use. This will be done primarily through qualitative methods and more concretely in-depth interviews, analyzing how informants talk about their own daily practices.

## 1.3 Contextual overview

### 1.3.1 Energy use as consumption

When we use energy, we consume. What then is consumption? Studies of consumption have been dominated by a search for inherent meaning in things or the creation of identity of consuming actors (Slater 2005: 131–147). However, Campbell (1995: 102) defines consumption as “involving the selection, purchase,

use, maintenance, repair or disposal of any product or service,” all of which can be connected to the term *activity*. Although the meaningfulness of goods and actions are important, they must not be regarded intrinsic, but rather as starting points. Looking at energy consumption through the use of material things, their significance cannot be read of the objects or general systems of meaning, but must be investigated where they emerge, in practices (Slater 2005: 168). Why are they meaningful, and how do they become such? I look mainly at how energy-consuming technologies are *used*. Here it should be noted that in the following the concepts energy consumption and energy use are applied interchangeably.

Energy use is a distinctive form of consumption. It involves consumption both directly in the choice to purchase technological devices and indirectly in the case of energy consumption when used. These categories have affinity to the famous conceptualization made by Veblen (1899) on *Conspicuous consumption*, and the opposed term suggested for energy consumption as a form of *Inconspicuous consumption* (Shove et al. 1998: 297). Aspects of both sides of the dichotomy are played out in the case of energy. The acquisition and display of devices might be analyzed in the context of status and distinction (Bourdieu 1984), albeit practices involving energy use cannot be seen as value free or socially insignificant. Energy consumption is in a way hidden (Lutzenhiser 1993) in practices. Hence, a look on the significance and meaning of these is fruitful.

### **1.3.2 Norway and household energy use**

Why study energy use in Norway? It can be interesting as an example representing the rich part of the world, but also on its own terms, as Norway has the highest electricity consumption per capita in the world. During the work with this thesis, a new report by SIFO, *A Secret Success*, was published, in which it was noted that the use of electricity in Norwegian households has stagnated or even fallen slightly in recent years (Heidenstrøm 2010). All the same, Norwegian

households still consume three times the amount of electricity per capita compared to the OECD average. In her 1998 dissertation on energy use in Norwegian households, Margrethe Aune wrote that energy use was already relatively stable. It is paradoxical that although there has been a quite extensive effort to influence the energy-use practices of households, larger reductions have not been achieved (1998: 3). Moreover, results also depend on the scale of measurement. The imperative to reduce energy use in households has been official policy in Norway since the oil shocks of 1973<sup>4</sup>, but as **Figure 1** below shows, overall energy consumption has risen since then.

Electricity amounts to around 80% of stationary energy use in Norway (Norwegian Ministry of Finance 2004: 8). This must be interpreted against the background of the extensive use of hydropower (virtually 100%) and relatively low price of electricity (Heidenstrøm 2010: 17). Given this, one might claim that saving energy in Norwegian households is not crucial. However, Norway is part of a network of cables connecting it to the rest of Europe, so that power can be exported.<sup>5</sup> In years with average production, Norway has to import electricity (Hovden and Lindseth 2002: 145). Moreover, all consumption has environmental effects: hydropower has impacts on nature and ecosystems related to damming or lowering of the water level, changed water flow and building of roads and power lines.<sup>6</sup> Norway is especially pertinent as a study area because of its extensive electricity consumption pattern compared to countries quite similar in terms of social and political aspects, like its Nordic neighbors, as seen in the figure below.

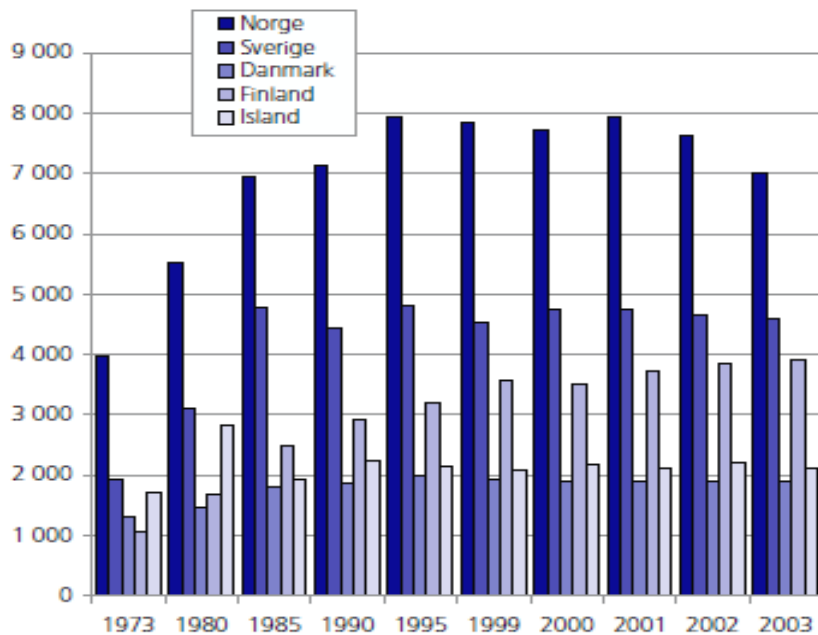
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<sup>4</sup> This crisis of energy supply struck the Western world when oil-producing countries of the Middle East carried out an oil boycott and price increase to punish countries that had supported Israel in the Yom Kippur War.

<sup>5</sup> Norwegian energy use on the margins is covered by European coal or gas. Every kilowatt hour Norwegian households save means one kilowatt hour more hydropower that replaces coal and gas in the European market, reducing emissions of CO<sub>2</sub> by 0.6 kg (FIVH 2008: 31). Also, Norway is reaching the limit of what can be developed for hydropower, and is increasingly importing electricity from Europe, where the source is usually fossil or nuclear.

<sup>6</sup> See [URL] <http://www.renewable.no/sitepageview.aspx?sitePageID=1115>.

**Figure 1. Consumption of electricity in Nordic households since 1973. Amount of kWh provided energy per capita**



Kilde: Statistisk sentralbyrå (for Norge) og International Energy Agency (andre land)

Source: Hedenstrøm (2010), based on numbers from Statistics Norway and International Energy Agency.

Translations: Norge= Norway, Sverige=Sweden, Danmark=Denmark, Finland=Finland and Island=Iceland.

### 1.3.3 Norway and household appliances

The use of household appliances has increased more than 50% in Norway since the year 2000 (FIVH 2009: 37). Studies of energy consumed for various purposes indicate that the amount used on new technological equipment<sup>7</sup> is increasing, as continuously more and new household devices are acquired. Such appliances are environmentally significant for numerous reasons besides their energy

<sup>7</sup> Described as “luxuries” in Hedenstrøm (2010); consumption that “exceeds the necessary.” However, these are subjective and dynamic terms, so it remains somewhat confusing. In this context, it seems to be indicating technologies that are rather new in the market.

consumption when used: among other things, they are resource-demanding to produce, they are often manufactured far away (none are made in Norway), and they generate problematic waste in ecological terms (ibid: 37). Moreover, they represent an interesting phenomenon in social and cultural perspectives, as the diffusion, normality and indispensability of devices are cultural constructs constantly evolving (Shove 2003).

In order to limit my study and make it viable, I narrow down to a focus on three household appliances: the dishwasher, washing machine and tumble dryer. They are interesting objects of study for several reasons. Firstly, little work has been done on these appliances compared to for example the refrigerator and the microwave. In the Norwegian context, the dishwasher has a much higher level of diffusion and appears more “normal” than the tumble dryer; while 73% of households in Norway own one dishwasher (or more), the figure for tumble dryers is 45% (SSB 2009).<sup>8</sup> The inclusion of non-successful technologies is significant to avoid asymmetry in the analysis, as there are reasons why a particular technology becomes seen as successful or not (Bijker and Law 1992). Compared to the washing machine, the tumble dryer is diffusing much more slowly. Some 89% of Norwegian households own a washing machine, and the number of people having access to one is probably close to 100% as some apartment buildings have common laundry rooms. A survey published by SIFO (Brusdal 2007) suggests that both the washing machine and the dishwasher are part of a Norwegian “standard package” for consumer goods, the things that people “should have” to be considered “normal” and not poor, but the tumble dryer is not mentioned in this connection.

A study from IEA shows that it is possible to cut energy use by 1/3 by investing in more efficient equipment. However, it is still the use of electrical appliances that to the largest extent seems to determine energy consumption (Heidenstrøm 2010: 17). Energy use for washing machines have in recent years

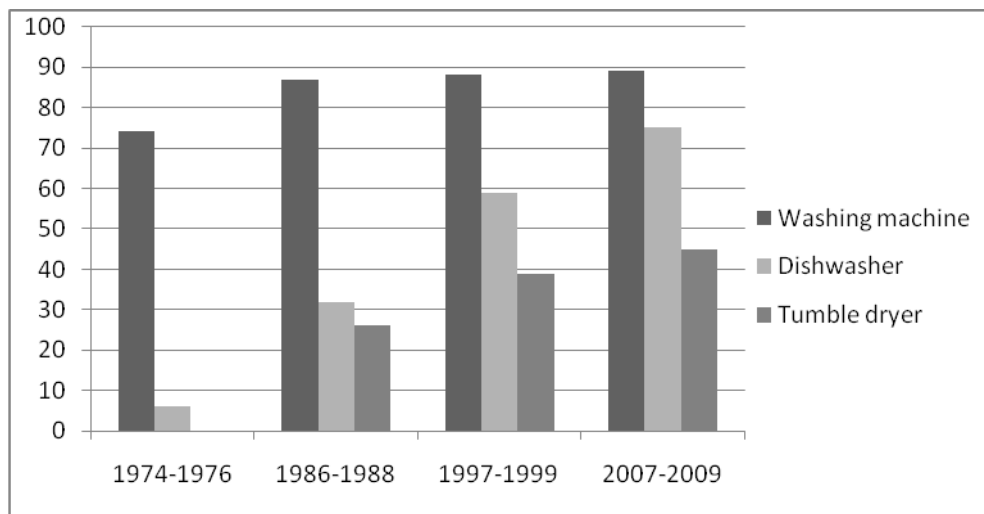
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<sup>8</sup> The tumble dryer was introduced to the market approximately ten years later (1980s) than the dishwasher (1970s).



increased in spite of more efficient machines, while for dishwashers increased efficiency might be a factor explaining a reduction in the amount of electricity used for that purpose. For drying, the amount of electricity seems to have gone down (Larsen and Nesbakken 2005, Heidenstrøm 2010). However, such figures should be interpreted with caution and might not always give the whole story. As example, the amount of electricity used for heating increased tenfold between 1990 and 2001, despite the spread of more efficient heating sources (Larsen and Nesbakken 2005). Many informants say they dry clothes on the heating cables in the bathroom, or electrically heated rooms, a nuance which might not be captured by the categorizations of the statistics.

**Figure 2. Percentage of households with washing machines, dishwashers and tumble dryers in Norway, 1974<sup>9</sup>–2009**



## 1.4 Limitations

This thesis has many limitations, the most important being I myself as a researcher. I have experienced working with the Master's thesis as a learning

<sup>9</sup> The statistic material from SSB with overview of the amount of households owning various durable consumer goods that this is built upon is limited to the year 1974 as starting point.

process. In retrospect I see a lot of potential improvements to the work. However, I had probably not been able to spot them without the experience of doing it. This illustrates the centrality of the researcher herself as tool in social and cultural studies. I have therefore chosen to use a quite extensive amount of space on methodology (Chapter 2), because I regard it as crucial in terms of validity.

Importantly, this study is not intended as a medium of pointing fingers at energy users and moralizing over levels of consumption. Consumer sovereignty, as a cornerstone of mainstream economic thinking (Princen et al. 2002: 1), is a perspective I do not concur with in the case of energy use. Individuals can influence what happens at the end of the pipe, but changes are also bounded by “upstream” systems they are plugged into (Wilhite et al. 2000: 114). Consumption is not only the choice of an individual among goods or practices: it is involved in a stream of decisions winding its way through various stages of extraction, manufacture, and final use, embedded at every step in social relations of power (Princen et al. 2002: 12). This was a crucial point for me to make when I met with informants, as my affiliation with SUM and environmental research might give them the impression that I had set out to moralize certain views on their practices. As I will delve further into through methodological reflections (Chapter 2), the explicit aim of this thesis was to *understand* energy use qualitatively, not describing it quantitatively or evaluate it in any way. Additionally, I did not collect quantitative data from my informants regarding the amount of energy they consume as I find it to be outside the scope of this work and might influence the analysis in undesired ways. Although there are some morally loaded motivations behind the rationale for this thesis, it is not intended as a normative study.

Secondly, energy use is a complex matter and calls for multiple approaches and interwoven analyses from several perspectives. Shove et al. (1998: 314) describe this aspect as the “webs of interdependent interests involved in structuring more and less energy-efficient consumption.” These webs might include not only consumers and their material and cultural contexts, but can also

be extended to designers, producers, manufacturers and marketers of the technologies, policy makers and actors in the construction industries. However, to study the phenomenon from all those perspectives would be a herculean task and not really possible within the scope of a Master's thesis. I have chosen concrete practices as my point of departure, and how energy use actually is played out in the household and with the use of technologies. Taking this as a starting point, suggestions might emerge from the work as to further research on the subject.

## 1.5 Structure of thesis

When I was in elementary school, I learned about the “fish” as an allegory of structuring papers. Seemingly banal and quite humoristic, I still think it might serve as illustration for describing the structure of my Master's thesis. The head of the fish represents the introductory part, where context and background information is laid out. It amounts to this chapter, **Chapter 1 Introduction**, and **Chapter 2 Methodological reflections**, where I account for field of study, choice of method, issues of sampling and analytical approaches. The well-fed fish body represents the core parts of the thesis, the empirical findings and analysis, to be found in **Chapter 3 Practices of doing nothing** and **Chapter 4 Living Technology**. Chapter 3 analysis the interviews in relation to a practice approach, focusing on the organization of time and space in everyday life and making of habits and routines, while Chapter 4 is centered on the distribution of agency and interactions between user and household appliances, and the domestication of the technologies. Descriptions of theoretical frameworks are interwoven with analyses as I see them as complimentary and to a certain sense indivisible. Arriving at the tale of the fish, **Chapter 5 Cultural energy services** and **Chapter 6 Concluding comments** represent ways of summarizing and reflecting upon the findings, and suggestions towards answers to the research question(s) and aims.

## 2 Methodological reflections

The forthcoming chapter includes descriptions of methodological approaches, ontological and epistemological backgrounds for choosing them, and descriptions of my sample and the process of gathering information. The purpose is to show connections between methodological approach, research questions and analytical perspectives, as well as legitimize these choices. Importantly, theory and method are not seen as different and independent domains, but as parts of the same whole – not only because theory-building is often part of the research process itself in qualitative approaches,<sup>10</sup> but also because I aim at a circular model of research where interactions between data collection, theory and analysis are synchronized (Scheyvens and Storey 2003: 29, Berg 2004: 20). This perspective is shaped in large part by my specialization in the field of History of Ideas, which does not have a specific and defined methodology, but where theory and method rather are interwoven parts of the research process. Method is here largely a question of perspective and choices, in addition to contextual reflections around these as well as the predispositions of the researcher (Ariadne 2010).

Having an, at least to some extent, multidisciplinary background<sup>11</sup>, my different methodological inspirations are integrated by the hermeneutic notion that I myself as a researcher am inevitably part of the material. I cannot go beyond my culturally shaped context to see things *an sich*. Undertaking a qualitative approach makes reflexivity around the project fundamental. This chapter includes descriptions of my own reflections as an emerging researcher.

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<sup>10</sup> Perspective known as *grounded theory*, see Glaser and Strauss (1999).

<sup>11</sup> My training as a master student at SUM (Centre for development and the environment, University of Oslo) has also showed me the advantages and even necessity of multi- and interdisciplinary studies when approaching themes relating to development and the environment.

## 2.1 Looking at practice

In studying the interwoven aspects of energy use in the household and the relationship between human beings and household technologies, the core of my study is *practice*. Practice approaches in the social sciences was initially<sup>12</sup> an effort to overcome barriers between supposed dichotomies like the radical micro-sociology of interactionism and the structural schools, by conceptualizing articulations between actors and structures, “that both constrain practices but are ultimately susceptible to being transformed by them” (Ortner 2006: 2). Inspired by this my methodological approach encloses fundamentally actor oriented analyses of practices in the household, deepened by brief contextual and structural overviews. Moreover, the very category of agency will also be revised.

I approach the field through two windows, *everyday life* and *domestic technology*, as reflected by my objectives. These are not separable aspects, but represents different points of approaching the same field of study. The former is fundamental as context for habits and routines, and the motivation behind this choice is dual; in scientific terms, the importance of focusing on the ordinary and mundane has been pointed out by many (Goffman 1969, de Certeau 1984, Gullestad 1989, Shove 2003). Moreover, it is guided by the somewhat personal belief that our overwhelmingly unsustainable way of consuming in general, and using energy in particular, has everything to do not only with grand politics and global matters, but also our daily routines of inconspicuous consumption involved in day-to-day practices. The choice to focus on domestic technologies is motivated by a non-static perspective on technologies, seeing them as social constructions and not politically autonomous forces (Aune 1998). A common point of departure for social studies of technology is to repudiate technological determinism through empirical studies (Bijker and Law 1992). Hence, I look at domestic technologies to emphasize how they are not silent in practices.

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<sup>12</sup> This came to the scene of the social sciences around the 1970s.

## 2.2 Epistemological and ontological issues

### 2.2.1 Qualitative approaches

What I am looking for might paradoxically be hard to describe, in that it in some senses is hidden. It is located in the domain of doxa, that which is not object for debate (Bourdieu 1977). Wilhite (2009: 7) refers to it as “tacit knowledge,” the know-how without reflection that holds routines together, while Shove (2003: 1) describes it as the “generally invisible forms of practice.” I seek to reach this domain based on fostering processes of interpretation and reflexivity among informants. I hence find quantitative approaches irrelevant for such a project, in that they rather give information about frequency of actions than how informants interpret and give meaning to them (Repstad 1998).

It is vital to point out that the divide between qualitative and quantitative approaches should not be considered strict or dichotomized (Berg 2004: 2). Qualitative and quantitative methods are not mutually exclusive approaches to learning, and both can be necessary depending on the questions being asked. I have incorporated some quantitative data in my background work and analysis in order to learn more about contexts and give direction in asking relevant questions. However, the main approach is understanding the world through interaction (Scheyvens and Storey 2003: 72). This study is not, as Geertz put it, “experimental science in search of law, but an interpretive one in search of meaning” (1973: 5). Energy use is understood as cultural, or even a form of culture. Culture is a manifold concept, representing what Gullestad calls a “syndrome term,” generating associations more than functioning as analytical term (1989: 31). Culture is context: “something within which social events, behaviors and processes can be intelligibly, thickly, described” (Geertz 1973: 14).

## 2.2.2 The situated researcher

Qualitative research requires cognizance of the position and powers of the researcher (Scheyvens and Storey 2003: 72). The researcher always brings with her prejudices, something which hermeneutics enlightened us is not utterly negative, but also forms the foundations for our abilities to understand and learn (Gadamer 2010). These prejudices can consist of many things, like personal experience, scholarly learning, beliefs or the terms through which one sees the world. The background for my choice of topic lies not merely in the scientific realm, but was also motivated by an emerging engagement in issues of energy and sustainability. My prejudice, or rather pre-understanding, was that people in Norway have an insatiable relationship with consumption of both material things and energy, while the self-image is coined in the spirit of what Witoszek (1997) calls *Askeladdian*:<sup>13</sup> rational, modest and ecologically benign. I wanted to understand this thought discrepancy.

As I see it, the fundamental aspect is to recognize such predispositions as an integrated aspect of ways of knowing. I hence believe with Geertz that the data “are really our own constructions of other people’s constructions of what they and their compatriots are up to” (1973: 9). This is a fitting description of the interactive, recursive and reciprocal process of social research I aim at obtaining with this thesis. My ontological standing is constructionist, both on the level of social objects and categories, and the nature of knowledge of the social world (based on Bryman 2004: 407–408). This implies that I do not see the information I collect as raw, static facts simply to be uncovered behind the talk. Experiences are always embedded in a social web of interpretation and re-interpretation, and the answers are not merely representations of the world, but rather part of the world they describe (Silverman 2006: 129).

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<sup>13</sup> A hero from Norwegian folktales. At the outset he is poor and seems idle and a bit simple, but he always wins the “princess and half the kingdom” with the help of good fortune as well as his natural powers.

## 2.3 Choice of method

### 2.3.1 Validity: evaluation of qualitative research

A common criticism directed at qualitative investigation is that it fails to adhere to canons of validity (Le Compte and Goetz 1982: 31). Validity is concerned with the accuracy of scientific findings, but must be judged by different criteria in qualitative than quantitative approaches, because of their different nature (ibid). In qualitative research, validity is characterized by accuracy throughout the whole process, in addition to a continuous argumentation for and reflection over all choices made by the researcher:

Validation is built into the research process, with continual checks of the credibility, plausibility, and trustworthiness of the actual strategies used for collection, coding, analyzing and presenting the data (Kvale 1989:78).

In qualitative methods, the researcher is the main instrument (Thagaard 2003), something which also must be seen as an advantage in collecting “thick” information, as is the aim here. A common way of ensuring validity and confidence in social research is through triangulation, first used as a metaphor in the social sciences describing a form as *multiple operationalism* and *convergent validation* (Berg 2004: 6). It is commonly understood as the application of several methods. However Denzin (1970) distinguishes between different levels of triangulation. This study applies it primarily in the sense of *theoretical triangulation*, interpreting the material with the use of multiple theoretical positions, as well as some extent of *data triangulation*, in that I in addition to interviews also use data from historical and statistical sources.

### 2.3.2 The semi-structured, in-depth interview

I found the most appropriate method for my project to be the in-depth, semi-structured interview, which is characterized by



[...] a series of questions that are general in form of an interview schedule, but able to vary sequence. Asking of further questions in response to significant replies (Bryman: 2004).

The selection of approach was strongly influenced by the study done by Wilhite et al. (1996) on household energy use in Norway and Japan, and questions were worked as much as possible into a conversational flow and informants encouraged to give their own explanations, with extensive opportunities for probing. Silverman (2006: 114) writes that the open-ended interview requires no special skills, but I found it fruitful to be loosely directed by an interview guide<sup>14</sup>, in that it was my first time at doing qualitative interviews. It functioned to structure the conversation as well as picking it up in cases of stagnation.

What advantages does this approach provide? The semi-standardized interview is sensitive to the fact that individuals understand and describe the world in varying ways (Berg 2004: 81). It offers an opportunity to let the conversation to some extent take its own directions and be more flexible, but is still quite to the point and with somewhat comparable information. However, the choice was primarily guided by the nature of my research questions. I wanted to look at what is hidden and tacit. Hence conversations would apparently be the best way to foster processes of thoughts by the informants that would not be revealed through mere observation or more structured interviews. This “secret world of doing nothing” that I wanted to enter can be hard to get at, as Ehn and Løfgren (2009: 99) write, when asking people what they do throughout the day, they might just answer “the usual,” or mention the extraordinary events. I wanted to get beyond this surface. Why are certain practices denoted as “only the usual”? What can they say about the everyday life of the informants, and energy use? These are questions best answered by qualitative methods like interviewing.

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<sup>14</sup> Interview guide can be found at the end of thesis.

## 2.4 Informants

The greatest challenge of the preparation part was the sampling, or getting informants. Because the study is of “common people,” but with some significant attributes, the most likely thing to do would be some kind of stratified random sampling, using telephone registers or equivalent. There were two obstacles to that. One was the scope of the interview, in that the informants would be interviewed for as long as one hour (or more) and in their own homes. Secondly, having a positive attitude towards being an informant was considered important for the willingness to reflect and get “deep” conversations. I therefore landed on the purposeful snowballing method (as described by Scheyvens and Storey 2003: 43, Bryman 2004: 334). I asked my contacts if they knew people with certain criteria fitting my desired sample, and as the sample expanded I narrowed the criteria down. I also recruited three informants from social media online.<sup>15</sup>

In that the sample is relatively small, it would not be meaningful to make it reflect the total population (Aune 1998: 61). As a rule of thumb, a sample of at least 30 is suggested for useful statistical analysis (Scheyvens and Storey 2003: 44). Moreover, in qualitative studies, informants should not be chosen on background of statistical representation but rather strategically in light of the research question(s) (Thagaard 2003). The point is fundamentally that this is not the nature of qualitative research. There is no evidence that the values, beliefs and attitudes that form the core of qualitative investigation are normally distributed, making the probability approach inappropriate (Marshall 1996). The goal of qualitative approaches is not generalizations, but relating findings to existing theory, pointing to the existence of phenomena and connections (Aune 1998: 63), and even making for building of new theory (Glaser and Strauss 1999). I do to certain, albeit limited, degree make remarks towards new theoretical directions

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<sup>15</sup> I used the following channels: <http://forum.nybaktmamma.com>, [www.dinbaby.com](http://www.dinbaby.com), <http://verdensbestepappa.com>.

where I find it suitable. Through literature review and studies of statistical material, I ended up with certain criteria that I wanted the sample to fulfill.

### 2.4.1 Appliances

Because one of my main focuses is the *domestication* of appliances, understood as a continuous process of interaction between human being, appliance and socio-cultural context (Lie and Sørensen 1996), I wanted to include households both with and without the chosen devices.

**Table 1. Percentage of informants and of total population that have selected household appliances**

	<b>Dishwasher</b>	<b>Washing machine</b>	<b>Tumble dryer</b>
Sample	78%	83 percent*	44 percent
Total Population	73%	89 percent	45 percent

\*Some informants who did not own a washing machine had access to one in a common laundry room in their apartment building.

### 2.4.2 All stages of family life-cycle

Including all stage of the family life-cycle is indicated as a relevant criterion from similar studies like Wilhite et al. (1996) and Aune (1998), but actually served to make the sampling easier. When asked if they knew anyone who could participate, many of my friends seemed to immediately start asking themselves “who would fit?” so I found it better to ask for defined households like “a family with children” or “a single man” instead of “just anyone.”

**Table 2. Distribution of stages in family life-cycle in sample**

	<b>Age 18–39</b>	<b>40–62</b>	<b>63 and over*</b>
Couples without children living at home	2		3
Couples with children living at home (under 18)	3	4	
Single	2	1	1
Single living with children	2	1	

\*I chose these divisions because the normal age for retirement in Norway is 62–67, depending on the type of work and membership in social security agreements. In couples where the two fell into different categories, I placed them under the partner of highest age.

### 2.4.3 Employment

Statistical sources from Statistics Norway<sup>16</sup> indicate several correlations between employment and housework. However, these sources are deeply focused on differences between sexes, and in fact most of the earlier research I found on housework is centered on gender (see for example Cowan 1983, Klepp 2006). I wanted to avoid having that as a central point, as it is such a large domain which in itself demands more analytical space than possible in this thesis. However, we should bear in mind that men have more paid work outside the home than women in Norway, and women still do more housework and more frequently have part-time jobs, even though the differences seem to be decreasing. In recent decades women have gradually taken on more work outside the home, and men have worked more inside the home. Additionally, more and more people of both sexes are doing paid work from home. All these aspects are deeply intertwined with *employment*. In addition, because I look at actions and activities done in the

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<sup>16</sup> Vaage (2002), Næsheim and Lone (2003). Various information from SSB (2010).

home, the amount of time spent there could be assumed to have some influence. Therefore I have chosen the situation of employment as category for sampling, and sought to include informants with a range of different job situations, such as full-time employment, students, stay-home parents, part-time workers and retired.

## 2.5 Experiences and ethical reflections

### 2.5.1 The interview situation

The interviews were conducted in March and April 2010, in the private homes of informants. These were located in southeastern parts of Norway, including Oslo and surroundings, and the nearby municipalities of Asker, Drammen, Lørenskog and Ås. The choice of geographical locations was to a degree coincidental, and due partly to practical reasons.<sup>17</sup> Interviews lasted for approximately one hour, in some cases more, but seldom less. I did not feel that the length of conversations influenced on the quality, and let the informants decide on the flow to a large extent. I at times excluded themes included in the interview guide in order to let the informants talk more extensively about themes they seemed engaged with, keeping in mind that the study was intended to have an in-depth approach.

I chose to meet informants in their own homes partly because I thought that would be a more relaxing atmosphere for them, but also because of methodological considerations in that I wanted to get a feeling of their *life worlds*, understood as “the interpretative horizon anchored in everyday life, the world we actually find ourselves in” (Frønes 2001: 39). Another important aspect was to “meet” the appliances. But it was also guided by the fact that the home is the arena for the practices I wanted to study, and there often is segregation between

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<sup>17</sup> When I started work on this thesis I was still breastfeeding my youngest daughter and stayed home with her part-time, so I could not be away for periods longer than a few hours.

how people act in the inner life in the home, and outwards in the public sphere (Aune 1998: 40). This was also described by my informant Bjørn Berg (32):

*There is kind of a line between what you do inside and outside home. I can do environmentally friendly acts that are good for the community outside the home, like using public transportation. But what I do at home, that is...my business.*

Participation by different family members varied. I encouraged everyone to take part in the interview, but initially left it up to the informants because I wanted them to have a positive attitude and be ready to speak freely, not just answer questions. Older children took part to varying degrees, but most of them lost interest quickly and left, probably because they did not see the topics as being “their” area. Because most interviews were conducted in the evening, many children had already gone to bed. In some households I met with only one of the couple. Not preferred by me from the outset, in retrospect I actually found this very fruitful, since when interviewed together, most couples would continuously discuss and revise the answers from their partner. Talking to only one of the two made for a freer and more impulsive conversational flow, both of which brought interesting material on its own terms.

Fog (1996: 202) writes that the contact between informant and researcher has a personal element and is hence individual each time, something which affects data collection as well as interpretation. For that reason, I also made sure to note down my initial thoughts and impressions from the interview situation, including atmosphere, description of the home/setting and my own preconceptions or first impression of the informant(s). A challenge in this regard is the aspect of self-representation of the informants, and the dynamic between their front- and back-stages as main interaction regions (Goffman 1969: 109–140). In a way, my study went straight backstage, which is the sphere where people perceive that they can “be themselves” (Jenkins 2008: 95). In order to reach this level, I tried to show some of my own backstage world by giving examples from my own life. The flow of questions was also crucial. Starting with

the general before entering the more private sphere was important in getting informants to “open up.”

To decide on how to communicate who one is in social encounters requires an understanding of the situation to know what part to show. At the same time the person tries to get an understanding of the other party and know what is appropriate for the situation (Goffmann 1992). I experienced that my own self-representation changed somewhat depending on whom I was speaking to. Goffmann (1970) writes that conversational meetings will be successful if those involved have something basic in common, a shared engagement in a theme or equivalent, which is the burning point of the conversation that has to be kept warm. For the most part I think I succeeded in that. I got many comments and reactions during the conversations from informants like from Jørn Lunde (32), who remarked: *“This is actually quite interesting. It is what we do all the time and never think about, but then there is in a way...much more to it.”* However, in at least one interview the informant did not seem very interested, and had a negative attitude towards my project. In that case there might have been opportunity to get even more interesting data, but I was unable to keep the conversation flowing well, so the interview ended somewhat prematurely.

### **2.5.2 Ethical considerations**

All in all, I found meeting people in their homes over a conversation to be a rewarding task. On the other hand, seemingly mundane themes like doing dishes and washing clothes may quickly lead into the private or even intimate sphere, and it was hard to avoid getting too personal. This is the hard balance that Ehn and Løfgren (1996: 120–123) describe regarding fieldwork, being a stranger wanting to participate in the lives of other people, and this was also true of my interview period, although interviewing naturally does not require the same level of intimacy as fieldwork. The situation of couples with small quarrels was

generally more humorous than serious, but things like accounts of a suicide among close family members, an abusive husband and heavy psychological issues connected to illness were not as easy to deal with. Even though I as a fellow human would like to react differently and more emotionally to some of this information, I chose to stay in the role as researcher because I had been invited as that. Scheyvens and Storey (2003: 103) point to the importance of being determined, which includes being prepared to pull out of a research situation which is not worth persisting with because of personal troubles. One of my informants was going through a divorce, and I chose to end the interview less than halfway through because I felt that the informant was uncomfortable.

### **2.5.3 My own backyard**

I discovered there was a lot of information available on interacting with people from the Third World or with radically different national, ethnic or religious background than the researcher, but frustratingly little on conducting home-based anthropological research. The barriers to operating in a foreign context might be more direct and demanding, whereas the challenges in home-based research might be more indirect. This can be both a strength and a challenge, as described by Ortner (1984: 143):

It is our capacity, largely developed in fieldwork, to take the perspective of the folks on the shore that allows us to learn anything at all – even in our own culture – beyond what we already know. (Indeed, as more anthropologists are doing fieldwork in Western cultures, including the United States, the importance of maintaining a capacity to see otherness, even next door, becomes more and more acute.) Further it is our location “on the ground” that puts us in a position to see people not simply as passive reactors to and enactors of some “system,” but as active agents and subjects in their own history.

This underlines that being situated as a researcher doing qualitative research is both an advantage and a challenge, although I was not fully prepared for the difficulties involved when studying “my own”, as they are not so frequently mentioned in literature. I discovered that such skills develops over time, so my later interviews were the ones I found most valuable for analysis. I also found it



helpful to read other studies conducted in Norway, including Wilhite et al. (1996), Gullestad (1989), Aune (1998, 2007) and Witoszek (1997, 2009).

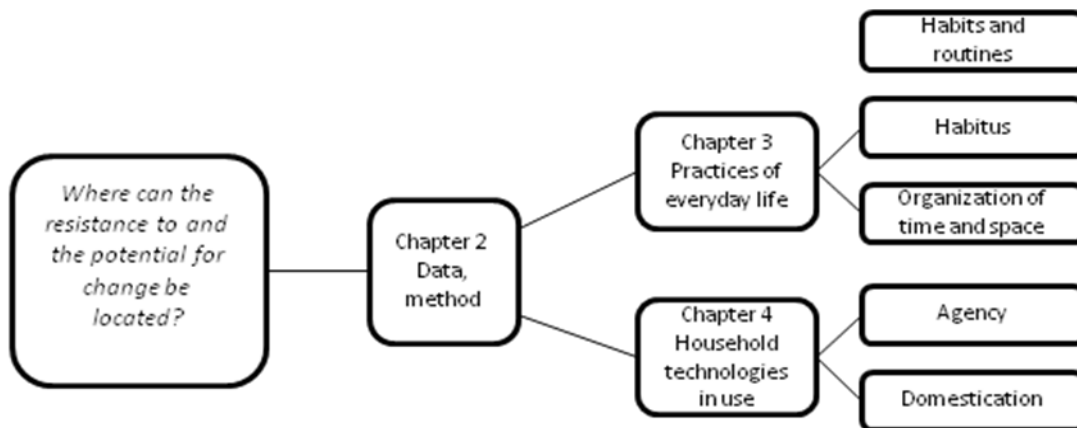
Coming in as a researcher from SUM entailed ethical as well as methodological issues, as informants might feel that they ought to act in the “right” way, probably seeing me as representing a certain view on the issues (see Smith 1998: 16). I tried to limit this by informing informants that they would be anonymous, asking them to sign a declaration of informed consent. I added that besides the interviews I would make use of official statistical sources like SSB and SIFO. Thagaard (2003) notes how informed consent creates an atmosphere of safety both during and after interviews. I also took care to explain that I was in no way a kind of moral police, but simply a researcher wanting to understand.

## 2.6 When does the analysis begin?

In my approach, data analysis began already during the interviews. In consequence, the ensuing interviews were more to the point. Wanting to make the research process an iterative process, I did interviewing, reading of theory and analysis in parallel – an approach widely supported in literature on qualitative research methods (Aune 1998; Bryman 2004; Widerberg 2004). Interviews were recorded and transcribed word for word, which proved very useful in processing the information. To organize my material in a lucid way, I used a technique inspired by Strauss (1987, in Aune 1998: 67ff). I started out with “open coding,” where the interviews were read with an “open mind,” recognizing some categories, which were more precisely defined in the second step of “axial coding.” Then I looked at connections between the different categories, before I started “selective coding,” to locate the main categories for analysis. This process was not really linear, but continuous through the period of interviewing and the initial phase of writing, so that categories were modified in line with new

empirical findings from the interviews, and theoretical insights from the literature review and text analysis. However, these codings were used mainly used as a tool in analyzing the data, as my sample was too small to allow more generalized and broad categories.

**Figure 3. Structure of the analytical material**



This illustrates the structure of the analysis in this thesis. From a presentation of objectives, research question and method, I now move into the part of theoretical accounts and analyses of empirical findings, treated as interwoven aspects.

### 3 The significant practices of “doing nothing”

My thesis is a study of energy-consuming everyday practices in Norwegian households. Gullestad (1989: 13) points out that everyday activities have been somewhat neglected in social research, as they are regarded as trivial. This is also connected to a belief that everyday life is something separate from developments in the rest of society as such. However, a preoccupation with focusing exclusively upon the spectacular and dramatic might yield lopsided conceptual frameworks (Shove 2003: 1). Through the application of elements from practice theory and the concept of *habitus* well-known from Bourdieu (1977), I here argue that the micro-level, individual acts of everyday life cannot be separated from structural processes. Mundane routines of washing clothes or doing the dishes might veil issues of resistance, control or change.

In this chapter the central analytical terms will be habit, routine, time and space. These are interrelated aspects; as the word “routine” derives from “route,” making a chosen route of everyday life actions can in turn become a trail (Ehn and Löfgren 2009: 100). Habit is through the application of *habitus* seen as related to the predispositions for choosing certain paths. This illustrates the spatial character of habit and routines. At the same time, practices can be understood to *make* time through the continuous reproduction, enacting and transformation of temporalities through daily practice (Shove et al. 2009: 4).

By examining practices of domestic energy consumption, this chapter aims to identify the conservatism and inertia in the nexus, where resistance to changes in energy consumption might be located. This, I hope, will in turn indicate suggestions for where and how to start in order to find more sustainable trails for everyday energy consumption in households.

### 3.1 What is practice?

Practice theory does not entail a coherent, systematic “grand theory” (Reckwitz 2002: 257). It might be more accurate to speak of a “practice turn”<sup>18</sup> in social theory where practice functions as a key symbol uniting different theoretical developments. Here a necessary logical step involves making certain distinctions between practice and practices, or between the German *Praxis* and *Praktik*.<sup>19</sup> *Praxis*, as derived from the Greek understanding of one of the main human skills, refers to human action in the world as such. A social practice is understood as *Praktik*, “a routinized form of behavior which consists of several elements interconnected to one other” (ibid: 249), these elements being reflexive to semi-reflexive or even non-reflexive forms of bodily and mental activities, background knowledge, prejudices and emotional states. It is this notion of practice that is crucial to practice approaches in social and cultural studies.<sup>20</sup>

The main common insight unifying different theoreticians of practice is that it is at the scale of actual human practices that a society is reproduced and its individuals are socialized (Thrift 1981). Such practice approaches thus entail important ontological implications, seeking to bridge the proposed gap between individualist and holist frameworks, where there is a total distinction between the rational agent of *homo oeconomicus*, seeing social order as result of single interests, or *homo sociologicus*, arguably almost wiping out individual agency, regarding individuals as mere products of social relationships and contexts (Reckwitz 2002: 245–246). The relationship between social structures and individuals, between the objective and subjective, or between human action and some global entity called “the system” (Ortner 1984: 148) is mutually constitutive, to the extent that these cannot be separated. This nexus is, however, seen by exponents in quite differing ways. Two of the most prominent

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<sup>18</sup> Inspired by Sherry B. Ortner’s 1984 article “Theory in anthropology since the sixties.”

<sup>19</sup> This is from Reckwitz (2002), but in Norwegian there is also a quite similar etymological difference between the adverbial “i praksis” and the noun “en praksis”. However, this is not as illustrative as the German distinction, because it is the same grammatical word that is applied.

<sup>20</sup> Hence, it is also *Praktik* I refer to when applying the term “practice” throughout this thesis.

representatives of practice-oriented approaches, Pierre Bourdieu and Anthony Giddens, are criticized for being, respectively, overtly deterministic and too voluntaristic in their approaches.<sup>21</sup> In the following I will argue for the fruitfulness of making use of elements from both. However, I find Bourdieu with his *habitus* concept more appropriate for understanding the conservatism or resistance to change so central to the field of household energy consumption, and that hence will serve as the overarching horizon of understanding.

### **3.1.1 Practice theory and its relevance for energy consumption**

Applying practice theory to the field of consumption, Alan Warde offers some insights into conceptualizing consumption. Consumption is not really a practice *an sich*, but rather an element in almost every practice. It is to be understood as a process where agents engage in appropriation and appreciation of goods, services, performances, information or ambience, “purchased or not, over which the agent has some degree of discretion” (Warde 2005: 137). Hence, consumption cannot be limited to market exchange. This conceptualization offers important theoretical insights for understanding energy use. Energy use can be seen as a type of inconspicuous consumption (Shove 2003: 2), as opposed to the externally-oriented consumption of symbolizing status in conspicuous consumption (Veblen 1899). People do not consume energy, but the services which it offers – like clean clothes, comfortable temperatures or shining cutlery. These services are socially and culturally embedded. Moreover, the practices related to these services are interwoven with clusters of everyday habits and routines (Wilhite et al. 1996, Shove 2003). This might help explain why the dominant focus in the European energy-policy discourse – equating reduction and sustainability with market and technological efficiency, built upon a notion of static, rationally acting individuals

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<sup>21</sup> Comments on Giddens, see Craib (1992). On Bourdieu, see Jenkins (1992), Lamont (1992), Widick (2003).

who are manipulated by price mechanisms – has failed to curb energy consumption (Norgaard and Wilhite 2004).

The motivation for applying practice approaches to this study is twofold. Firstly, it offers new theoretical understandings and insights into social phenomena like everyday consumption and routines; secondly, it is of paramount relevance to the development of fruitful policies for sustainable household energy use, and scope for change.

### **3.1.2 Individual agency and structuring structures**

There are some ambiguities in the landscape of practice approaches concerning conceptualization of the individual agent, and the scope of creativity, reflexivity and intentionality in action, sometimes illustrated through the differences between Bourdieu and Giddens. The difference here relates to an understanding of what constitutes *agency*, described in its simplest sense as the capability or power to be the source and originator of acts (Ortner 1999: 146ff); moreover, to the relationship between agency and *social structure*, described as recurrent patterned arrangements that seem to influence or limit the choices and opportunities that individuals possess (Barker 2005: 448). In this study, the individual is the central point of departure, as informants were interviewed as individuals representing households. This is also because I sometimes met with only one representative of a multi-member household. A focus on the individual in a practice-oriented approach is commensurable with Reckwitz' description of the importance of the individual to practice theory, regardless of how agency is conceptualized:

There is a very precise place for the individual – as distinguished from the agent [...]: As there are diverse social practices and as every agent carries out a multitude of different social practices, the individual is the unique crossing point of practices, of bodily-mental routines (Reckwitz 2002: 256).

Here it is necessary to make some comments towards the ontological understanding of the individual. The turn to a focus upon practices in social theory is intimately related to philosophical developments in conceptualizing the life-world, and an interest in the everyday. I share with Gullestad (1989) and Aune (1998) the view that the sphere of the everyday that forms the scene of this analysis is affiliated with concepts of the life-world. The notion of practice and the individual applied here rests on existential insights provided by Heidegger: namely, that there is something happening in epistemological terms before the distinction between subject and object, the *me* of the human being and the world, so that the mode of human existence has to be seen as *being-in-the-world*, where the acting individual is not isolated from its surroundings: without it, there would be no being (Heidegger 1927 in Næss 2001: 721). Giddens (1984: 15ff) here emphasizes *duality of structure*, where social structure is both the medium and the outcome of practice, internal more than external to individual acts (ibid: 25). The common interaction of the agent with structure is here described as *structuration*.

According to Bourdieu (1977), structures become embodied in the agent through habitus. The embeddedness of the surroundings in the very premises of individual being is related to what Bourdieu implies with the concept. Importantly, being-in-the-world is not understood as synonymous to habitus, however habitus can be seen as the social and cultural conditions of this existential position. The theoretical accounts of the concept with Bourdieu are dense, but may paradoxically still appear somewhat vague. One can also trace a sense of dynamic in the concept throughout Bourdieu's work and reactions to various criticisms. Habitus might thus appear to be a kind of "theoretical deus ex machina" (Dimaggio 1979), able to take the analysis almost anywhere one wants. The applicability of a concept is arguably not a disadvantage in itself, but entails a need to be careful in specifying its meaning. This demands a definition:

habitus, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles of the generation and structuring of practices and representations (Bourdieu 1977: 72).

Here we may note similarities to the ontological insight provided by being-in-the-world, where human beings and the world in which they are situated are not separable entities. With habitus, the agent internalizes structures of the external world, both culturally defined and objectively real, which again are reproduced through practices structured by these – hence the concept of structuring structures. While some aspects of the concept of habitus can be mapped onto a notion of subjectivity, especially the idea of dispositions, the main emphasis of habitus with Bourdieu is on how it establishes a range of options and limitations for the social actor (Ortner 2006: 109). Habitus is embodied and has to do with ways of carrying the body, walking, speaking and so on (Bourdieu 1977: 85). It is quite enduring, albeit not fixed, in that it starts developing in childhood and is more or less common for all social classes (Bourdieu 1984: 77). The usefulness of the concept in studying energy consumption lies precisely in its enduring character. As Warde (2005: 140) writes, habitus:

grasps the orderliness and predictability of peoples actions when faced with apparent free choices, both within a particular practice and across different practices. The patterning of social life is a consequence of the established understandings of what courses of action are not inappropriate. Convention in this sense is central to the whole understanding of what it means to be engaged in a practice.

Thus habitus can help explain why certain practices are repeated, remaining resistant to change, even if they are neither rational or optimal in economic terms. This is very useful for understanding energy consumption. As my informant Bjørn Berg (32) said:

*No, we definitely don't always do what we think is best for the environment, although I guess we know quite a lot. It is just so hard to change our habits of, for example keeping the indoor temperature at above 20°C. Of course we could wear thicker sweaters or something instead, but we just don't seem to live up to our own ideals. Why? It must be unconscious, I guess.*

This is where habitus will be searched for and located throughout this analysis. Providing structures with such a great importance and leaving no place for reflexivity and thus room for social change, as Jenkins (1992: 77) writes, “habitus



is not a type of agency upon which the actor is able to reflect.” Bourdieu describes it as being a function “below the level of consciousness and discourse (1984: 468).” This is also open to what one means by reflexivity. The point made by Slater is illuminating: “habitus is unconscious in a practical rather than psychoanalytical sense. It is embodied and learned, and acted out at the level of the body” (2005: 162). This implies that the agents do reflect over their actions, but many of their practices might get the character of routines not really thought over in daily life. Some moments are decisive in terms of potential for reflexivity, and examples of this will be offered in the following analysis.

Although habitus is dispositions structuring practices and thus a constraining aspect, it is also a source of *enabling*. Creative adaption to circumstances is itself a habitual condition of the agent; it is not impossible, but still only within social and cultural frameworks (Dalton 2004: 604). It might thus be understood as the objectivity of the subjective. However, as pointed out by Löfgren (2007: 135), Bourdieu focuses more on the staying power of an acquired habitus, and less on the micro-processes of learning and unlearning. The work of more recent theoreticians like Elisabeth Shove (2003, et al. 2009), Dale Southerton (2003; 2009) and Orvar Löfgren (2007) will add to perspectives here throughout the analysis.

### **3.1.3 Habitus and change: a new baby and a new boss**

There is some room for creativity or improvisation also within the boundaries of habitus, which Bourdieu has described as “the intentionless invention of regulated improvisation” (1990: 57). This concept of regulated improvisation is illustrative, in that reflexivity in a sense becomes a part of habitus itself. Furthermore, there are also some cases where habitus more or less moves into the more conscious domain. Important with Bourdieu is the notion of *field*, the setting in which the agents and their habitus are located, understood as relational social positions.

Agents move through different fields, and fields also interact with each other (Bourdieu 1984; Adams 2006: 514).<sup>22</sup> A field might be understood as the settings for social interactions; when there is a lack of fit between the settings of the game and habitus as the knowledge of the game with the agent, this is the space where reflexivity can emerge, particularly during time of crisis (Bourdieu and Wacquant, 1992: 131). A crisis might be radical changes in the social field<sup>23</sup>, or unexpected movement between fields. This is a result of increased individual mobility, institutional reflexivity, and increased quantitative differentiation of social fields and the blurring of boundaries towards others (Adams 2006: 518). Such “crisis,” or – better – change, is illustrated in my study through changes in family structure, notably in having the first child. A prime example is the Haugs – Victoria (33) and Tina (32). They live in a medium-sized apartment in central Oslo, and have been together for several years. Although they do not appear as the most structured of families – a point they also make humoristic comments about – they seem to have fairly well-defined roles as to the distribution of housework and responsibilities. Two months ago they became parents for the first time, and they find that baby is changing their dishwashing habits. Victoria, who is on maternity leave, says:

*Before, we could leave dirty stuff out for days, but now we have had to re-think that. There is much more to wash, because I'm home all day, and then there is the need to keep the kitchen bench clean and ready for preparing milk bottles for the baby. It always has to be clean, and he just wants food when he wants it.*

Victoria is very concerned with being environmentally friendly, and also very

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<sup>22</sup> Importantly, the hierarchical nature both of agents within these fields and between fields is fundamental in much of Bourdieu's work, in his assertion of social differences ascribed to the concept of class, and the difference in social, economic and cultural capital with the agent. The habitus is an individualized group identity. However, concepts of class and hierarchy are not given much attention in my thesis work, both due to the scope of the work and the fact that the sample is not chosen with sensitivity to class or social differences. Moreover, as Gullestad writes (1989: 112), “although Norway is colored by an egalitarian ideology, differences in ways of living are real and considerable, but cannot be reduced to the class-concept.” I will keep this in mind throughout the work.

<sup>23</sup> Bourdieu conceptualizes the field as a structured social space with its own rules, schemes of domination, legitimate opinions and so on. Fields are relatively autonomous of the wider social structures.

“skeptical to all this new technology, created to be used only for a little while and then thrown away.”<sup>24</sup> However, with the new baby, such values are challenged with the need to re-think habits, and Tina continues: “You know with him I get lazy with other stuff, I just put everything in the dishwasher now,” and further “before we used the dishwasher every two or three days, but now it is once a day at least.” While Tina is the one who most frequently uses the dishwasher and cleans the kitchen, washing clothes is the domain of Victoria, something which Tina “seldom dares to touch.” Victoria feels that the amount of laundry is now “taking off,” as she explains, “it has doubled, if not more.” This is also related to the fact that they use reusable diapers for the baby, for many reasons but not least “because of protecting the environment.” Victoria in this way finds a sort of relief from her guilty conscience at consuming so much energy by using the washing machine. The baby is now getting in the center for ethical priorities, and so she sometimes has to alter some of her traditional values: “With the baby, I much more often feel guilty in terms of what I do and not when it comes to housework and how to organize time.” Having time with the baby and doing whatever he “demands” overruns other considerations she might have. Her consciousness is centered on him and his wellbeing.

This brings us to some other concepts of Bourdieu that are applicable in understanding times of possible change. He operates with the concepts of *doxa* as what is considered normal and self-evident: it “goes without saying because it comes without saying.” By contrast, *opinion* is the part being “explicitly questioned” (1977: 167–169), open for debate. In opinion we find both *orthodoxy*, where the alternatives to what is taken as normal are actively repressed, and *heterodoxy*, where critical discussion might appear (Bourdieu 1977; also Gullestad 1989: 45; Wilk 2009: 150). Hence, the shaking up of the social field for Tina and Victoria when they became parents takes some of their

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<sup>24</sup> This is a common Norwegian description of the materialistic focus in society, as in the term for the “throwaway society” – “bruk og kast-samfunnet”; the mentality of “bruk og kast,” if something gets old, or you are tired of it, or if it gets broken at once, this is not really a problem because buying something new is essentially good, making progress.

understandings of washing and cleanliness out of doxa and into opinion, yielding a change in what is normal or orthodox and what is not. Here the possibility appears for “the systematic exploration of the un-thought categories of thought that delimit the thinkable and predetermine the thought” (Bourdieu and Wacquant, 1992: 40). Thus there is room for reflexivity and change, albeit quite narrow. Some concepts from Anthony Giddens may add to this complex.

### 3.1.4 Individual practices versus streams of action

Giddens tries to resolve theoretical dichotomies between agency and structures with his theory of structuration, where “practices ordered across space and time” (1984: 2) are at the core of the social sciences, and further that social activities

are recursive. That is to say, they are not brought into being by social actors but continually recreated by them via the very means by which they express themselves as actors (ibid: 2).

This might not seem far from habitus, and Giddens also operates with a concept of *practical consciousness* as stocks of common, taken-for-granted knowledge (Giddens 1984, 1991; Adams 2006: 513), but the place for reflexivity is seen quite differently by Giddens, who speaks of “reflexivity as grounded in the continuous monitoring of action which human beings display and expect others to display” (1984: 3); further, that the “most mundane forms of day-to-day conduct can quite properly be called intentional” (1976: 76). However, he draws a fairly illuminating distinction between the single conduct, and “streams of action” (1984: 5). It is not often that the agent has a clear-cut end in mind which re-organizes energies unequivocally in one direction (1976: 82), and all acts within a process or stream of action do not necessarily involve reflexivity and meaning, although the process as such does (1984: 5).

This is indeed relevant to energy use. The practices involving energy use might be seen as *services*, subject to culturally specific understandings of what is

normal in terms of, for example, cleanliness, comfort or convenience (Shove 2003). Streams of actions as reflexive or intentional can thus be understood in terms of these middle-range concepts. For example, the habit of washing underwear after it has been used once was unequivocal among the informants in this study. As Marianne Eriksen (41) explains,

*Underwear is put to wash after being used once; you don't really check whether it is dirty or has got stains or anything, because that is just what you do.*

The single act of putting underpants or a bra in the washer might not really be deliberate; however it acquires meaning in relation to the fact that it is considered the normal and appropriate thing to do. Having clean underwear every day can thus be seen as a certain service that governs a stream of less conscious practices. Habitus as a conservative force is at work here, entailing cultural definitions of cleanliness; but, with Giddens, we might add to this the opening of streams of household practices involving energy use, practices being seen as intentional in relation to these broader services.

Moreover, Giddens also provides room for “unintended consequences and unacknowledged conditions of agency,” at least in his earlier works (see Adams 2006: 513). This is quite relevant here, especially in terms of the disembedded character of such consequences and relations in time and space (Giddens 1984: 14), illustrating important aspects of globalism and the globally influencing and diffuse consequences of the everyday activities of individuals. This is relevant to energy use and climate change, where direct causes and effects might seem vague and hard to grasp. Most people probably do not reflect on how their mundane daily energy-consuming routines might be related to climate change (Jamieson 2003), and although the moral imperative for Western countries to lower their energy consumption in order to mitigate climate change and ensure development in poor countries is drawn out (Pogge 2005; Gamlund 2007), it does not appear as self-evident. As Jørn Lunde (29) says:

*It is like... we do know about climate change and all that, but it is easier to do things outside than within the home. For example travel by bus or metro, and we have also thought about getting an electric car...But at home, I don't know... We really aren't willing to use the washing machine less or turn down the heat to save electricity; we don't feel motivated because we cannot really see the results. I guess it is the comfort that is stopping us.*

However, the underlying premise here is that these everyday practices, or rather clusters of practices, also do matter on a larger scale: they are not sustainable in a global, long-term context.

### 3.2 Doing “nothing”

My initial question in many interviews, “can you describe your daily routine of doing dishes?” was met with certain confusion among some informants, like Trond Arnesen (51): “*What do you mean? We have a dishwasher, so we don't really do anything.*” This illustrates how habits and routines are commonly seen as *doing nothing* (Ehn and Löfgren 2009); they are rarely noticed or reflected upon, and lie within the habitus at the level below consciousness. However trivial they may seem, routines might hide questions of power, freedom and control in their apparent insignificance or invisibility (ibid: 99), and routinized relations can in fact be seen to characterize almost all social practices (Reckwitz 2002: 253). In fact, their insignificance or the way they are taken for granted itself might be a source of their power. Striving for harmony or stability is important here. On the individual level, routines can be regarded as aspects of the life-world, as efforts to make it integrated and to order the elements of existence (Gullestad 1989: 23). Put in simpler terms, they characterize the striving to organize everyday life and to cope with the demands of an often hurried or chaotic experience of daily activities. An element of coping is also inherent in how Bourdieu describes habitus: “[T]he practices produced by the habitus [are] the strategy-generating

principle enabling agents to cope with unforeseen and ever-changing situations” (Bourdieu 1977: 72). Here Giddens complements by accounting for routine as

integral both to the continuity of the personality of the agent [...] and to the institutions of society, which are such only through their continued reproduction (1984: 60).

Thus, habits and routines might be the source of order, oases of restfulness and security, but also practices that can become straitjackets and may block change (Löfgren 2007: 134). Although my informants did not really distinguish between the terms “habit” and “routine,”<sup>25</sup> which is not common parlance, I should offer some theoretical comments on the relationship between them. The terms are especially current in economic and organizational theory, where they refer to the individual (habit) and to the group (routines) (Hodgson 2004). Habit is something that lies within the individual, as a source of action, whereas routines are one ontological layer above habits: existing on a substratum of habituated individuals in a social structure (ibid). Here this implies that habit is understood as a predisposition for certain acts, while routines are repeated acts and have to do with more reflexive organization of practices. Basically it can be said that people *have* habits, and they *make* routines.

Making routines is about integrating and absorbing new tasks into the everyday, and turning them into effortless and “natural” activities, in a sense part of the habitus. As Giddens writes (1984: 60), routines may be best understood by looking at “critical situations,” the moments where established modes of accustomed daily life are drastically undermined or shattered. These are unpredictable situations that threaten or destroy the certitude of institutionalized habits. Although most situations of change in everyday life actions connected to housework are far from the seriousness of Giddens’ example of being put in a concentration camp, it still might alter the situation for the agent drastically, in

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<sup>25</sup> I conducted all interviews in Norwegian, and the language does not really differentiate between the terms. At least there is no direct translation from English. In Norwegian there are the terms “vane” and “routine,” both of which can be translated by either of the words “habit” and “routine.”

that habits and routines of daily life are understood as ways of organizing the life-world and creating order in schedules.

The repetition and recognition of routines are ways of creating safety and security; to help reduce ontological insecurity (Gram-Hanssen 2007: 1182). Löfgren calls this a “basic survival technique” (2007: 135), and describes how experiencing the “burnout syndrome,” a personal collapse caused by overwork and/or emotional overload, is connected to the breakdown of everyday routines and thus feelings of chaos and hopelessness. Hence, the moments of change are crucial for the understanding of workings of routines. Technologies can be seen as integral to coping practices. This aspect can be explained by the example of the Børresen family, who stayed in a rented apartment for a few months while redecorating their house. When they moved back into their house again, *“everything was changed,”* and *“it was like living in a hotel or something, totally unfamiliar”* as Anne (46) tells me. Especially challenging was the fact that all the appliances were new, and the couple *“did not have time to read all the manuals, because there were so many, everything was new.”* For the whole first week they could not get the refrigerator to work. As Anne recalls:

*Things got a bit chaotic and we did not know what to do. We had to live without a refrigerator, throwing away food and putting some to cool outside, and it was really a mess.*

Although the focus here is on stability and resistance to change, such moments of breakdown and change might be illuminating for understanding just that. In the following we will look into such moments of unpredicted circumstances.

### **3.2.1 Minor breakdowns and major crises**

As we will see in the next section, there has been a lot of focus on the “time squeeze” in society today; however, as Shove (2003) notes, it might be more accurately understood in relation to the appropriation of household appliances as



convenient, with new ways of arranging time. Previously “convenience” might have been synonymous with saving time, it is now more a question of shifting, juggling and re-ordering tasks, keeping in control of time (ibid: 170–172). Berit Arnesen (51) says about her tumble dryer: “*We are completely dependent on it; without it I don’t think I could stay on top of things during the winter.*” Mother of four children aged one to eight, Marit Andersen (29), explains how she has to make plans for juggling of time and activities like turning on the washing machine while the kids are eating, before walking them to kindergarten and school, in order to “*hold it all together.*” Using the appliances has become self-evident, and part of habitus in the form of “a kind of internalized second nature people need to survive in their everyday life” (Löfgren 2007: 135). Thus a breakdown can be critical. This is arguable also from a psychology perspective: the stability of one’s surroundings is central to habit performance as reflecting the routine repetition of past acts (Kashy, Quinn and Wood 2002).

There were two significant kinds of breakdown situations in this study: one was a major change in the family structure like a new child, as with the case of Tina and Victoria Haug, to whom we return in the following. The second scenario involves the breakdown of the electronic devices; on the other hand, this can often be dealt with by buying a new one. As Berit Arnesen (51) says, “*the washing machine broke down once, but then we just rushed out and got a new one. It was total crisis, though,*” and her partner Trond Arnesen (51) adds: “*We tried to get it fixed, but it was impossible, so then we just had to whoosh!...buy a new one that very instant.*”

Trine-Lise Bjørnsen (35) experienced more prolonged troubles with her washing machine, when it suddenly caught fire one day. She experienced the situation after as quite problematic: “*It is not that it took much more time as such, but it is about the planning,*” she explains, and further:

*When my washing machine was broken, I was without one for some time, because I wanted to get it repaired, and then I used the laundry room in the basement of the neighboring house. It is a terraced house, and they have a common laundry room in the basement. So then I had to drag the clothes all the way over there, to the other house. There were lots of problems as to the planning, I had to think through everything much more in detail, because there was no system in that laundry room, it was just first come, first served, so I had to take the chance that it wasn't busy, and if it was, I had to check again later. It was quite a hassle with that uncertainty.*

Her frustration cannot be understood in the framework of an alleged time famine, but rather concerns the need to keep order in her schedule. As Southerton (2003) argues, being harried or frustrated over aspects of time has to do with the allocation of practices within planned frames and schedules. Shove writes that while tasks like laundry used to be activities that occupied longer spans of time, with convenience devices they have been fragmented into sequences of discrete tasks, each requiring moments of attention (Shove 2003: 169). As noted by Southerton (2003), people make detailed and compressed agendas of what is to be done in a defined timeframe – and then if one of the activities gets delayed, as with Trine-Lise and her laundry, this makes problems for the rest of the time plan. A set of practices not going according to plan can thus turn a relatively relaxed time frame into a harried one (Southerton 2003: 22). Trine-Lise explained that she could often do other things while the machine was running, but that the

*thing with the laundry is to get the machine on, then I know it will be done in a little less than two hours, and I will be ready to hang it up to dry.*

Returning to Victoria (33) and Tina (32) Haug and their newborn son, Tina explains: “*Routines, I don't know...we don't really have so many routines right now, it is all about him now.*” The couple did not have a dishwasher before, and it was really by chance that their new apartment had one, but with the baby it has become “*lifesaving*” and “*necessary.*” Tina goes on to say: “*There was something*

*weird with the dishwasher this weekend, and that was really a crisis!”* and Victoria continues:

*Yes, but with the washing machine, it is much worse; we could never manage without, not even for a day! No, if that broke down, we'd get a new one the same day, I'm sure. We would have to.*

However, she is not happy at the prospect of having to buy a new machine, especially due to the manufacturers:

*You know they do it all on purpose, make the machines so that they will break down quickly, it's all worked out so that the machine will break down right after the warranty runs out. I read an article about that. So I'm very skeptical to the people who make money that way.*

Habitus is embodied and to some extent below consciousness (Bourdieu 1977: 94); how tasks are to proceed is embedded within the body (Shove 2009: 25). There are fixed notions of “proper times” and organizations for different activities, the break of which might cause unease (Shove 2009: 25), even though they might appear as they do to Tina and Victoria, who describe things as “*not really too organized*” – but importantly, that is also a routine or something predictable. With the new baby, daily rhythms have changed, as have priorities:

*He [the baby] doesn't really have a rhythm yet, suddenly he is hungry, or then he sleeps for two hours or ten minutes, it is impossible to predict, so we just have to get things done whenever we can...He is the new boss her now, he decides,*

Victoria says. The devices here emerge as tools for are keeping in control, managing chaos in the usual order, as Tina adds:

*We really depend on the dishwasher now, and to be honest I just put everything in there these days.*

The compression and fragmentation of time is itself a consequence of the development and use of technologies that bind their users into wider regimes: devices have the unintended consequence of linking people into an ever-denser

network of inter-dependent, perhaps even dependent, relationships with the very things designed to free them from just such obligations (Shove 2003: 178). Paradoxically, convenience devices might increase problems of scheduling and co-ordination by inspiring the search for new and even more convenient arrangements (ibid: 170). In his study of households in England, Southerton found that by employing personal strategies utilizing convenience technologies in the allocation of practices within particular timeframes, people acted to reproduce the socio-temporal conditions that generated hurriedness in the first place (Southerton 2003: 9). He found that this was related to anxieties about social and interpersonal relationships, and to “time for care.” This in turn relates to the moral aspects of understandings of time, and is also closely connected to managing space. When Trine-Lise Bjørnsen (35) was annoyed at not having a washing machine, that had to do with the fact that the one she could use were located outside her home. That calls for a deeper look into the aspects of time and space.

### 3.3 Time and space

#### 3.3.1 Time as value

On the one hand, I am reluctant to apply the concept of modernity in this analysis, both for the reasons of its normative connotations of modern and “progressive” as opposed to traditional and thereby “backward” (Wilhite 2008b: 8) and its risk of becoming a bankrupt term, entailing nothing or just about anything. However, , it cannot be overlooked here. In relation to new conceptualizations of time and space, modernity – both as a historical period and as ideological stream – entailed certain developments and changes in the socio-temporal orders of society. Don Slater’s (2005) term of “the texture of modernity,” as regards social institutions and intellectual aspects alike, seem apposite. Giddens (1990: 17–19) writes that modernity is *sui generis* as to the transmutation of time and space, their

“emptying” in the sense of being separated from place. People and practices are no longer tied to particular places and times, but modernity makes it possible to connect local and global, and to dis-embed practices from space and time. Although this insight relates especially to the understanding of globalization, increased mobility and information technologies, it might also be applied to the context of everyday activities and convenience technologies. For example, household devices like dishwashers, washing machines and tumble dryers enable the agent to do the washing up or laundry, without being in the same room, in compressed time in comparison with earlier. On the other hand, these machines require the agent to be present at certain times – putting dishes or clothes in, turning on the machines, emptying them, and so on (Shove 2003: 169–178). Hence, modernity has major implications for the allocation, organization and understanding of time and space. This again also has had a strong influence on social research, where the analytical separation of space and time is common and might be misleading (Boden and Friedland 1994: 3).

New conceptualizations of time are connected to concrete historical developments. Time as we know it was in a sense “invented” fairly recently as regards the Western world. The high-precision clocks that appeared in the 16<sup>th</sup> century implied a time that is not revealed through seasons or planetary movements, but something that the clock itself renders. As time used to be synonymous with the actions taking place, the new concept created a need to be responsible for the time and fill it with actions (Øverland 1995: 8). This also has to do with the individualization of time schedules, as paid individual labor appeared with industrial capitalism, paving the way for a “battle for time” (Ellingsæter 2005; Thompson 1974). Paid work meant that time could be transformed into money, and fixed work hours became a major structuring element in society. The sense of scarcity of time and the conflict between work time and leisure time appeared early in modern society (Ellingsæter 2005: 307). The saying “time is money” might hence be read as a historical reference to what

shaped the modern concept of time and gave it a central place in our consciousness (Berg Eriksen 1999: 176). Heidegger (1927) claimed that mechanical time twists our relationship with reality, because it makes us see time as a thing, and not something innate within us and always interwoven with what we do and who we are. Neither time nor space is something in itself: both are determined by the acts and things they contain (Berg Eriksen 1999: 211). Time is not an *a priori* framework with past, present and future as fixed categories. Put differently, events do not automatically come in a temporal order. Both temporality and spatiality are constituted in social practice as the world around the actor, not to be separated, as *timespace* (Schatzki 2009: 36). “Practice is not in time, but *makes* time” (Bourdieu 2000: 206). Temporality is hence an axiomatic feature of practice, and movement in space always implies movement in time. With habitus, these are inscribed in the body (ibid: 141). The body can sense when it is time is for eating or sleeping, which are deeply social and cultural aspects. Habitus entails divisions of space and time, of people and things that structure social practice: it is both a division and a vision of the world.

Giddens (1990: 19) argues that the separation of time and space provided gearing mechanisms for a distinctive feature of modern social life: the rationalized organization. In popular as well as academic debate, there has been much talk about how such features of modernity have entailed greater demands on the time of the individual and consequently shortages, bringing up the concept “time squeeze” in Western countries like Norway (Ellingsæter 2005: 299). Paradoxically, it is possible in the Western world to have more free time and flexibility in work today than ever before, but people still feel rushed (Southerton 2003). The phenomenon of feeling like a prisoner of time has increased also in Norway during a period with stable regulation of work hours and greater flexibility (Ellingsæter 2005: 298). Statistics tell us that people spend half as much time on housework in 2000 than 30 years before, and have far more leisure

time and more time for the family (SSB 2002). Again, we need to look into the organization of habits in time and space.

### 3.3.2 Juggling time

Dishwashers, washing machines and tumble dryers are connected to ideas about “saving time,” and are commonly termed “convenience devices” (Shove 2003: 169ff). Traditional theory would say that the emergence of household appliances during the 20<sup>th</sup> century meant less effort needed to produce same outputs, thus enabling people to spend less time on housework, and not least making it possible for women to work outside the home (Kaufman-Scarborough 2006). Feminist researchers have questioned this thesis (Cowan 1983); but more fundamentally, it is not sensitive to dynamics in output standards and socio-temporal orders. Importantly, practices related to housework are subject to contextual aspects in the sense of what is considered natural. These standards are part of, and are reproduced by, the working of habitus as “a socially constituted system of cognitive and motivating structures,” whose resultant everyday individual and collective practices always tend “to reproduce the objective structures of which they are a product” (Bourdieu 1977: 76). Through the operation of habitus, the particular practices of which individuals of a given group or class appear “natural,” “sensible” or “reasonable,” even if there is no awareness of the manner in which those practices are adjusted to other practices or are structurally limited (Pred 1981: 8). The term “convenience” was not really associated with time until the 1960s, with the emergence of convenience foods and convenience stores (Warde 1999: 520). Modern conveniences make labor less stressful, dirty or heavy. *Strictu sensu*, they compress the amount of time absorbed by an activity (Warde 1999: 521). Marianne Eriksen (41) says:

*We are very privileged today, with all the technological equipment. It is so convenient, but we do need it, in a way. It's true, they had more time earlier, and mothers were at home. But they probably didn't wash too often; we wash way too often, and have way too many clothes.*

Moreover, measuring how household appliances have changed the time consumption of housework in form of the amount of time spent might not be too enlightening, because such appliances are part of a whole nexus of new ways of allocating and managing time, involving complexes like multi-tasking, dovetailing and the juggling of activities, schedules and rhythms (Shove 2003, Kaufman-Scarborough 2006). They are made possible by these new rhythms, but they also make them possible. Moreover, theories that hold that daily life is speeding up miss a bigger point: understanding how temporal rhythms are ordered and re-ordered. In a comparison of descriptions of hurriedness in 1937 and 2000, it appeared that in 2000 there was wider variation and greater flexibility in temporal rhythms of everyday life, and a growing necessity for personal coordination of practices, with schedules becoming individualized (Southerton 2009: 61–62). This creates coordination problems, with space and not only time, since people are mobile and institutional time structures are destabilized. All this makes for a greater need for control (Ellingsæter 2005: 309).

Information technologies extend workplace boundaries beyond the constraints of physical space to settings defined by electronic communications, unconstrained by limits of linear time or separable space (Kaufman-Scarborough 2006: 63), illustrating the time/space distancing of Giddens (1991). In fact, a similar description could apply to housework and the use of convenience appliances. Marianne Eriksen (41) often turns on the washing machine before leaving the house because she *“likes the thought of something being done while I'm away doing something else.”* The technologies are here not only symptoms of “new times,” but also make possible the new arrangements of temporality (Kaufman-Scarborough 2006: 68; Shove 2003: 169ff) – notably polychronicity,



combining activities within one time-block or shifting between different tasks (Kaufman-Scarborough 2006: 67). The most typical poly-chronic arrangement is multi-tasking, doing several things at once, which single parent Steinar Monsen (36) describes as a “*self-evident feature of housework*” that he does all the time: “*Of course I do. You have to do that to manage time, you know.*”

Another aspect is dovetailing, starting on one activity and monitoring that while actively pursuing another. This is typical of working from home or having a home office, as described by Signe Kleven (72):

*I had a home office for ten years, when I did all the secretarial work in an organization. Then I could leave the computer for a while and turn on the washing machine, but I took the phone with me even if I was doing something else, because then I could do things in-between working, even if I was at work from 8 in the morning.*

Hence, she is situated “at work” as the main pursuit, but still does other activities at the same time. Berit Andersen (51) describes this in similar manner:

*I usually do the laundry in the morning, or during the day. I turn on the machine before everyone leaves in the morning, before I start working. Then it is just doing its work...Sometimes I will leave the door open, so I can hear. But I know it takes about an hour, and if it is time for a break, I will empty it then. I make it fit with work.*

These intersections of workspace with domestic space call for integrating work and home schedules and rhythms, and demand new types of segmentation, coordination, utilization and synchronization of time (Kaufman-Scarborough 2006: 58). However, some activities require more presence than others. Steinar Monsen (36) like to “*minimize the time I’m actually standing by the sink in the kitchen, so I can be present where the kids are.*” More than the time squeeze, one might speak of compressed time or intensified time, as more activities in the same quantitative amount of time (Nolan 2002). This also has major implications as to how time is valued in moral terms.

### 3.3.3 Hot spots and cold spots

There is a crucial divide between practices that are “boring” or “worthless” and the “real” and valuable. The feeling of being short of time also is connected to a search for “quality time,” being able to do whatever is considered really valuable (Southerton 2003). The continuous search for equipment and strategies to enable certain activities to be done more effectively, such as new household technologies, is linked to the search for real time. As Trond Arnesen (51) says:

*Everybody is talking about the time squeeze these days, but it is a bloody illusion. You know back in the days people worked ten hours and did not have washing machines and...But then their whole lives went by doing this, people died when they were 53 because they were exhausted, so in comparison to the life we live and all the things we do, it is hard to imagine. But we would have managed! [...] But it would have been a much less fun life, because we would had to spend more time on the activities that really are rather boring and worthless, and less on the real stuff.*

Southerton (2003: 19) describes this schism as *hot spots* and *cold spots*, hot times of compression of tasks into specified timeframes, in order to save time for the meaningful activities of the colder spots characterized by slower pace and longer durations of time, much as Trond Arnesen describes. This can be analyzed on background of forces in modernity, making time a good of scarcity and focusing on enjoying every minute, not missing out on anything (Berg Eriksen 1999: 237), and the Protestant ethic of time that is not to be wasted but put to use (Southerton 2003: 12). This image of lost time is clearly painted in relation to childhood, and the alleged “time thieves,” robbing children of their harmonious and valuable times, such parents’ work (Ellingsæter 2005). In this light it can be seen as a sense of modern *hubris* and the will to overcome all barriers, the last one being the brief span of individual human lives. Social time is no longer framed by biological time, but should rather be seen as a war against nature in both ends, against aging and the bodily need for rest (Berg Eriksen 1999: 226). This focus on welfare in time is driven by increased material welfare (Ellingsæter 2005: 299).

On the other hand, others hold that modern consumption becomes self-engulfing, that people work more to spend more, resulting in extra pressure on their time with friends and family (Schor 1993; Löfgren 2007). And in reaction there have come movements to promote “slow” life ideals, like simple and sustainable life (Shove et al. 2009: 1) in the form of eco-villages such as *Hurdalsjøen økologiske landsby* in Norway, where I interviewed one resident. There, “slowness” and simplicity are not seen as setbacks or giving up on something, the opposite is ideal: “If it ain’t fun, it ain’t sustainable.”<sup>26</sup> It illustrates how the feeling of being short of time is an interpretation of the situation that relates to images of normality and social standards (Southerton 2003).

Moreover, there is a strong moral component here, not really captured by the categories of hot and cold spots or rush and calm (Shove 2003: 178). There is a moral aspect to the practices relevant here in washing and laundry, that they are connected with handling *dirt* or *disorder*. As Mary Douglas pointed to, dirt is closely connected to making order and keeping control, as “matter out of place”<sup>27</sup> (1966: 36), linked to moral classifications. People make schemas to handle the chaotic and shifting notions of the world, so as to keep in control. These meanings are used within everyday practices to make and maintain social relationships; not only do they organize practice through the categories of social order, but through these practices the social order is reproduced (Douglas 1979, in Slater 1997: 150). With Bourdieu, such schemas and meanings order are embedded in the house, which can be seen as a small-scale model of the moral cosmology of society as a whole. The system of meanings both originates in and reproduces the social order through practice, again embodied in actors through habitus (Bourdieu 1977). Here we can note a connection between the spatiality of the house and temporality of practices related to everyday life and housework. In this analysis I will suggest the terms of *real time* versus *waste time*. As Cesilie

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<sup>26</sup> See the homepages of Hurdalsjøen økologiske landsby, [www.hurdalecovillage.no](http://www.hurdalecovillage.no).

<sup>27</sup> Mary Douglas operated with her theory at the level of whole societies, tribal communities etc., and was thus fundamentally structural in her approach. However, some of her ideas are here applied to the individual level.

Kroken (44) says, “*time for housework is not something you have, it is something you take.*” The real time is for other more valuable purposes, and the time for housework is nothing in itself, but is taken from the real time, and is hence wasted. In this regard, household appliances could be regarded as measures for “getting” more real time. Siri Hansen (35) notes:

*Housework must have been much more time-consuming before. It doesn't really take too much time to just put everything into the machine and put it on. No matter how long the dishwasher or washing machine takes, you have time so you can do something else in between. In a sense you get the time when the machine is running.*

For Siri, the help of the machines provides her with more real time.

### 3.3.4 Real and waste time

Leaning on the notion of Bourdieu, describing the house as a cultural micro-cosmos, Gullestad (1989) writes about the systems of oppositions or mental dichotomies that are enshrined in the design of houses. A relevant dichotomy is that between nature and culture, with *dirt* understood as a large part of the “nature” category. And as Gullestad points out, activities of this kind connected to washing, cleaning, food, sexuality – all of those practices are connected to bi-scenes and backstages in the house (1989: 54). Washing machines and tumble dryers are thus commonly placed either in the bathroom, or in a separate laundry room. Having a laundry room appears as an ideal, as for Karianne Lunde (29), who has just redecorated her apartment:

*I'm very happy that we have a spare room upstairs now, it is so handy to put all the clothes for drying and sorting up there, so we don't have to keep them in the bathroom when we get dressed and stuff.*

She says that she “*dreams of one day having a large laundry room with washing machine, tumble dryer and lots of space for drying clothes.*” With the dishwasher,

commonly placed in the kitchen, the most important thing for Karianne was to have it “*built in, because I didn’t want to see it. That was the only criterion actually. So it is not really a very good machine, I think.*” This seems to be the preference for those who have an apartment with “open plan,”<sup>28</sup> quite fashionable in newer Norwegian apartments. Some also mention an unpleasant scraping noise from the machine, like Marit Andersen (29), who wanted a machine with low noise levels so that the children would not be bothered when they sleep.

But this is not only about dirt and the placing of technological objects; it also is related to difference between the real and waste times of practices. These appliances are often hidden away or placed in less important places in the house, which also has social and cultural connotations as to what is considered appropriate and valuable – and that again brings us to the aspect of real and waste time. While the bathroom, kitchen and laundry room represent nature and ways of systemizing dirt, the living room is associated with culture, with activities like having conversations and visitors, reading and most of what is connected with leisure time (Gullestad 1989: 54). “Real time” is spent in the living room, “waste time” in the laundry rooms. Housework is not considered as doing anything, but more as a thief that steals time from the real moments. Hence, it becomes important to intertwine demands of housework with other activities. Janne and Geir Pettersen (21) have a laundry room in the basement. Janne is frustrated because she has to spend so much time going down with the laundry, going back up and waiting for it to be done, and then she must go down again to take it out. The time “in between” disappears, it gets lost:

*I usually do the dishes while he makes dinner, then I save some time. But with the laundry, we have to take the time, find it. Because we have to do that all the time, we cannot do anything else in between. I don’t get the time to get into studying. So I usually bring a radio down, and do some dancing down there.*

Geir agrees:

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<sup>28</sup> The kitchen and the living room are not separate entities.

*It is only during the first round of wash you have time, when there is nothing to hang to dry. Yes, it becomes dead time. I just sit and watch TV because that is probably the most efficient thing I do to spend that time.*

Watching TV here seems a middle ground. Although commonly not regarded as connected to real time, it is still seen as an activity that can add value to the waste times, especially in its opportunities for being combined with housework. Øyvind Larsen (26), who does not have a dishwasher, has developed a specific routine to ensure that he does not spend too much time washing up:

*Am I conscious about saving time? Well, yes. I know that dishes have to be done anyway. So I make sure that something else is going on at the same time, it could just be listening to a record or something, or I watch the news or sports on TV. Then I don't have to focus on the washing. The dishes are in a way done for me then, because I'm watching the news anyway, so I don't have to think about doing the dishes.*

Moreover, many consider evenings and weekends as moments of real time, of relaxing, of time with children, or for some also “own time” with a break from the children. Marit Andersen (29) says that the evenings are “sacred”: they are her times “for herself”:

*I usually turn on the dishwasher in the afternoon because then there is a lot happening anyway, you know looking after children, food, getting them to bed, all that. But when the children have gone to bed, the housework...No, I don't bother with that. Then it is relaxing and watching TV. It is so good to have those hours alone in the evenings.*

Since retiring from employment, Signe Kleven (72) prefers to do the housework early in the day: “It is about getting it done for the evening. Not that there is so much TV, but you relax.” And her husband Mauritz (72) adds: “Yes, and you often do laundry early in the morning so that we don't ruin the day.” Here the categories of waste time, the housework, are not to be mixed in with the real time, which would “ruin” it. Housework should be done so that space is cleared for

doing other “real” things. And even though “*it is different for us, we are retired,*” as Mauritz explains, they maintain a quite strict organization of the housework.

### 3.3.5 Childhood time-thieves

Problems of social synchronization of time-space paths are the fundamental source of the problem of hurriedness. It is not just that the cook cannot be in the right place for long enough; it is also that those for whom (s)he might be preparing food also are juggling their schedules. Face-to-face meetings require time-space trajectories to coincide, for either mutual or personal convenience (Warde 1999: 525). The relationship between values of different times is in this regard illustrated through the aspect of time with children and the need to be physically present. Surveys show that people in Norway now have more time for their children, and spend less time on housework, but the demands of time with children are still increasing, subject to norms of the intensification of parenthood (Ellingsæter 2005: 315). This trend was very notable in this sample, as for example with Anne (46) and Frank Børresen (44), who saw acquiring a dishwasher as a way of getting more time to be with the children, talking about how their youngest son might be able to take part in more activities in the evening. As they say, “*we don’t want to take from the core time with children to do housework.*” This difference between the time for work, or the hot spots, and the cold spots of family time is evident also in the emphasis on weekends as “family time.” Marit Andersen (29):

*Yes, it is especially in weekends that it is good to be done with housework before the weekend because then you can spend time with the children instead of stressing around doing housework, that is really the worst thing, to tell the kids, you know mommy has to wash the floor today, but sometimes you just have to do that to.*

Childhood should be the ideal time full of “real time,” not having to worry about keeping order and schedules. Pernille Stensen (88) also shows this through her

nostalgic reflections on a childhood with “*unlimited time for play*” as opposed to the hard times of becoming a young woman, having to provide for herself and later her children, after moving from her home town Bergen at the age of 13:

*I left my childhood in Bergen. There we had help in the house to do washing and laundry and all that, we never had to think about those things.*

Notably, while households with children considered weekends “family time,” households without children saw the weekends as convenient times for “getting on top of” housework and getting geared up for the new week. As with Karianne and Jørn Lunde (29): “*Maybe we take some hours on Sunday to get some laundry and cleaning done, and then we do it together.*” Or Trine-Lise Bjørnsen (35), who says “*sometimes I use weekends for doing laundry. At least if I am just at home anyway.*” Many see the demands for time with children as in direct conflict with housework. Karianne Lunde (29) is pregnant, and says that she wonders, “*how in the world we will get all this done when we both work and have time for the baby.*” Single parents may feel more pressured for “real” time with children, as Siri Hansen (35), who has two small daughters:

*With two grownups in the house, things would have been different. Then the girls would not have had to be involved so much, I think. Then we could have done it step by step... We would have done it without the children, individually.*

She re-defines the wasted time of housework into quality time with the children: “*The girls participate a lot in housework. It is sort of a way of spending as much time possible with them.*” She has a quite distinct routine where “*the machines do the work in between*” and the operations that have to be done manually are made into fun moments for her daughters.



*I get up at 6.30, put on the dishwasher, and then runs while we eat breakfast and go to work and school. Maybe we get the washing machine ready together before we go, and then the oldest pushes the button when she comes home, she thinks it is fun because I leave a note for her, remember to turn on the machine, or sometimes she puts the food in the oven.*

Siri and the youngest daughter come home a little later. Then they make dinner and eat, and the girls help empty the dishwasher and clean the table. They often have some activities in the evening; the girls do swimming and acrobatics. When they get home again:

*The clothes are ready and we hang them up. The girls think it is fun, which is nice because their mom really doesn't think so. They get pocket money, but they forget about the money all the time, so that is not why they do it, they like to help, they feel very grown-up then.*

This way, Siri has a strategy of redefining time doing housework as real time in that she includes the children and makes it playful.

### **3.3.6 The real qualities of life**

It comes clear that people would like to spend as little time as possible on the practical activities connected with, for example, doing the laundry, keeping it at a distance both mentally and physically. An example here is Anton Mikkelsen (63), who lives with his wife Klara (59) in a rather large detached house. Their two children are grown up and have moved out. Anton feels that he is getting close to retiring age, and has started working from home and much less than he used to, in order to get more time. He wants to enjoy the “*real qualities of life*”:

*The more housework you can delegate to machines, the better. I think we are a generation of human beings who spend as little time as possible on practical housework, and as much as we can on things that increase life quality. Newspapers, reading a good book, job, human interaction, sports, travelling, culture... It's in the end a question of what kind of a life you want to live.*

Anton has put the washing machine and tumble dryer in a laundry room, and prefers to turn on the dishwasher at night so he does not have to hear its disturbing noise. He seeks to “*get time for important stuff,*” and by removing this housework physically, he organizes his house according to that value.

How time is valued might also be seen in relation to self-understanding and felt expectations from others. Habitus is spatial in nature, entailing the idea of a set of distinct and coexisting positions which are defined in relation to each other as differences and distinctions in a field or social space (Bourdieu 1998: 6). The classifications of differences are mediated through tastes, which are parts of the acquired habitus, and the amount of *cultural capital*<sup>29</sup> largely influences habitus and determines social status in a field. Recent years have seen an upsurge of “slow movements” – slow living, slow food, slow sex, and so on. This is part of a trend where time is connected to happiness. A slower pace is characterized by more pleasure (Shove et al. 2009: 1). This might be seen as cultural capital in the Bourdieuan sense, as a privilege of the modern middle class; leisure time was from the outset connected to the middle classes as time for self-development, expansion of horizons and “refinement” (Berg Eriksen 1999: 240). There are some tensions here between valuing convenience and “keeping on top,” and appreciating a slow pace. The term “convenience” is challenged by ambivalence towards care. Tellingly, manufacturers of readymade baby-food never mention “convenience” in advertising, as that could give associations to a lack of time and thus lack of care (Warde 1999: 520). The degree to which people are prepared to compromise care for convenience is here linked to judgements of taste and social standards and distinction with a basis in habitus (Southerton 2003: 23 on Bourdieu 1984). It is sensitive to expectations of what is valued and rewarded by others too, as for Steinar Monsen (36), who ensures me that “*you mustn’t think that I am like a cleaning Nazi or anything.*” He says that he “*likes things to be*

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<sup>29</sup> Importantly, the description of different types of capital is based on differentiation between classes and power structures with Bourdieu. However, I do not deal with such issues of class, as my empirical material is too limited for that.

*proper around me, I do,*” but he would not decline an invitation because he had housework to be done: *“Come on; I would not grumble about the plates piling up in the kitchen or anything. But I would not like that though.”* Anne Børrensen (46) indicates that sometimes mess is a “necessary evil” in order to be able to do more important things: *“We are not occupied with thinking about status or what people think, to be honest, we want to show that we in a way don’t give a damn.”* There is a clear tension here as to what is valued the most. Convenient solutions “create” time for valued purposes, but with the risk of entailing the unacceptable cost to other equally important concepts of proper performance (Warde 1999, in Shove 2003: 179). The conflict seems most evident in relationships between parents and children. On the one hand, parents want to be able to spend as much time as possible with children. On the other hand, not exerting enough effort in caring for them by doing the housework properly might also cause guilt feelings.

### **3.3.7 The cabin as a haven of real time**

Being close to nature and spending time with family and friends are among the top priorities that Norwegians connect to “the good life” and which they want to do more (Barstad and Hellevik 2004: 30). The cabin/cottage, or *hytte*, is deeply linked with those pursuits, and has traditionally played an important role in Norwegian leisure culture. Some 40% of the population own or have access to a *hytte*, but the ideal of going to one is far more widespread (Vittersø 2007: 266). At the cabin, people are removed from the demands and scheduling of everyday life, the spatiality in a sense converts all time into real time. There is not the problem of scheduling different rhythms and demands of everyday routines and work; the cabin has a spatial and temporal rhythm of its own (Døving 2003).

Nowadays, the building and use of holiday homes or cabins are undergoing important changes with consequences for the sustainable development of activities and consumption in this sector. The traditional Norwegian ideals

attached to the primitiveness and rustic connotations of cabin life and outdoor recreation are being challenged by new norms of convenience, comfort and exciting or special experiences (Vittersø 2007).

Although there is an evolution towards change of material standards in cabins, my sample indicates that some of the romantic coziness remains in connection with being at the space of the *hytte*, characterized by real time. The word *koselig* (“cozy”) involves a central Norwegian concept of social interaction (Wilhite et al. 1996), and it is associated with the private sphere and leisure time. Leisure time is strictly regulated by social norms, not least related to what it means to *kose seg* – to have a good (cozy) time (Vittersø 2007: 268). A part of such “coziness” is not having to worry about everyday routines (Døving 2003), which characterizes the waste times and spaces. Although it is debatable how commensurable all this is with actual practice, the ideal of the *hytte* is linked to traditional Norwegian values like closeness to nature, the basic things, simplicity, for example in the sense of not having too many technological devices (Vittersø 2007; Witoszek 1999). Being physically removed from the pressures of everyday life, practices otherwise connected to waste time, like washing up, become related to “coziness” and real time. As Berit Arnesen (51) discusses with her husband: “*It is like at the hytte, a lot of time goes to washing up...*,” and Trond replies: “*Yes, but there we LIKE it. It is recreation.*” At home, however, the same practice is considered “*a waste of time, really,*” as Trond says.

These issues of the changing images of the *hytte* in Norway and evolving material and technological standards indicate that further research into the field is relevant for energy consumption. Unfortunately, my empirical material did not allow for a further analysis on this subject. I discussed it only briefly with a few informants, by chance, and later realized the significance of it.

### 3.4 Final comments

In this chapter, we have seen how habitus is a source of inertia and resistance to change, paradoxically also by looking at situations where pressures of change occur, like having a new baby or experiencing an appliance breakdown. The image of habits as a conservative social force is not really new, as Thorstein Veblen wrote already in 1899:

At the same time men's present habits of thought which tend to persist indefinitely, except as circumstances enforce a change. These institutions which have so been handed down, these habits of thought, point of view, mental attitudes and aptitudes, or what not, are therefore themselves a conservative factor. This is the factor of social inertia, psychological inertia, conservatism. (1899:190–191)

However, that point has been overlooked in the case of energy use. Applying the theoretical works of Bourdieu and his concept habitus has provided a window into understanding resistance to and possibilities for change in this area.

Moreover, important insights were gained as to the organization of time and space, of importance both for energy use and for developing further social theory on everyday life practices. In this regard, *real* and *waste* times were suggested as analytical categories.

The chapter has shown that time and energy consumption must also be understood qualitatively, not only as numbers and figures. For example, time-saving appliances are assumed to free up time for members of the household. However, the reduction in energy inputs with convenience devices depends on how the time saved is re-allocated. Appliances that increase energy-efficiency will not lead to the magnitudes of energy savings that are predicted in engineering-based studies that assume that appliances are used with the same intensity before and after new technologies are adopted (Brencic and Young 2009: 2860), without looking into their use. This leads us to the next chapter, which deals with the role of technology in energy use in the household.

## 4 Living technology

The field of my work is energy use in the household, addressed through three specific catalysts: the dishwasher, the washing machine and the tumble dryer. Having analyzed habits and routines from socio-cultural perspectives, with a focus on household members, I turn to a second, complementary approach. Without abandoning the actor-oriented practice perspective, I in a sense put on new glasses and change the perspective slightly, placing the technologies closer to the core of the analysis. This is motivated by the insight that such seemingly trivial domestic technologies are not static or silent. They have embedded knowledge and in turn affect the practices which they involve (Wilhite 2008a: 170, leaning on Bourdieu 1998). These processes of influence are versatile, as they may work multiple ways in the network of users, technologies and practices. Consequently, understanding energy use requires analyzing the web of the social and material that constructs energy use (Aune 1998: 3; Shove et al. 1998; Shove 2003). This might necessitate a revision of our understanding of technology in epistemological and perhaps even ontological terms. It also calls for a re-thinking of how to conceptualize *agency*, as not necessarily restricted to human beings.

In this chapter I explore the theoretical idea that technologies are agentic, and seek to locate both the functionality of it as well as indicating some limitations. Starting out with a brief contextual outlook on dominating visions of technology, I head towards the theoretical landscape of actor-network theory, continuously moving closer to the micro-scale and to my informants and the processes of using technologies in their everyday lives. The analytical framework of “domestication,” a metaphor playing on the process of animal breeding, will locate the negotiations between human user(s) and technologies. The aim is to shed some light on the role of the technologies in shaping and influencing practices of everyday life and energy consumption.

## 4.1 Contextual backdrop

### 4.1.1 Savior or serpent?

Technology efficiency has dominated the energy policy agenda of the industrialized countries over the past 30 years, as well as being an integral part of development aid and technology transfer programs for the developing world (Wilhite 2008a: 121). This belief in technology as *the* solution to climate challenges is also illustrated by the following statement from one of my informants, Trond Arnesen (51):

*I refuse to have a guilty conscience because I use the tumble dryer every day, I am not like that. And I have huge faith in technology; you can say I'm very technology-oriented. When people are asked what they do for the environment, they say they use energy-saving appliances or that they recycle, but that is not really the problem, that doesn't mean a thing. Yes, we do drive more than we did before, but a car from the 60s contaminates 36 times more than a car today, and it is technology that has gotten us there, so it is not only our habits. I think it is good to consider the environment and climate change and everything, but I don't think that going back to zero when it comes to technology is the answer, to go into people's homes and take their refrigerators and washing machines. We will always find new solutions.*

I see this as reflecting the standard image of science and technology widely held today, where scientific knowledge is regarded objective, value-free and issuing from specialists. Thus technology becomes an autonomous force in society, and its workings involve intrinsic properties of technical machines and processes (Bijker 2006: 4). This leads to technological determinism where technology is seen as “savior,” or alternatively “destroyer,” following its own momentum of problem-solving or destruction, as in the dystopian world of the *Blade Runner* or *Brave New World*.<sup>30</sup> The implication is that technology can be seen as an agent

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<sup>30</sup> Referring to the American movie *Blade Runner* from 1982, directed by Ridley Scott, where genetically engineered organic robots (“replicants”) get out of control and become a threat to human beings. Aldous Huxley’s novel *Brave New World*, written in 1931, criticizes the human hubris in technological development through visions of a futuristic society where human beings are technologically engineered.

for solving all problems – and this positive determinism is largely the shape it has taken in the realm of climate change.

In the domain of policy, such technological determinism might lead to technocratic proposals where technology is viewed as a sufficient end in itself and where the values of efficiency, power and rationality are accepted, independent of context (ibid: 4). Norwegian energy policy is deeply colored by this, with micro-level efforts focused on information, diffusion of energy-efficient technologies, manipulation of prices and regulation of supply (NOU 2006: 18). The state-operated service ENOVA, an organ established to help businesses and households be more environmentally friendly in their use of energy, has as a major recommendation to “buy new, more energy-efficient technological equipment.”<sup>31</sup>

Technology is indeed a fundamental tool for mitigating and adapting to climate change, and I am in no way undertaking a critical perspective of technology as such. However, technology is a driving force that by its very nature requires human beings to make and use continuously more and new technologies: it is a self-enforcing development (Jonas 1997: 17). The problem is that the savings gained through new and more efficient technologies have been more than offset by the growth in consumption (Princen et al. 2002:17; Wilhite 2008a). An additional important point here is the relationship between efficiency and sufficiency. If improved efficiency standards are to yield the promised reductions in energy use, they should be progressive in nature. As technological equipment gets more efficient, it also tend to get bigger, faster and so on, and if a larger washing machine does not have stricter requirements for efficiency than a smaller one, the envisaged decrease in energy consumption will not be achieved (ECEEE 2010). However, use is also connected to this – for example, more frequent use might have a similar booster-effect on overall energy use. This calls for an understanding of technology that is aware of the inseparability between technology and the social, and the role of technology in energy consumption.

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<sup>31</sup> See [www.enova.no](http://www.enova.no)



The ancient Greek concept of *techne* is the etymological root of our term “technology.” *Techne* was closely related to human skills and art, seen as knowing how to reveal things hitherto in concealment into un-concealment; to unveil pure nature (Bell 1996). Heidegger characterized this as “bringing-forth,” as opposed to the modern anthropological vision of technology as a pure instrument for human beings. In contrast to the practitioner of *techne*, the contemporary technologist is described as “challenging-forth” or changing the nature of materials to make them stronger, more flexible, longer lasting, something fundamentally new and distinguished from the human “creator” (Heidegger 1993). To develop a theoretically useful concept of technology in this context, I will bring with me a lesson from ancient Greece, of not working with a complete differentiation between human being and technology. Although technology in its most narrow sense refers to artifacts, these artifacts are not what they are to us without human activity, and activities are not possible without knowledge (MacKenzie and Wajkman 1985; Aune 1998). In simpler terms, a washing machine is not a tool for washing before we put it to use as such, and that is not possible without any idea of the process. This understanding of technology as a term that comprises interrelations between physical artifacts, human activity and knowledge is central to my work here.

#### **4.1.2 A brief history of household technologies in Norway – from skepticism to self-evidence**

I find it useful to start with a brief overview of the household appliances in question before turning to the section of analysis. The first insight I gained from trying to get an historical overview of household technology in Norway was that rather little information is available on the subject. The Norwegian Museum of Technology (*Norsk Teknisk Museum*) used to have an exhibition of household technology like washing machines and dishwashers, but I was told that had been

removed because of lack of interest.<sup>32</sup> I also contacted several cultural historians, none of whom had specific knowledge on the area. This might be connected with the fact that having a dishwasher and a washing machine (although not necessarily a tumble dryer) is taken for granted in most Norwegian homes today, and in no way controversial or remarkable. Many of my informants seemed surprised that I wanted to spend time and effort studying something so mundane, but I concur with what Anne Børresen (46) pointed out during her interview, *“You know, you never reflect over these things, but it really says a lot in a way.”*

Of the appliances studied here, the washing machine was the first to enter Norwegian homes, and its early story is truly a tale of the everyday life of the housewife. All households in Oslo, Akershus, Bergen and Vestfold had electricity before World War II. However, this did not mean that it was taken into use at once, and the new household appliances like electric stoves, vacuum cleaners and refrigerators met with resistance from housewives (Gram-Hanssen 2007: 1183; Myrvang 2009: 158). This had to do with high prices, but also with the fact that the appliances interfered with practices deeply rooted in the everyday routines of housewives and their images of themselves. However, the new household appliances were heavily marketed from the 1950s through household magazines, big conventions on household technology, prominent home-maker idols like Henriette Schønberg Erken, and even new state authorities established to provide information on cooking and cleaning. Manufacturers of products like detergents and washing machines were important actors in this, and the distinctions between information and marketing were blurred (Myrvang 2009: 153–171). This focus on new consumption items must also be seen in relation to Norway’s expanding economy at the time.

An interview study of women born in Denmark the 1920s and 1930s showed that their laundry habits changed almost immediately after getting a

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<sup>32</sup> The internet site [www.digitaltmuseum.no](http://www.digitaltmuseum.no) offers pictures of different models of among other things electrical household equipment, but this does not provide much additional information.

washing machine. They began to do the washing more frequently and in larger quantities (Gram-Hanssen 2007: 1183). Such developments must be seen both in light of changing views on cleanliness and what is considered normal or appropriate, but also with the fact that the washing machine made this possible and in turn must be seen as recursively influencing these norms (see Shove 2003). The dishwasher entered the market somewhat later and was not common until the 1990s, when the rate of diffusion amplified. It was hard to find similar sources on the dishwasher as with the washing machine – perhaps because while laundry and washing machines are historically and ideologically connected with women, housewives and their liberation, the dishwasher did not become common until after the core years of political focus on gender equality in Norway,<sup>33</sup> and has not been a “hot” political topic in the same sense.

Today, the washing machine and the dishwasher have become normal and are viewed as necessary: it might even be difficult to explain why one does not have them (Gram-Hanssen 2007: 1184). Moreover, people replace the appliances with new models more and more frequently. In 2008 Norway imported 50% more washing machines and dishwashers than in 1990 (FIVH 2009: 37), although the number of people acquiring the appliances for the first time did not increase proportionally. The tumble dryer, however, might tell a quite different story, in that it has been much slower and more poorly diffused. Some 45% of Norwegian households now have a tumble dryer, and there seems to be some ambivalence towards it among my informants. We return to these points under the discussion of domestication. First let us look at research on energy and technology.

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<sup>33</sup> Commonly known to be a core issue of the 1970s. See for example [http://www.snl.no/Norge/perioden\\_fra\\_1945\\_til\\_1970-%C3%A5rene#menuitem4](http://www.snl.no/Norge/perioden_fra_1945_til_1970-%C3%A5rene#menuitem4).

## 4.2 Theoretical landscape

### 4.2.1 What technologies can tell us

Why focus on technologies? The answer is twofold. Firstly, as technology plays a leading role in climate and energy policy, it matters to the environment and to the explicit goal of sustainable energy consumption. Secondly, how we understand technologies has important implications for our scientific understanding and theoretical constructions. Research on energy use has commonly operated with a unilinear relationship between technology and user, where the assumption is inspired by the neo-classical regime of thinking that holds that people respond rationally to technical opportunities (Wilhite et al. 2000). This is shaped by a belief in technology as the “savior.” However, such perspectives are not sensitive to the mutual construction of material and culture that takes place in the use of technologies. Take the dishwasher as an example. Today dishwashers are far more energy efficient than 20 years ago, but we also use them more often than before, we have more kitchen items to be washed, which again also creates a need for more cupboard space (Grytli and Støa 1998: 111). This is one reason why kitchen manufacturers and interior experts predict that having two dishwashers will soon become “in fashion”: That way one can save cupboard and even time, by not having to put everything back after use (Ingvaldsen 2010). The dishwasher brings with it opportunities for different practices. The user interprets these opportunities in negotiations with the dishwasher, maybe putting kitchen items to wash a lot earlier than before. But this does not happen in a vacuum or in the household as a value free “stage”: It is also structured and manipulated by aspects like social conventions of cleanliness and marketing, which again might recur and change the design of dishwashers or the practices of the user. I argue that it is by studying these webs of influences we might move towards an understanding of energy consumption, of where and how it really takes place: through the mutual creation of culture and material, of user and technology. Let us now take a brief look at the landscape of theoretical outlooks.

### 4.2.2 Socially constructing technologies

Traditionally, technology has not attracted much attention in social studies, and especially not in anthropology – perhaps not only for epistemological but even more for ideological reasons (Wilhite 2008b: 170–171). The thought that technologies should have a say in what we do and how is undoubtedly somewhat unpleasant. Since the 1980s, more research has been done on relationships between the social and technology, under confusingly similar umbrella terms like *STS – social studies of technology* (Aune 1998: 7), *SST – social shaping of technology* (Wilhite 1998: 172), and *SCOT – social construction of technology* (Bijker and Pinch 1987). These terms denote a thematically, theoretically and methodologically rather wide field of research. They include mutual criticisms, but all have in common the rejection of technological determinism with technology seen as value-free. This refusal to see the social and the technical as consisting of autonomous, static and isolated aspects proposes a social constructionist view of technology.

Social constructivist approaches inform us that technology is shaped by social factors, and neither the artefacts' identity nor technical success or failure are intrinsic variables of these artefacts (Bijker 2006: 6). However, analyses of energy in such perspectives have been done mostly on the structural and system levels, such as Thomas Hughes' study of electricity supply systems (Aune 1998: 8); or have emphasized development of technology in laboratories, through innovation in industry and issues of policy and political controversies (Lie and Sørensen 1996: 2). Less frequent have been approaches that follow technologies to the users and into their homes. As Carol Pursell (1995: 9) says, technology studies have prioritized design over use, production over consumption, and periods of change over those which seem static and traditional. After the process of production, the artefacts might work as a force of revolution or segmentation, as a breaker of everyday routines or source of social change, or be part of a

process of development and negotiations with the users in making new practices as well as changing or reinforcing conventions (Lie and Sørensen 1996: 3).

A more eclectic and broad perspective is offered by Elizabeth Shove (2003). She shows how the co-evolution of technology and practices is connected to changes in conventions of normality and dynamics of habit and routine in a rigid matrix of interdependent, poly-linear influences. Although this has important implications for the construction of conceptual and theoretical frameworks in social sciences, she also shows how habits may change in ways that imply escalating, standardizing and ultimately unsustainable patterns of consumption. A comparative study of energy intensive practices in Norwegian and Japanese households can serve as illustration (Wilhite et al. 1996). Norwegian homes have on average 9.6 light bulbs per living room, while Japanese have 2.5. Fluorescent lighting is considered inappropriate in Norwegian homes, but is standard with the Japanese. This has to do with Norwegian expectations of a “cozy” living room, Japanese conventions of appropriateness, but at the same time with the level of energy prices, of different historical traditions in lighting (also before the advent of electricity), differences in climate, and so on. This in turn influences the type of lamps and bulbs demanded and sold in different countries, conventions of normal lighting, the amount of energy consumed, and so the circle continues.

I see the practice dimension as what unifies all of these influences in the web, and energy use would not exist without practice. With my focus on households I place myself on the micro-level studying these practices, trying to keep a contextual overview. The scope of this thesis limits the opportunities to draw more rigid analyses of the larger picture. However, we can take a look at one such perspective which might illustrate the dynamics between the macro- and micro-levels.

### 4.2.3 From pleasure to comfort

Mika Pantzar describes how technological artifacts are developed through metamorphoses, going from *sensation* to *routine*, *toy* to *instrument*, *pleasure* to (standard) *comfort* or *luxury* to *necessity* (1997: 54). For example, the automobile was first sold in the United States for recreation and sport, but only ten years later it was considered a necessity: it went from *sensation* to *routine*. Since the washing machine, dishwasher and tumble dryer all emerged in the 20<sup>th</sup> century in Norway, and at different times, generational differences in my informants can illustrate such evolutions:

[88-year-old Pernille Stensen, a single mother of three for most her life, discussing household appliances with her daughter, aged 50]

*Pernille: When I was a young mom, there was no one who didn't own a washing machine! At work...I never said that I didn't have a washing machine. It would have been almost...embarrassing.*

– *What about a dishwasher?*

*Pernille: [Laughing]. That luxury! I could not imagine that kind of luxury. Anyway, I didn't even know how to use one .But I guess it got very common at some point because everyone has it now...*

*Daughter: When I moved in with my husband in the early 1980s, it was pretty normal. I don't see how I could manage without one...But we also had a tumble dryer in our first apartment and that was really kind of a luxury then, the tumble dryer! But I don't think I will ever buy one again, there was only trouble with it, and it was not very handy either. But mom, you know we could get you a dishwasher now, it's very simple...*

*Pernille: Now? No, now it is only me you know. It's not necessary.*

This shows how the dishwasher has gone from being *pleasure* to *comfort* in Norwegian homes. In the years 1974–76, only 6% of Norwegian households owned a dishwasher; by 2008 the figure was 73%. However, although such macro-level perspectives of the development of the meaning of an artifact in a given community or society might be enlightening, the development unfolds

slowly, on the micro-scale, in action and through the dynamics between technology and user, as well as between different users and societal structures.

## 4.3 Technology in action

### 4.3.1 “It has a life of its own”: On technological agency

That a machine or technology “*lever sitt eget liv,*” implying “having a life of its own,” is a common expression in Norway:

*I don't think about the washing machine when it is washing. We will do something else, go out, maybe take a walk, or go to the supermarket... No, I don't check up on it while it's doing its job. The machine has a life of its own. Johanne Knutsen (70)*

This seemingly insignificant insight offers an important point: not only the users, but also the technological appliances themselves, have agency. This again calls for a re-thinking of “agency.” As mentioned, Ortner (1999) describes it as the capability or power to be the source and originator of acts. Agency is commonly confused with the individual freedom of individuals (Wilhite 2009: 6); however, based on the definition of agency above and focusing on the originators and sources of acts, these might not lie solely in the individual. As seen in the previous chapter, structures might empower *or* constrain individual acts (Giddens 1992: 20ff), and agency is never a thing in itself, but is a part of the process of structuration, the making and remaking of cultural formations (Ortner 2006: 134). With Bourdieu, agency is placed more firmly within socio-culturally established routines or norms. Adding technologies as material component here, it might be fruitful to speak of *distributed agency* (Wilhite 2008a), and that change is something that occurs through a synthesis of the inputs of several actors (Garud and Karnøe 2003). Agency is not a quality that one has only when one is whole or when one is an individual, or an entity that exists apart from cultural construction (Ortner 2006: 57).



One of the most prominent proponents of agency as something distributed among a larger entity or network is probably Bruno Latour with his actor-network theory (ANT) (Latour 1987, 1991, 2005). According to this theory, there are networks of actors in society; all of these influence the network and each other to different degrees, and are also in turn influenced themselves. The theory does not operate with ontological distinctions between human beings and non-humans, so that in this case the household technologies, the users, but also the household in itself, are actors. The actor networks are not static but potentially transient, and not described as having a focal point, or a core, as a bicycle wheel has its hub. Important terms in this context are *inscription* and *translation*. Akrich (1992) builds on this theoretical platform by accounting for how a *script* or *scenario*, “a framework for action together with the actors and the space in which they are supposed to act,” is inscribed in technical objects during the development and design phase. When meeting its user(s), a process of *de-description* begins, “mechanisms of adjustment between the user as imagined by the designer, and the user in real life”(Akrich 1992: 208–209), potentially altering the user, the technological object and even the whole network *an sich*. Examples of such processes might be taken from technology transfer to less developed countries, where stereotypes of the recipients lead to inconsistency between the script and the real users (see Akrich 1992; Crewe 1997). Using a more small-scale example, Latour describes how a hotel director who wants guests to remember to leave their keys, goes through a process of putting a sign behind the reception desk, then hanging a metal lump on the key, and gradually increasing the weight of it until the users do as he wants and return the keys because they are exhausted by the weight of the lump. Consequently the object, the users, even the hotel, are no longer the same (Latour 1992: 43).

Now, how is this relevant for studies involving environmentally significant energy use in general and this study in particular? Drawing on Latour, Shove (2003: 54) describes how an air-conditioned life, increasingly common in the

United States, is established as "normal" by the virtue of its structural unavailability as well as through marketing, advertising and social comparison. At the same time, air conditioning has been conducive to the emergence of a house form that could arguably be said to depend on it (Shove et al. 1998: 314). The latter article use the term "web of interdependent interests involved in structuring more and less energy-efficient consumption," where building contractors, subcontractors, designers and marketers have not only a responding, but also a constructive relationship to the needs of the end-users, not unlike the networks of Latour and Akrich. For an example of these processes from the situation of the end-user we can take the Børresen family.

### **4.3.2 Meet the Børresens**

The Børresens are a family of five: Anne (46), a talkative and welcoming woman who works as a municipal architect, and her husband Frank (44) who works with nature management in a state venture, and their three boys, aged 15, 8 and 5. They live in a preserved terraced house in a relatively quiet part of the outskirts of the Oslo city core. They appear to be reflected and very interested in my project, obviously trying to give answers I will find useful, and applying numerous academic terms in their answers. When I arrive at their house it is a dark and rather chilly, blustery spring evening outside, and coming in to a warm apartment with lots of small lamps and candles. Being welcomed and served fresh coffee of the type I like the best, I immediately feel an atmosphere which is described as an ideal for Norwegian social interaction, of *coziness* (Gullestad 1989: 56, Wilhite et al. 1996). The Børresens seem to fit well with the description made by Gullestad of the home being a key symbol in Norwegian culture, expressing and constructing identity, serving as a platform in their life-worlds (Gullestad 1989: 25, 57). Anne and Frank have just finished a major renovation and redecorating project in their home, with the kitchen as the main project. The old kitchen did

not have a dishwasher, and many visitors used to react with incomprehension to the fact that they did not have one:

*Frank: It's a priority that no one really gets. You know it's like...If I really wanted one, I would just go and buy it. But we have saved a lot of money and focused on repaying our loans. [...]And I haven't really seen the need for one until now, with so many members in the family.*

*Anne: Yes, and then it is the fact that it would have had to stand alone under the window, it's kind of visual, too...*

*Frank: In our kitchen interior, there was no room for one, so we would have had to completely redecorate the kitchen.*

*Anne: It was an old kitchen, from 1970.And I thought that it would ruin the look of it, the harmony, to put a dishwasher in here, you know esthetically, I'm pretty concerned with that, and I thought that one day we can afford a total renovation of the kitchen and THEN...*

As Gullestad writes, redecorating is for Norwegian house owners a kind of creative play camouflaged as necessary, practical acts that have to be done (1989: 58). This is most obvious with Anne, and they both contend that the renovation is mostly “her” project. As she says she is not really “a snob” or pre-occupied with redecorating, it is the practicality and coziness that is most important, although she is what she calls “theoretically” interested:

*I notice that people are just so wrapped up with redecorating these days, everyone is constantly renewing their homes, you know, and there's a lot of focus on it and you know what, I've never felt that desire. I've always been interested in reading home magazines, but that's mostly for theory, I've never thought that I have to have things like this or that, and you get used to it being old around you, it's not that I need all the new modern stuff – coziness and practicality don't depend on that, you know.*

New homes in Norway today have a place in the kitchen for a dishwasher; the dishwasher has been normalized, or part of what goes without saying (Shove 2003). There might be differences in sizes of the space provided in the kitchen design, sockets, depending on a range of solutions and priorities made by

designers and manufacturers as well as entrepreneurs, as I learned from meeting the Børresens:

- *What was important in choosing that kind of machine?*

*Frank: It was really... We bought our kitchen at Quick, and they have their standards... and, well, I didn't really know too much about what we wanted so I just asked them what they recommended and they said that many people choose this one.*

*Anne: Yes, we had to have a tall socket or something; it has something to do with the standards here in the new kitchen.*

Re-arranging the kitchen and getting a dishwasher have in turn influenced their view on the practices of washing up and also other material aspects of the kitchen. Anne seems to have put quite a lot of thought into how the dishwasher would fit with the other interior in the kitchen, and to achieving harmony in the overall design. However, arguments are expressed in terms of practicality:

*Anne: I usually fill the sink, or before we had two, it was more practical with washing up, but now we don't need it, it takes up so much space. And now I don't have to think about it, because I don't need to wash anything by hand, unless it's something really special.*

The new view on practices of washing up has made the Børresens re-think their habits in relation with possibilities offered by the dishwasher; they are in a process of de-scripting, where they negotiate with the framework for action or the script as pictured by the innovators. Akrrich here focuses on unstabilized technologies still in the innovation phase, and the reciprocal processes of development happening between designers and users. As she writes, "it is different when we are confronted with stabilized technologies that have been 'black boxed'" (1992: 211). Although the dishwasher has become a stabilized technology in Norway, it can still be used in quite differing ways in practice, with high relevance to energy use. Examples are the frequency of washing, temperatures, whether or not the machine is full before using it, and so on. How it is used might also change over time. For the Børresens, the dishwasher is

something radically new that influences their practices of washing up, but they also bring with them ideas to their encounter with the appliance:

*Anne: I don't know how hot it is in there while it is washing, but I think it's 60 degrees, and I think it is on some kind of eco-program, but to be honest I haven't checked out all the functions, maybe I should look at what options we have.*

*Frank: Yes, it takes a while to get to know it too, we are not sure how much we can fit in there, and it says in the manual that you don't have to rinse off before putting things in the machine, but I don't really think it will be clean then, at least not after dinner with really much stuff in it.*

*Anne: I'm surprised it takes so long, one such program takes 2 hours 20min. So what should we do in the meantime?*

*Frank: In the end, I think we will get a lot of time freed with the dishwasher, especially in the evening when we often have a lot of dishes to do. I think we can get more time to sit down and help the kids with their homework.*

They have already experienced some changing of their routines adapted to the dishwasher, as Anne says:

*Before we often did dishes while the children watched TV in the evening, we had an open-plan kitchen and living room, so we could see them all the time. But we don't like to take time away from our core time with the kids to do housework. Now we can take it later in the evening, or after kids have gone to bed. We have done it sometimes in the morning now, we have.*

These examples illustrate the point made by Latour, that influences are manifold and work all ways in the network, which here must be said to be *the washing-up practices of the Børresens*. Through the process of redecorating the kitchen and acquiring a dishwasher, their kitchen design is no longer the same: for instance, it has one sink instead of two, washing-up habits are in the process of adapting to the machine, and the entire dynamic in the everyday life of the household is changing – for example the parents might sit down with their children and help with the homework after dinner instead of doing dishes (based on Latour 2000:

43). As noted by Shove (2003), more and more houses in the United States are so constructed that they are not comfortable without air conditioning. Similarly, today's Norwegian homes are made for dishwashers, and everyday life is made with and for using a dishwasher: the normalization of the dishwasher. A second point in this context is how a concern for conformity in the interior of the house might be a driving force for increased consumption (Shove 2003: 43ff; Winther 2008: 165). Consumption patterns might be seen as "packages," where demand for technologies is driven by concerns for the "completeness" of a certain style. We note how concerns for harmony in the kitchen design were important in Anne's original resistance to getting a dishwasher, and then, when they decided to redecorate, they "*did it all, so now everything is top modern here,*" she explains. The bathroom has electrical heating in the floor and a bubble bathtub, while the kitchen has been equipped with the latest stove, refrigerator and dishwasher models. There seems to be a trend here in Norwegian households towards more and more "luxury" technological equipment, especially in the kitchen, shown also by the fact that energy use for these pursuits is increasing (Heidenstrøm 2010).

This shows above all that material is not silent, which is the case not least for household technologies, in that they are multifunctional and their workings opaque to users (Wilhite 2008: 171). However, Latour (1992) and Akrich (1992) take the anthropomorphizing of technology a bit far, almost rejecting the social as a category. Although it is posed as a reaction to technological determinism, by focusing so much on design and development of objects, the approach is paradoxically in danger of coming full circle:

New technologies might not only lead to new arrangements of people and things. They may, in addition, generate and "naturalize" new forms and orders of causality and, indeed, new forms of knowledge about the world (Akrich 1992: 207).

The technology here almost becomes a working force in itself as with technological determinism. Importantly, both Latour and Akrich are mostly theoretical, and hardly practical/empirical (Aune 1998: 50). Although the focus on innovation and design is crucial, it also entails the danger of missing the point

that technologies still influence practices after becoming “black-boxed,” and they are in the continuous processes of being defined by their users. With washing machines, dishwashers and tumble dryers, there is also the point that although they are fairly stable in the wide sense, much is continuously happening as to developments in their functions, esthetics, capacities, and further on.

To sum up the insights gained, we might say that technologies and material can serve as agents. But while they can *perform* as agents, I find it necessary to modify Latour and Akrich, adding they are not ontologically the same type of agents as the users. This is the existential condition of technological objects; the devices exist as objects by virtue of being activated by a human being. On the other hand, the only thing a person can switch on is the circuit – so the technology is never completely controlled or subdued because a condition of its existence is its active relationship with the users (Silverstone and Hirsch 1992: xii). As Sterne (2003) writes, technologies are associated with habits and practices, sometimes crystallizing them and sometimes promoting them. They are structured by human practices so that they may in turn structure these. They embody in physical form particular dispositions and tendencies, particular ways of doing things. But these doings are the domain of the human user. Taking a modified version of Latour’s understanding of technology – the *epistemological* point that technology has workings of its own and is part of a distributed agency – I will look at how my informants interact with it through the perspective of domestication.

#### **4.3.3 Drawing lines between ANT, domestication and habitus**

As Aune writes (1998: 49), energy use is “nothing” without a concrete action/practice dimension. A practice-oriented theoretical tool, focused on the micro-scale processes of negotiations here termed scription and de-scription, is domestication. Originally a term used in connection with animal breeding (Lehtonen 2003: 363), researchers of society and technology apply it to refer to

the process of negotiations, adaptations<sup>34</sup> and mutual change that takes place between technology and user (Silverstone and Hirsch 1992; Lie and Sørensen 1996). The perspective has in common with ANT that processes are reciprocal and in no way *a priori* linear or progressive, and that the influences, or in this case “breeding,” involve both user and technology. However, domestication as expressed in Silverstone et al. (1992) is more concerned with the meaning and symbolism of technology than with patterns of use (Aune 1998: 49). I find it fruitful to apply an understanding of domestication offered by the concept of the “jack of all trades”, or *bricoleur*,<sup>35</sup> familiar in anthropology (see Croll and Parkin 1992: 12–13, Lévi-Strauss 1966), concerned with the ability of the user to make resourceful use of whatever materials are at hand, regardless of their original purpose. My concept of domestication is emphasized towards the user of technologies, although agency is still fundamentally seen as distributed.

This could again point back to Bourdieu and habitus. Although it might be a long way from Latour to Bourdieu (see Sterne 2003), this again epitomizes the fact that understanding complex phenomena such as energy use might require breaking down scientific barriers and traditions, and using tools from different “camps.” As domestication denotes the process and mutual constitution of the users, their routines and the technology, the habitus can be seen as a kind of channel through which the user performs the negotiations. This is what I see as the core problem of Latour’s anthromorphizing of technology, these social and cultural dispositions that are part of the human users. Their actions are not merely influenced by the agency of the user and the technology, but are channeled through the habitus, operating on a different level, incorporated bodily. Habitus can be regarded as a catalyst through which the de-scripting of technologies takes place, almost as a filter. In one of his many, arguably complex, definitions of habitus, Bourdieu writes:

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<sup>34</sup> However, it is explicitly posed against classical theories of users passively adapting to technology as what is offered to them (Lehtonen 2003: 364).

<sup>35</sup> Point also made by Lie and Sørensen (1996: 10).



The durably installed generative principle of regulated improvisations, produces practices which tend to reproduce the regularities immanent in the objective conditions of the production of their generative principle, while adjusting to the demands inscribed as objective potentialities in the situation (1977: 78).

This explains habitus as a rather segmenting and conservative force, reproducing social order, or in this case, routines, but at the same time subject to contextual influences. Equipped with the concepts of script and de-script, domestication and habitus, I return to my informants.

#### 4.4 The breeding of technological practices

Silverstone et al.(1992: 16) suggest four phases of domestication influencing the dynamics of what they call the “moral economy of the household,” which has to do with the creation of meaning in consumption and simultaneously making consumption meaningful. It entails a set of values held in common within a household (Silverstone 2006: 236) and thus must be seen as closely linked to the understanding of habitus applied here, although I operate with a more individual understanding of habitus and a more group-based understanding of the moral economy, as something common for the household. The four phases of domestication are *appropriation*, *objectification*, *incorporation* and *conversion*. These concepts are widely applied to the introduction of new technologies, and are commonly connected with the introduction of media technologies, especially computers in the 1980s and 1990s (Silverstone et al. 1992; see Lie and Sørensen 1996; Berker et al. 2006).

Here, however, I relate domestication to seemingly trivial technology, which entails the need for some specifications. I see domestication as a constant process (Sørensen and Lie 1996: 10), the four phases not necessarily corresponding to a one-way development towards a state of *being domesticated*. A household can be engaged in one or more of the phases at the same time, and

some of the phases might be more prominent for the individual household. This is also due to the material context, in that, during the life-cycle of a family, washing machines, dishwashers and tumble dryers in most cases are replaced one or even several times, with a new appliance of the same sort. The process of appropriation is then not a fundamentally new one, but still different from the first in that the new version might have different features from the old one. Moreover, the concept of domestication has various connotations (Aune 1996: 91); my understanding is related to the continuous construction of normality (Shove 2003). I find the appliances chosen here fruitful for showing different aspects of domestication, as they are diffused to varying degrees and their “ages” differ.

#### 4.4.1 Making technology our own<sup>36</sup>

Appropriation is not merely about the sheer act of buying an appliance, it refers to the process of changing the commodity into object (Silverstone et al. 1992: 17; Gram-Hanssen 2007: 1184) – claiming ownership over it. This has implications for the relationship between user and technology, as the process of claiming ownership may include the incorporation of the technology into the everyday life and the life-world of the user.

None of my informants expressed conflicting feelings regarding the choice to have a washing machine<sup>37</sup> – it seemed self-evident. This might simply have to do with the fact that the process of appropriation has not really been explicitly reflexive for most, since washing machines have been on the Norwegian market since around the 1950s, and by the time most of my informants were grown up, washing machines were common, “everybody” had one.<sup>38</sup> The question of what

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<sup>36</sup> Inspired by the title of an anthology about domestication (Lie and Sørensen 1996).

<sup>37</sup> I have already applied the example of the single woman Pernille Stensen (88), the only one of my informants who did not own a washing machine. In addition to her, I interviewed the young couple Janne and Geir Pettersen (21), who did not have a washing machine in their apartment, but had access to a shared laundry in the basement with a washing machine which they frequently used.

<sup>38</sup> Figures from SSB show that in 1975, 74% of households owned a washing machine. Pernille Stensen (88), who is also the oldest of my informants, got married and moved into an own apartment around 1940, and in her experience it was not long after the war (1940-1945) that washing machines became “very common.”

they would have done without a washing machine was regarded more as a theoretical-philosophical one, as mother of four Marit Andersen (29) said:

*It's a funny question...wow, I don't know how I would have managed it, I would have a large bucket of water, and put all the clothes in...no, it is not like it's a river here or anything. I'm sure I would have washed less clothes then [laughing].*

Single mother Siri Hansen (35) explains what she did when her washing machine was broken for five months and she could not afford to get it fixed. Washing by hand was not really an alternative, so she chose to drive for more than an hour (each way) once a week to get the laundry done using the machines of someone else in the family. She explains:

*You know, I've washed by hand when I've been at the cabin for 14 days or something, but ah... No, it's not really pleasant, my skin is very sensitive so it gets itchy and stuff. No, I'd rather go and put it in my aunts' or my parents' machine or something.*

However, one informant illustrates a different aspect. Hedda Grav (41), living with her two children (6 and 10 years old) in an eco-village with the explicit ideology of sustainable consumption, in terms of both material things and energy, expressed some discomfort at regularly using<sup>39</sup> a washing machine. Her house is one of several 60m<sup>2</sup> hemp houses arranged on the yard of an old farm, with the original main house used as a common house. The individual houses do not have electricity or water, but in the common house there is a dishwasher, washing machine and even a bath tub, “*because that's the way the house was built before we came here.*” So Hedda frequently carries her laundry up to the common house, and washes it in the machine. She says that when they first moved there, they tried washing clothes in a nearby river. But it was not really a good solution: “*You know it was really much work, having two small children and carrying so much laundry all the time, so time-consuming.*”

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<sup>39</sup> I use the concept of *appropriation* in this example because Hedda made the washing machine part of her everyday routines, although she did not go and buy it herself.

Silverstone et al. (1992: 19), see appropriation as central to a household or individual's self-creation or way of defining themselves. Hence, the appropriation of the washing machine was conflicted because it diverged from the visions Hedda had when moving to the village. And it was not really "resolved" when I met with her.<sup>40</sup> However, although she smiles at the prejudices people had before visiting the village, "*that all of us are like hippies with dreadlocks making love and not war and eating grass [laughing]*" showing that they were just "*normal people,*" she still appeared slightly reluctant to reveal that she often did use the washing machine, because people expected her not to. Even more so with the dishwasher she also used in the common house:

*It is not like I enjoy doing the dishes just for the sake of doing it, you know, and if I'm at a place where there is one, like, I use it, it is there. And besides, I've heard that it is not really environmentally bad either, at least if you have a new model – not like the one we have here, though.*

And this leads to a second point, on how objects become normalized. The dishwasher was the most significant example, as several informants referred to it as environmentally benign. As Bjørn Berg (32), saying that

*You know the dishwasher is really much more environmentally friendly than doing dishes by hand, so that is an important argument for using it too.*

However, he also tells me that "*yes, of course I would have gotten one anyway, but it is no disadvantage that it is good for the climate as well.*" I actually discussed this theme quite a lot with informants, as some also seemed to regard that as a weakness with my study. Many wondered why I would spend time looking at the dishwasher when studying energy use, when it so clearly has decreased energy consumption for doing dishes. However, the very fact that

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<sup>40</sup> The eco-village (see [www.hurdalecovillage.no](http://www.hurdalecovillage.no)) was still in an initial phase when I visited it, 10 years after its establishment. The type of house which Hedda Grav lived in was temporary, to serve as shelter while waiting for all the authentications and papers needed to start building planned eco-friendly houses (active houses," see [www.aktivhus.no](http://www.aktivhus.no)). In the new houses of 80-100 m<sup>2</sup>, as Hedda informed me, "*there won't be dishwashers but might be washing machines, and we encourage families to share houses so that they can share such goods.*"

people seemed to dwell so much on this point, was to me interesting in itself, against the background of my social and cultural viewpoint on these issues. I did a quick search, and found this information or “fact” in several different sources, including various online interior magazines, the online paper on scientific news *forskning.no*, and even the environmental grassroots organization *Grønn Hverdag*. In fact, all these referred to the same source, a study done by a team of researchers at the University of Bonn, led by a member of CECED, the European committee of domestic equipment manufacturers. The report studied some 70 households in a few European countries, and concluded that a dishwasher of the latest type consumed less water and energy than doing the dishes by hand (Stamminger et al. 2004). Without pronouncing on the scientific rigor of this, I note that it was a quite limited study that seems to have received disproportionately large amounts of attention and the belief. Statistics on energy use in Norwegian households also indicate that the amount of electricity consumed by dishwashers has decreased dramatically in recent years (Heidenstrøm 2010). However, the apparently strong need to legitimize the dishwasher in environmental terms is still significant, also compared to the other appliances. The washing machine was not questioned, although feelings towards the tumble dryer were a tricky matter. This might be because the dishwasher like the tumble dryer are fairly recent arrivals, and most informants with a dishwasher and/or a tumble dryer have also experienced everyday life without them.

Mika Pantzar in his study of the metamorphosis of things, going from being considered necessities to luxuries, defines three major steps in the process. Firstly, the objects are something of desire, secondly their acquisition is legitimized in rational or functional terms, and thirdly they become so ordinary that their acquisition needs no justification (Pantzar 1997, also described in Winther 2008). To some extent, the three technologies here correspond to each of these processes. While the washing machine seems totally normalized, as not having one did not really seem to be considered an idea by most informants, the

dishwasher was more in the phase of being actively legitimized and rationalized, and the tumble dryer was by some still viewed with the suspicion characteristic of new objects of desire (Winther 2008: 165). I return to this aspect later.

#### 4.4.2 The rational choice

Repeated words when informants spoke about appropriation and choice of appliances were *rational* and *practical*. Marianne Gullestad (1989: 58) shows how the home has wide-ranging symbolic value in Norway, and that for instance getting a new kitchen even if the old one still functions well, is commonly legitimized as being practical, rational or economical, something that *has to be done*. Rationality and practicality as important moral values in Norwegian cultural heritage are noted by Witoszek (1997). This brings us to the retired couple Petter (73) and Johanne (70) Knutsen, living in a detached house on the outskirts of Oslo. Johanne used to work part-time as a nurse in addition to having primary responsibility for their children as well as cleaning and cooking at home, while Petter has always worked full-time as an accountant. They have two grown up sons and one grandchild. Petter has various physical disabilities, although I am not certain what they are because he refuses to talk much about them, and he appears as friendly and positive. Johanne expresses a feeling that it has become quiet after the sons moved out and they themselves retired: “*The only thing we have enough of now, is time.*” Petter is very engaged in being “rational,” proud of the practical solutions in their house, which they designed themselves some 40 years ago. For example, they have a cool-storage space of approximately four square meters in the kitchen, holding a temperature of four degrees, like a refrigerator. On the other side of its wall they have a drying closet which takes advantage of the heat from the fan in the cooling room. Showing me this, he reiterates his enthusiasm for that solution:

*It was a really brilliant idea I got back then, we visited someone that had one, and since we drew the house plans ourselves, we could get it. All houses should be equipped with one, it's almost free too, you only need to buy the compressor, or you know the fan thing, and then you're all set. It is a really good idea. You know this house is very practical. [...] we need to be rational, energy is expensive.*

At first, Johanne and Petter could not remember when they bought their dishwasher, and their guesses actually differed by some 20 years. Finally they agreed that they had acquired it after their sons moved out, about 15 years ago. It was Petter who had convinced the reluctant Johanne:

*Petter: No the dishwasher...I had to force it upon her. I didn't want to do the dishes [laughing]. But you know, that time there was a lot of work to be done, you had to be rational.*

*Johanne: No, I didn't find it necessary to get a dishwasher. We had the time to do the dishes.*

*Petter: But it was a waste of energy!*

*Johanne: I thought it was cozy to do the dishes actually. But I'm glad we have the machine now.*

This reflects aspects of the individual habitus of Johanne. A central aspect of habitus is *distinction*: to exist within social space is also to differ, or to feel distinct (Bourdieu 1998: 9), and thus it has relations to identity or self-perception. But habitus is at the same time semi-reflexive, consisting of structural dispositions, related to distinctions among social groups or classes. Johanne, although with a part-time job, has been a more or less traditional modern housewife in relation to the household. The couple say they are content with the way they arrange their tasks, and although they are aware that people are “engaged with women’s liberation and everything,” they are not very interested in it. “It has always been this way, it’s natural. I think we were born that way” says Petter, and Johanne continues:

*No, I always took care of the children, and did all the washing and stuff, I've always done that. You know, I've liked it that way. We are kind of old-fashioned in that sense.*

Doing the dishes she considers part of her area, which she not only found “cozy,” but also took pride in: “*There is a lot of care in washing for my family. And men, they aren't always that careful.*” Getting a dishwasher challenged her understanding of herself as in charge of the domain of washing, and the role and expectations from society towards her as housewife as aspects of the habitus. However, Johanne has rationalized the dishwasher as an integral part of their everyday life, convinced that it is a better solution

*Johanne: It's more hygienic. I didn't think much about it in the beginning, but it actually is very convenient, because I do get more time.*

*Petter: You know a dishwasher... That is THE solution. Compared to standing with a brush and two sinks, that's not very hygienic, imagine all the germs.*

We can also see the development in the moral economy of the household, in that they both see the dishwasher as a source of better hygiene, while they explain that before the central aspect of washing up was getting it done – in other words, time. Johanne and Petter have claimed ownership over their dishwasher, while Hedda Grav shows resistance to getting a washing machine. The analysis can be furthered by implementing a term from Theodore Schatzki et al. (2001), of *practical intelligibility*, which is more individually focused than habitus. It is what gives a certain practice meaning to the individual, which might be different from other individual practices, although part of variations over a common social practice (Gram-Hansen 2007: 1186). For Johanne, there was accordance between the expectations of others both to be a housewife but also to get a dishwasher: “*I think we were pretty late getting one, it was about time*” and her vision of herself. For Hedda, however, the perceived expectations of others regarding the social meaning of her using a washing machine, her habitus, did not fit with her



practical intelligibility of using it, because she felt exhausted with two small children and a lot of laundry.

#### 4.4.3 Necessity or luxury?

The tumble dryer tells a quite different story. Less than half of households in Norway have one, and it is a much more debatable appliance. One reason might be the focus on energy labeling of electrical appliances in Norway. A tumble dryer uses approximately three times more energy than a washing machine during one session,<sup>41</sup> and it is also hard to find one that scores better than C-class.<sup>42</sup> But there are also notable differences as to how people view the tumble dryer in comparison with the washing machine and dishwasher, spanning from necessity to luxury. Some use it only for “rough” laundry like towels and underwear, while others talk of a certain softness in the fabric. Those without a tumble dryer say that not having one does not present any problem. Some of them find that it is a waste of energy and money, or indicate the choice of not having a tumble dryer as a way of being environmentally friendly. Gram-Hanssen (2007) found similar results in a study conducted in Denmark.

*Janne Pettersen (21): If we didn't have to rent and if we had our own apartment, we would probably get a dishwasher. Yes, and of course a washing machine. But a tumble dryer would be...I wouldn't find it...I don't know. It is so environmentally harmful. It is kind of a luxury. It is no use, really.*

On the whole, while the washing machine and dishwasher are more commonly seen as necessities, the tumble dryer seems connected to the experience of more individual, specific needs. Notably, four informants tell of having been given a tumble dryer from parents or in-laws when they had small children. However,

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<sup>41</sup> Information from [www.enova.no](http://www.enova.no).

<sup>42</sup> Labeling of durable electrical appliances was made obligatory in Norway on the background of an EU directory in 1996. Appliances get scores from A (best) to F (worst) depending on their demand for energy. Products with grades lower than D are rare in Norway due to market demand. See [www.energimerking.no](http://www.energimerking.no).

there seem to be culturally significant aspects of this as well. In other countries reasonably similar when it comes to material living standards and the diffusion of washing machines and dishwashers, diffusion of the tumble dryer varies considerably. In the Netherlands 71% of the households have one, while in Spain it is 25% and in Greece 5%. Norway, where little less than half of the households have one, is thus in the middle range (Arild et al. 2003: 21).<sup>43</sup>

#### **4.4.3 Mapping meaning onto the home**

As Silverstone et al. write, objectification has to do with both usage and the physical dispositions of objects in the spatial environments of the home and thus the geography of the home (1992: 22–23). This reflects the understanding of the world as such, noted by Bourdieu (1977) and Gullestad (1989). Whether an object “fits in” in everyday life is crucial to further domestication; the technology must fit into a space that is already charged with meaning and significance and thus might be changed, in addition to being fitted temporally into family routines which also might change. Initially, the object might attract attention, as with the Børresens and their dishwasher, but gradually it will become a more or less invisible part of routines and everyday life (Røpke 2001: 414). However, not much is to be said here, because the significance of this aspect is so closely related to the account made of organization of time and space in relation to real and waste time, and systemizing dirt accounted for in Chapter 3.3. As seen, objectification principally identifies the spatial aspects of the moral economy of the household (Silverstone 1994: 129). It is the physical or material stamp of the organization of meaning.

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<sup>43</sup> A very strong influencing factor here is probably different climate/weather situations in the different countries. However, this would also suggest that Norway would have the highest percentage, in that it is the country with the shortest season for drying clothes outside.

One noteworthy point is that while the women in my sample are almost exclusively responsible for washing clothes, doing the dishes is more often a male domain. What can the objectification of the technologies tell us in that regard? Washing machines are placed in bathrooms or separate laundry rooms, while the dishwasher stands in the kitchen, often not separated from the living room today. While the kitchen is becoming more and more the scene for social interaction and outward representation (Hagemann 2009) traditionally associated with masculinity, laundry rooms and bathrooms are characterized by being places of dirt and intimacy, historically connected to femininity (Gullestad 1989: 53). Bourdieu also makes a similar point of how women are linked to inside space, while men are associated with the outside world (1977: 90–91). Hence, spatiality of the placement of appliances might underline these separations. As Petter Knutsen (73) says,

*I seldom go into the laundry room. It is her domain. Except for the other day, when the machine needed to be repaired. But I've never put on a wash, I think.*

As Norway is a country with a high degree of gender equality, this stands out as an interesting example of how differences are deeply culturally and also materially rooted. With the increased equality of the late 20<sup>th</sup> century, men have entered the kitchen – but not, it would seem, the laundry sphere. This is point is interesting also in the context of the apparently changing concept of the kitchen (Hagemann 2009). However, the domain of technology and gender differences is a large and comprehensive one, and my empirical material does not allow further exploration here.

Interconnected with their placing and the geography of the home is the point that the washing machine and the dishwasher are commonly used as ways of cleaning, removing dirt and hence re-making order in the house and surroundings. Karianne Lunde (29) explains this:

*Dishes definitely can't be left standing around, they have to go straight into the machine, or else things will get messy. I can't use a plate twice even if it's not really dirty, because then I would have to leave it out on the table. No, I have to get rid of the mess, put it in the dishwasher.*

The point is to remove the “mess” and be efficient, so you can both physically and mentally make room for what is considered valuable. Here, objectification is expressed in usage, the practice of use being part of the aspect of incorporation.

#### **4.4.4 The clean-up laundering**

It is in the phase of incorporation we find most processes of de-scription, the mechanisms of adjustment, failed or successful, between the user as imagined by the designer and the user as in real life (Akrich 1992: 209). It is the domain of creating, changing, reconfiguring or segmenting routines and practices of everyday life, making the object an invisible necessity for the household (Aune 1996: 100). With the washing machine and the dishwasher, this has more character of an ongoing process of segmenting routines; for the tumble dryer, the situation is less clear.

A characteristic example of new routines emerging while re-interpreting technologies, which is part of the ongoing process of incorporation, is what I would call *clean-up laundering*. Gram-Hanssen (2007: 1186) also found this practice to be significant in her study of Danish households. It refers to when a mother doing the laundry finds it easier simply to just put everything from the husband and kids` sports bags into the washing machine and the dryer, instead of taking everything out and then individually sorting what is really soiled and not.<sup>44</sup> The washing machine is intended, or scripted, for washing clothes, but here it is

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<sup>44</sup> According to a study conducted by *Woolite*, almost 60% declare they wash clothes after having used them only one time, even if they are not dirty, and 90% admit to not checking whether clothes were really dirty before throwing them in the machine after having used them once. See [URL] <http://www.nicefashion.org/en/consumer-guide-no/use/Vaskeguide.html>.

re-interpreted and used for a different purpose – “cleaning up” and “keeping order.” Clean-up launders are almost without exception mothers with children, especially teenage children. Berit (51) and Trond Arnesen (51) moved together a couple of years ago, and each of them had one son from previous relationships, Jonathan (15) and Fridtjof (19). They have a hatch in the floor of the upstairs bathroom is located, where they can throw dirty laundry directly down to the basement and the laundry room. Berit does all the laundry. As Trond explains:

*That’s just the way it is. You know, I actually never wash any clothes. I mean never. I hate doing laundry, but I like to do grocery shopping and cook, while Berit likes to do the laundry, so then it suits us fine.*

With the hatch in the floor they “*get the clothes out of the way.*” Berit goes down and sorts the clothes and then turns on the washing machine:

*About one load a day; then I keep on top of things. We have a lot of laundry, because young mister Jonathan would rather throw clothes down the hatch than put back what has really only been taken out of the closet, so it might happen that I wash the same thing over again [laughing].*

As indicated by Gram-Hanssen in her study, Berit does not really question the amount of laundry or the need to wash. And as Trond says:

*The teenage boys here, they change clothes several times a day, all the time. And why wouldn’t they? The clothes are soon returned into their closets, all clean and dry.*

This indicates how the washing machine makes possible new routines not necessarily intended in its script by designers, re-interpretation of its functions, and above all for washing a lot more. Because it is there, and it is possible, people throw clothes into it to get them out of the way. A study of the amount of electricity used for different purposes in Norwegian households from 1990–2001 showed that while the proportion of households with a washing machine remained stable, the amount of electricity used for them increased by 17% (Larsen and Nesbakken 2005). It might be argued that this has to do with new

norms of cleanliness, but such aspects cannot be seen as isolated factors influencing practices in external ways.

Gram-Hanssen (2007) writes that the washing machine was a sort of appliance that, despite some resistance of housewives (who were generally the ones to do the laundry before its arrival in the first half of the 20<sup>th</sup> century), changed routines almost immediately. This was also of course linked to more complex social and historical developments of women's liberation and entry into paid employ outside the home. However, as Cowan (1983) showed, even though appliances like washing machines lightened the burden of household work in terms of time spent on one specific operation, they also made it possible to intensify the norms, for example as to how often clothes should be washed. This cannot be seen as isolated from the practices of incorporation and domestication of a technology, where new routines are created also because of the possibilities offered by the technology, which in turn influences the creation of new norms. Before washing machines appeared in Norway, national home-maker idol Henriette Schønberg Erken (1866-1953) recommended doing the "main laundry" at least four times a year (Grytli and Støa 1998: 121),<sup>45</sup> whereas now most families wash clothes at least once a day. This shows that functions are contextually sensitive. The idea that an object is useful or has useful properties depends on the existence of a way of life in which there are particular things to be done and certain ways of doing them (Slater 2005: 137).

#### 4.4.5 Scription and de-scription

Cesilie Kroken (44) is a single woman living in a detached house in Lørenskog, a community not far from Oslo but in quite rural surroundings. This is partly why she chose that place, because she has an active lifestyle and enjoys being

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<sup>45</sup> There has traditionally been a differentiation between "hovedvask" (main wash), "storvask" (large wash) og "småvask" (small wash) in Norwegian laundry norms. The quote by Schønberg Erken referred to "hovedvask."

outdoors, whether walking, cross-country skiing or kayaking. She works a lot, “*I don’t know but it is definitely more than a full job, 150%, maybe.*” She finds her job interesting and rewarding, and does not express any problems with working that much. Her workplace is located in downtown Oslo, and she depends on the train to get there. This is also very important for her because she works with a railroad-related company and is very enthusiastic about using public transportation. She talks a lot about managing time and being efficient, and has chosen “*simple and practical solutions,*” like having a mop standing beside the refrigerator so that she can “*Just drag it over the kitchen floor now and then, although it isn’t really pretty having it standing there.*” The dishwasher is frequently put on at night, so the dishes are finished by morning. She is not, as many are and also governmental organs warn consumers, afraid that the machine might catch fire while running throughout the night. This is also made possible by a feature of the machine, a delayed start function. So she can set it to start in the middle of the night, and then it is finished by morning:

*You know, then it is really not going actively most of the night. And it is very convenient to open the door and let things dry in the morning while I get ready. If I have 10 minutes left before the train leaves, I might use those small opportunities in between for that. Or else it might just stay there to dry in the meantime.*

However, acquiring a machine with the delayed start mechanism was really something of a coincidence:

*The first time I bought a dishwasher, I was mostly looking for one with low noise levels. But then I also discovered that it had delayed start function. So I can put it on when I go somewhere, and use the timer so that it is done when I come back. I’m really happy with this function, it has made things so practical [laughing].*

In her process of de-scripting the technology, Cesilie becomes more and more dependent upon the delayed start function, it becomes an important tool for managing her everyday life. So in adjusting the dishwasher to her routines, at the same time it opens up new options for arranging her everyday routines around the

possibility of delayed start, like washing while she is at the gym. She also influences the development of household technology in another way. In speaking about buying the washing machine, she explains:

*The delayed start was definitely a reason for choosing just that machine. So now I can do the same with the laundry as with the dishes. It is so handy. The best thing with the delayed start is that I can intertwine washing with other doings.*

She is here part of the Latourian network of the technology. The script of the machine is of a user who wants flexibility to “wash whenever,” but it also makes it possible for her to have an active lifestyle because, as she says: *“I prioritize housework, I like things to be in order.”* The delayed start is incorporated with her lifestyle and making new routines, changing both her and the machine. Moreover, she is likely to look for a machine with such a mechanism when buying a new one, or as she did with the washing machine, and she probably spreads the word among her friends, which in turn could become a reason for producing machines with that function.

#### **4.4.6 A failed script? The case of the tumble dryer**

As mentioned above, the tumble dryer differs from the dishwasher and the washing machine in its diffusion in Norway. This is also quite interesting from a direct environmental perspective, in that for example drying clothes outdoors rather than in a dryer is one reason that similar households in similar houses might have energy consumptions that differ by 100% for such routines (Gram-Hanssen 2007). In terms of failed appropriation, there could be explanatory factors such as marketing, individual economy or environmental concerns among users. However, I would hold that we also need to look to incorporation, to practices surrounding the tumble dryer. This means studying households both with and without a dryer. Even though my focus is on the technologies, there is an emphasis on how the users adapt to the technology, and thus what the technology



*provides*. A useful analytical tool is the concept of *cultural energy service* (Wilhite et al. 1996), understood as practices deeply rooted in social, cultural and symbolic presentation and understanding of the home and the self.

Drying clothes is of course nothing new that the tumble dryer provides. And as the results of research on the energy use of Danish households indicate, technologies offering totally new features are viewed both with greater interest and with less resistance from consumers, than technologies that interfere directly with older established practices of washing clothes and with the surrounding strong cultural norms (Gram-Hansen 2007: 1184). What are the culturally significant services surrounding drying clothes in Norway? One aspect is quite notable and relates to the tradition of drying clothes outdoors in the summer. Many connect the vision of clean clothes with the texture and “feel” of them. Notes Cesilie Kroken (44):

*I associate clean clothes with certain freshness, which is really a memory from my childhood when mom hung the clothes outside and they got such a nice smell from the wind.*

Johanne Knutsen (70) explains how clothes that have been dried outside have “*a wonderful smell, especially the sheets,*” and Anne Børresen (46) talks about “*not only the smell in the clothes, but also the nice atmosphere of meeting neighbors outside by the clothesline.*” Moreover, some see the tumble dryer as harmful to clothes, like Karianne Lunde (29), who has tried using one but now avoids it “since it ruins the texture of the clothes.” This is an example of what service the tumble dryer can provide, which in the cases of these informants does not fit their culturally rooted image of “fresh” clothes dried outside. It might be seen in connection with what Aune (1998: 77) describe as the ideal Norwegian home: “the detached house with a garden in country-like surroundings.” This connection of having a garden and thus the ability to have a clothesline outside as a symbol of status is also pointed to by Shove (2003: 152). Here we see how culturally loaded images of drying clothes, seen as part of habitus, work as inertia in the

proposed change of routines the tumble dryer can offer. The script of the tumble dryer is not sensitive to this service.

However, there is also another significant trend among my informants, as opposed to the *romantic freshness* of those who dry clothes outdoors and choose not to have a tumble dryer. It is the view that the tumble dryer offers a new sort of *convenience* among those who have incorporated it into their routines.

*Anton Mikkelsen (63): Drying outside? That possible luxury is something we have quit enjoying. It is convenience that has made us stop. If we are going to hang the laundry outside, we need to carry it, go outside, and then there is the possibility of rain, and this, and that. You have to watch it all the time, and put so much time into the process.*

*Marit Andersen (29): We wash a lot of clothes every day, and it's very handy, they dry much faster. If we were to hang the laundry up, we'd have to have somewhere to hang it, –then we would have to do that in the living room or something [laughing].*

*Berit Arnesen (51): Without a tumble dryer, I don't know if I could manage all the laundry, at least in the winter. I don't have the energy to hang up everything, if you are going to do that as well, in addition to sorting, putting it in the washing machine, no, that is too many sessions of work I think. And it would take so much time!*

All of these informants explain the need for saving time and using the tumble dryer for convenience, related to a preference for spending their time on “what really matters,” as also shown above with objectification. But as Berit notes, it is also a way of managing time, feeling that doing the laundry is very time-consuming. Adapting the routines of drying clothes to the tumble dryer might alter the whole complex of everyday practices. Shove (2003: 183) locates a certain cumulative effect with convenience devices, where the devices engender new divisions of time, create more fragmented episodes, exacerbate problems of time coordination, and then increase reliance on new convenience devices to create even more periods of quality time:

*I'm so much into saving time on housework that I constantly ponder whether this can be done more efficiently, or I can save time somewhere. So the more you can give to machines to get done for you, the better. Anton Mikkelsen (63)*

There is also a strong moral component here, as to what people find as valuable practices, hence it signifies part of the moral economy of the household. Signaling to the social surroundings that you are concerned with the “real values in life” and thus use the convenience devices available to enable that, it might reproduce the habitus seeing that value as primary. However, in this case, the service of convenience offered by the tumble dryer outweighs the romanticism of clothes dried outside. But the value of a certain texture as an important feature of clean clothes is also an important aspect for these *convenience* dryers, although it is understood in a way that is compatible with using a tumble dryer:

*That's the difference between drying on a clothesline and in a tumble dryer; on a line the fabric gets stiff, hard...I want clothes that I wear close to my body to be soft. Stiff towels aren't that inviting. Anton Mikkelsen (63)*

For Siri Hansen (35), it is even the main reason for wanting a tumble dryer:

*I had a tumble dryer before, when I was younger, at home. It is something that I want, but well, I cannot afford it right now. I want it because [thinking] ...because of soft towels! No, I don't know, it's something about being used to it.*

The tension between the service of *romantic freshness* and the significance of tumble-dried clothes might indicate dynamics of change and the co-evolution of demand for services, diffusion of technologies and everyday practices. People weave rationales around their practices, which again might reconstitute the values against which future alternatives are judged (Shove 2003: 153). This implies that through the very use of a tumble dryer, perhaps acquired for completely different reasons, the whole concept of what is valued as comfortably dried clothes might change, and thus re-define the services connected with drying clothes.

#### 4.4.7 What to tell the world

Although inconspicuous consumption is conceptualized as opposed to that “which is overtly wrapped up with questions of style, status and symbolic significance” (Shove 2003: 2), there is much to say about the social significance and meaning related to the technologies and attached practices accounted for here. This leads to the aspect of conversion, which has to do with the relationship between the household and the outside, hence social, world. Appropriation must be matched by the equivalent work of conversion if it is to be meaningful outside the home (Silverstone et al. 1992: 22). It is the households’ way of communicating their moral economy with others. The technology demonstrates priorities, values and taste (Røpke 2001: 415).

Let us return to Marianne Eriksen (41). She lives in a terraced house in a village in southeastern Norway, a quite expensive area, popular for its blend of beautiful and varied nature with an urban feel. She lives with Jonas (44); they have both been married before and have two sons (13, 15) and one daughter (14), none of them together. Now they are expecting their first child together in a few months. This new family member might be one reason why they appear as “nest builders” (Wilhite and Wilk 1985), with many projects and plans for redecorating the home and “*making it more practical.*” The family is active, especially in soccer, and Jonas was a professional player a few years ago. Hence, “*there is always some practice going on,*” Marianne says, and there is “*always a lot of training gear to wash.*” Jonas does not really take part in doing the laundry: “*You know I’m good at washing clothes, it is just that it gets done, and I’m not that interested,*” he says, and Marianne agrees: “*It’s more that I do it than him not doing it. I like it, it is fine.*” She is a clean-up washer, and concerned with keeping order, “*We are so many now, so I have to clean up a bit all the time to avoid chaos.*” The youngest boy, Bjørn (13), explains that he puts his clothes in the dirty bin immediately after practice, when he goes to shower: “*it’s just the way it is,*” but Marianne says the older boy Lars (15) is “*lazy, he can throw a lot of*

*things in the wash just because he doesn't bother to clean up his floor.*" They have a laundry room in the basement, and Marianne is very happy with her washing machine, which is *"best in test, I could never have afforded it if it hadn't been that I got it from my mom. I'm sure it is environmentally friendly, too."*

However, with the tumble dryer things are somewhat more complex:

*It's kind of comical with the tumble dryer, there are two things that I never thought I would need, tumble dryer and microwave, but then my in-laws were so convinced that we needed one.*

She says that she is pretty good at taking the environment into consideration, but adds: *"of course we could have been better, I guess it is the convenience that is stopping us."* This is the reason she is somewhat apologetic about getting a tumble dryer too, it does not really fit the image of an environmentally aware household. However, Marianne says that the tumble dryer is very handy, *"to manage all the laundry we produce here, at least in the winter."* So she understands why people need it when they have many children, *"you know, most people with children have one around here."* Hence, after a rather conflicting start, the tumble dryer has blended into the moral economy of the household, Marianne has settled on having a tumble dryer, rationalizing it as practical since they are "so many people" and have "so much laundry." So it does not really shatter her image of the family as environmentally aware. This also illustrates the point that although domestication processes involve all family members, they might also take separate and individual turns, not least regarding the technology as entering into identity formation of an individual (Røpke 2001: 415).

Whereas Marianne has adjusted her values to the technology, the Norwegian-Iranian couple Nouri have adjusted their practices to the artifact (see Aune 1996: 100), in this case the dishwasher. Shariar (45) and Anitra (40) Nouri live with their daughter (9) in a municipal apartment in the same municipality as Marianne, but a different area. They are both marked by polio, which has put Shariar in a wheelchair. Anitra was not as hard hit, and is currently attending the

governmental program of integration into the job market.<sup>46</sup> She has been striving to get a job, as she wants only a part-time position and has specific needs for the arrangement of the workplace. *“It is kind of boring just being home, I would love to work a bit outside.”* Anitra does most housework, partly because Shariar is less physically capable, but also because “that’s the way they like it”:

*Shariar: When we lived apart, I used to wash for myself. But now she does everything. I think she feels she is the housewife, and as a housewife you have to be aware of those things. I don’t know, at least she is.*

*Anitra: Yes, and I like to wash. I used to help my mother with it too.*

Shariar moved to Norway ten years before Anitra, but after they got married in Iran, she joined him in Norway. Shariar notes that she was the one to choose dishwasher and washing machine, and Anitra found it important that it should be of a certain European brand: *“At home in Iran, my mom had everything in that brand. It is a really good brand, she said.”* They are very concerned with not using the electrical appliances too much, as Shariar says: *“The dishwasher uses a lot of energy, so we cannot use them it all the time for small things.”* And it is important for them to show moderation in their way of living, Anitra explains:

*I see people using a lot of energy and especially water, as in the summer, when they wash their cars outside. I ask why they use so much energy, because we have to consider others. I learned that in Iran, we have to save energy and water. It is more expensive there.*

They like having friends over for dinner, most of them Norwegian-Iranian. Shariar says that even though they had a dishwasher in his childhood home in Iran:

*My mom couldn’t use it when we had guests, because it is a part of the culture in Iran to help each other out in the kitchen, the guests have to feel that they are helpful, and spend all the time together.*

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<sup>46</sup> Norwegian ”attføring,” a service provided by the social service system, NAV.

So the dishwasher is apparently in conflict with this habit. However, they also express a certain pride in having such a good dishwasher:

*Not everyone has such good machines in Iran, and many have to wash by hand. We are very happy about having such a good dishwasher here,*

Anitra says. So this re-arranging of values together with the incorporation of the dishwasher has altered their whole practice with guests:

*Shariar: We actually mostly use the dishwasher when we have guests now.*

*Anitra: Yes, Iranian cooking needs so much equipment, so I have to use it, or else it becomes chaotic. The guests says they can come and help me wash, as is common in Iran, but I say you know what, when you come to us, we should rather sit down and talk and just be together, and not be working in the kitchen. The machine can take care of that.*

The value of spending all the time with the guests is not questioned, but it is re-configured through the practice of the dishwasher.

In their conversion to the incorporation of the technologies, the values or moral economies of both the Eriksen and Nouri households are re-established with the technologies and adapted to them. In this process, we can see how the habitus of both Anitra and Marianne have entered the discursive domain. In doxa, the unconscious realm of what is taken for granted and not up for debate, we find Anitra's values of spending all the time with her guests and Marianne's vision of being environmentally friendly. But there is also the heterodox realm of habitus where norms of conduct are explicit, contested and manipulated. Marianne has entered this by talking to other parents, at school or soccer practice, who also see themselves as considerate of the environment, but think the tumble dryer is practical for "getting by." Anitra and Shariar have found that the dishwasher is convenient and "saves time." So the norms are taken for granted and change only when they are brought out of the doxic realm of habitus into the discursive sphere

of orthodoxy. Here they can be reconfigured in explicit discourse before they sink back to the accepted practice of habitus (based on Bourdieu 1977, Wilk 2001).

## 4.5 Final comments

In this chapter I have given a picture of the context of energy use in the household, in terms of the material aspects represented by household technologies. Through processes of domestication, negotiations between users and technologies influence energy consumption practices, so they cannot be understood as rational independent human actors acting in a vacuum. These processes are multifaceted; new practices might in turn influence the development of technological equipment, and vice versa. Importantly, technological appliances are not necessarily used in the ways intended by designers and innovators.

Towards the end of this chapter I introduced the concept of cultural energy services. This will serve as an overarching concept in the next chapter, where I move towards a summary and reflection upon the main findings of this study.



## 5 Cultural energy services

In the proceeding chapters, I have aimed at looking at domestic energy use where it actually happens, in practice, and from the main perspectives of the organization of time and space (Chapter 3), and with “technology lenses” (Chapter 4). What can this really say about energy use in a broader sense? In Chapter 6, I sum up the main findings and offer brief comments as to the possible implications for theory and policy. First, however, it might be informative to look at the findings from an integrated point of view. How can they be fused in a more overarching understanding of what energy use in everyday life is really about? One possibility is suggested in this chapter, sketching out the concept of *cultural energy services* (Wilhite et al. 1996; Shove 2003). This admittedly ambitious framework might serve to integrate the different elements of habits and routines, socio-cultural aspects and technological contexts.

### 5.1 Energy cultures and cultural energy services

Aune (1998: 54) operates with the term *energy cultures* to describe the outcomes of processes of domestication. Energy use is here seen not as a result of simple cause-and-effect relationships, but rather as a result of constructions and interactions of material and culture; culture is continuously constituted by energy use, and energy use is interwoven with and becomes a part of everyday life culture. Although such constructions of cultural categories might be a way of making the material available and more applicable, they cannot provide analytical tools for understanding energy use as such. The concept of “cultural energy services” might prove more useful in this context. Proposed by Wilhite et al. (1996), it makes the point that people do not really “consume” energy (here: electricity), but the culturally meaningful services that happens to depend upon the supply of it. This perspective is what fuses the analyses throughout this thesis,

that the way energy is consumed in the household is not a straightforward, purely quantifiable matter of inputs and outputs, but is partly “hidden” in mundane practices like the organization of time and space, habits and routines, and subject to definitions of what the user considers normal. Shove (2003) operates with examples of such services, or what she describes as the “middle-range concepts” of comfort, cleanliness and convenience:

Specific devices and appliances like washing machines have to be examined and understood with reference to the achievement of more encompassing services like those of comfort and cleanliness (Shove 2003: 166).

In my study, the two most significant of these services were cleanliness and convenience. Let us take a look at these to make clear the analytical construction.

## 5.2 Services

### 5.2.1 Keeping clean

The most significant and extensive story told through my analysis is that of cleanliness. Quantitatively measuring household energy consumption in Norway, SSB operates with the category “clean clothes” and “clean cutlery” as fixed necessities (Larsen and Nesbakken 2005). Not really controversial, it misses the point that *cleanliness* is qualitative, dynamic and subject to historic, social and cultural evolution and changes. People have different ways of evaluating whether a piece of clothing or kitchen equipment is clean. Marit Andersen (29) says she changed her definition of cleanliness after having children, and “*might walk around at home with some spots on my sweater,*” while Anton Mikkelsen (63) “*cannot stand stains on clothes, then they go straight to the machine, even though they might not be really dirty.*” Petter Knutsen (73) might wear the same outfit for a week if it does not get any spots, whereas Berit Arnesen (51) has to change clothes every day because clean clothes for her are primarily about their firm texture, which disappears quickly after use. Hence, perceived *needs* for

cleanliness are not static or universal, they differ between people, cultures and contexts, and they change and evolve through history. The account given by the 19<sup>th</sup>-century Norwegian sociologist Eilert Sundt about men and clean shirts could be set against that from one of my informants:

*The most a man usually has of that kind of clothing is one woolen shirt and 2–3 cotton shirts. During winter he will have his woolen shirt near the body and a cotton shirt outside, and then, they say, it is not rare that the first is not washed more than once from October to April. In summertime only a cotton shirt is commonly used, and it often happens, that it might be used for 5 or 6 weeks without being washed. (Sundt 1869: 265)<sup>47</sup>*

*To be a bit personal, I panic when it comes to sweaty people, and going around with a shirt that smells like sweat, that isn't me [...] I sniff at my shirts every day before I put them on, and if I can sense, not necessarily a bad smell but any smell at all, it goes into the washer. It has to be totally odorless and perfect. Anton Mikkelsen (63), 2010.*

What is characteristic of laundry habits in Norway as a whole today is washing continuously more frequent than ever before. Laundry is in general washed at lower temperatures, but the washing frequency per capita has increased radically (Arild et al. 2003: 104). In the year 2000 a family of four (2 adults, 2 children) washed around 8 machine loads a week, as against only twice a week in 1960 (Klepp 2003: 97). The point is not to moralize over that, but simply to understand how and why such practices are constituted and changed, and what that can tell us about people and culture. On the other hand, the environmental significance of clothes washing is also considerable and difficult to overlook. We now have more energy-efficient washing machines, but the amount of energy used is still increasing because of more frequent use. Washing clothes represents a large part of the environmental pressure from a modern household in Norway. In addition to

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<sup>47</sup> Translated by me. Original quote: “Det høieste forråd, en mand pleier have af dette slags undertøi, er en uldskjorte og 2-3 bomuldsskjorter; på den koldere årstid har han gjerne uldskjorten inderst og en bomuldsskjorte udenpå, og da, siges der, er det ikke sjelden, at den første gås med uden at vaskes mere end en gang fra oktober til april; om sommeren bruges almindelig kun bomuldsskjorte, og det skal ofte hælde, at den kan gås med en 5-6 uger uden at vaskes.”

the practice of doing laundry comes the use of detergents, water, and so on, as well as production of the machine (Klepp 2003; Larsen and Nesbakken 2005).

Cleanliness might be defined quite differently not only in different historical but also cultural contexts. Hindu doctrines, for example, operate with an intimate relationship between physical cleanliness and spiritual purity. My informants gave accounts of cleanliness connected to social status and appearance. Like Hedda Grav (41) from the eco-village, who said:

*I don't think you have to change clothes if it has a stain or two, but it depends on where the spot is, and where you are going. If you are meeting someone you don't know for instance, then it is good to have properly clean clothes.*

With her children (aged 6 and 10), however, this was even more important, especially since they had already encountered some prejudices in the local community because of living in the eco-village:

*It is in a way really important that the children have clean clothes, also in relation with the signals you give and how they are looked upon at school [...] In the local community people are concerned about everything having to be perfect and then it might be a bit hard to come from the eco-village, if you don't have that in addition.*

A similar account is given by Øyvind Larsen (26), a young bachelor who has just started in his first full-time job after several years of studies:

*I put clothes to wash at once; they feel dirty when they have been used. I think I change clothes mainly because it is dirty. But there is a combination... Where I work, there are certain requirements when it comes to how you dress. There is an expectation at work that you don't wear the same outfit, at least not the same shirt or sweater, two days in a row. I don't know why. But I don't go to work with the exact same outfit two days in a row. At my work you have to dress reasonably well. That expectation is not written down anywhere, but it is still there.*

This preoccupation that people show with regard to how they appear in certain settings in interaction with others might be analyzed on the background of the

concept of “cultural capital” as indicated by Bourdieu (1984: 260). The amount of cultural capital is both intrinsic to and influences habitus as dispositions for practice. Habitus is here part of sustaining a hierarchy of ways to act. Some ways of conduct have more cultural capital and are more prestigious and considered normal or appropriate than others (Gullestad 1989: 112). This is closely connected to class and power, which I do not have enough material to analyze here. But Gullestad writes that even if “class” is not a common term in Norway today and that the ideology is egalitarianism, there are greater differences than one might assume (ibid: 112), and social status and distinction is prevalent, as I also illustrated in the description of the conversion part of domestication strategies (Chapter 4). And as Klepp (2003) describes, the creation of a Foucauldian hygienic truth-regime or discourse was evolving in Norway in the late 19<sup>th</sup> century, involving control and a project of modernization and “progress” led by the upper middle classes and state organizations towards the poorer farmers. Sundt wrote in 1869 that it in a way would be possible to wash yourself out of poverty, to a higher status (ibid: 35). This might help explain why cleanliness seems closely linked to social status and appearance.

As cleanliness might be a way of making distinctions and positioning oneself in a social space with other people (using the vocabulary of Bourdieu 1984), it might also be seen as a way of systemizing and integrating the world on a wider level. Bourdieu (1977) also made the point that both social practices and the surroundings are organized in relation to the cultural schemes of thought. This leads back to Mary Douglas and the definition of dirt as something out of place. Dirty laundry (and I would add dirty kitchen equipment), is not there of natural necessity, but as a result of cultural relations. Nobody *has* to wash (Klepp 2003: 31). So classifying dirty and clean clothes has to do with understanding the world: where there is dirt, there is system (Douglas 1966). Although cleanliness and hygiene might have a modern history closely connected to the appearance of

bacteriology and avoiding disease (Klepp 2003). As Douglas writes, when we wash

We know that we are not mainly trying to avoid disease. We are separating, placing boundaries, making visible statements about the home that we are intending to create out of the material house (1966: 69).

Germ and physical dirt do not seem to worry most informants. Many are eager to explain that they are not “*hysterical about bacteria, a little bit of germs is good for your immune system,*” as Cesilie Kroken (44) explains. This could indicate that laundry is something people do without necessarily thinking too much about hygienic aspects; they are doxic (Arild 2003: 16). On the other hand, clothes are not allowed to become what Cesilie describes as “*really dirty.*” As she says, “*If clothes are clean after having been in the machine? Well, yes, because they weren’t really that dirty in the first place.*” Washing seems to be a protection against becoming too dirty. The frequency of washing clothes is, as indicated in previous chapters, part of organization, routines and making systems. Siri Hansen (35) describes this:

*It is clean when it doesn’t smell and doesn’t have stains, but you know after 2 or 3 days, I put it to wash because then I feel it is dirty anyway. It isn’t necessarily everything that shows, but that doesn’t mean that there isn’t anything there.*

Importantly, used clothes that are not dirty but can be used again and thus are “in use,” are not to be put in the closet with the clean ones:

*I might use things again, but I don’t put them into the cabinets when they’re in use, with the things that are all clean. Then the dirt might in a way contaminate...I don’t know exactly how that would happen though.*

When it comes to dishes, things seem somewhat different. With few exceptions, washing kitchen implements and dishes after being used once does not seem problematic or even interesting for most. However, there is a significant difference between temperatures used. While a normal clothes wash is considered to be 40°C, with dishwashers many people prefer 60°C or even 70°C. Germs are

mentioned more frequently with the dishes. But as with the laundry, there seem to be the *feeling* of dirt, or in this case germs, that is important:

*The dishes aren't really dirty when they go into the machine, but they've been used. Regular things like cups and plates and so on, they don't really get dirty, but there might be things you cannot see, like germs and stuff. Johanne Knutsen (70).*

While theories of bodies, smells, germs and disease have filtered into the discourse and practices of washing and laundry, ideas of cleanliness continue to develop in ways that are in no way directly related to scientific or medical knowledge (Shove 2003: 160). As shown by Douglas and Bourdieu, cleaning is important in making social distinctions and in reproducing order, which is also manifested in the organization of time and space as discussed in Chapter 3. Moreover, the analysis of technological agency and domestication in Chapter 4 has shown that material objects and technologies construct, stabilize and re-specify categories involved.

### **5.2.2 Convenience**

As pointed out earlier, although convenience is commonly related to saving time and is used in labeling certain services or tools like convenience stores, convenience foods and convenience technologies (Shove 2003: 171), informants in this study give accounts of convenience related to juggling of time more than shortages, keeping order and making daily life practical. Jørn Lunde (29) describes how his girlfriend Karianne (29) uses the dishwasher:

*Dishwashing isn't really a routine in itself, but part of a routine of keeping it tidy. When she goes to the toilet, she puts her glass in the machine for example, and then she just takes a new one afterwards. It is easy for her; that way she doesn't have to worry about which glass was used for what.*

Karianne confirms his view, and further explains

*Dishes cannot be standing out, they have to go straight into the machine, or else things get messy. It is very handy, the dishwasher. I can understand why some people choose to have two; then you wouldn't have to move things between cupboard and the dishwasher, it could be used as a cupboard.*

Importantly, the various services and practices should be seen as interdependent systems (Shove 2003). Convenience is here closely linked to with cleanliness. As seen with the clean-up laundering, and the example of Karianne, washing frequently might not only have to do with cleanliness but also with convenience, to “get things out of the way.” Shove here operates with the concept of socio-technical regime, as complexes of technology, practice and convention co-evolving (ibid: 80).

### 5.3 Stability and change in practice

When discussing environmental attitudes with Siri Hansen (35), I asked her why people do not change their habits when they think it would be the right thing to do for the environment. She quickly replied:

*That one is easy. It is convenience. When it's 21 degrees below zero it is much easier to go into the garage and into a car that isn't too cold, instead of walking to the bus stop and standing there freezing, waiting for the bus, and who knows, maybe it's delayed because of ice and everything. Siri Hansen (35)*

This illustrates the significance of understanding cultural energy services such as convenience in order to answer the initial research question,

*Looking at everyday practices, where can the resistance to and the potential for change in energy consumption be located?*

However, two important nuances should be made here. Firstly, locating resistance to change is also an indicator of where to start in order to make changes, so the concept might be useful in policy-making. Secondly, what is considered the



optimal material surroundings and comfortable, convenient or clean is neither given nor stable (as indicated by Aune 1998: 225): cultural energy services are constructed through intertwining of material surroundings and concrete acts. This implies that “high” comfort is not directly transferable to a high amount of energy use. These statements about frequency of laundering illustrate the point:

*We have a washing machine and a tumble dryer, and we use them a lot. Maybe two or three times a week. Anton Mikkelsen (63)*

*We wash 2 or 3 machine loads a day, but that is absolutely necessary. Marit Andersen (29)*

*I don't really wash clothes too often. Around once a week, I think. Trine-Lise Bjørnsen (35)*

*We usually wash around once a week, but in autumn and winter time, when there are a lot of outdoor clothes from school and so on, it might be even more. Anitra Nouri (40)*

This is also subject to other contextual aspects like family size, but still illustrates as example how perceptions of what it means to wash “a lot” differ. It also illustrates how definition of needs is deeply qualitative.

My sample did not allow for making extensive categorizations, but the narratives described here represent simplified examples and descriptions of energy use. Everyday life is not influenced by the same aspects in all households. Still, such concepts can provide better understanding of energy use, and illustrate how it is culturally, socially and materially constructed – which was the initial aim of the research objectives laid out in Chapter 1. Shove (2003) points to how consumer expectations are contingent on technological possibilities and that consumers tend to take for granted the standards of living made possible through technological advances, while missing from the picture is how technologies and technical systems relate to the transformation of shared expectations, norms and practices in environmentally sensitive domains. The point is not to look at appropriate levels of energy use, but how these are conceptualized (Wilhite et al. 2000: 117). Here the concept cultural energy services can serve as a useful tool.

## 6 Concluding comments

Through this thesis I have aimed at adding to our understanding of energy consumption as fundamentally forms of social and cultural practices by studying energy use in a new perspective. We have seen how household energy use is created through a web of influences including routines, techno-material context, values and social and cultural significance. The thesis has also described aspects of how everyday life is organized. The research question was approached through two main analytical chapters, briefly summed up in the previous chapter through the concept of cultural energy services. This analytical tool was applied in an effort to include all the different influences in the web. I have examined energy use as processes, of organizing everyday life and of domesticating technologies. Cultural energy services can be regarded as the outcome or consequences of such processes, although they are dynamic and constantly evolving.

In the following I reflect on the main findings and their implications in light of the original research question and objectives. For me, the work with this thesis has been a process of learning and maturing as a researcher, and in retrospect it is easy to point to limitations and shortcomings. However, this also offers room for fruitful suggestions for further research.

### 6.1 Main findings

I have aimed to show how there is no one overarching framework that captures energy use. This thesis might be regarded as a contribution to arguments for interdisciplinarity in research. In criticizing what I see as one-sided and static approaches to energy research and policy, I do not claim that these are wrong or mistaken. What I want to get across is the need for multiple approaches and perspectives in understanding in the field of energy consumption. My work

represents merely one. This also forms one aspect of answering my research question, of where resistance to and potential for change might be located. Without proper understanding of energy use in research, policies will be correspondingly inadequate. I have here indicated the fruitfulness of starting with practices. When energy is consumed, what is done, how is it done and why?

### **6.1.1 Time that matters**

The most important finding, with implications for all aspects of the analysis, was how time and space are organized in everyday life in the household. This is related to my sub-objective A),

*To look into how the construction of everyday life practices influence and get influenced by energy use.*

It became clear that how people organize their daily schedules is deeply intertwined with the spatial organization of the house, here seen in terms of placing of technological appliances. This organization of physical space again had affinities with placing in social space, illustrated through the extensive use of habitus in the analysis. That underlines the point made by Bourdieu: that the house can be regarded a micro-cosmos of society, mirroring cultural values (1977). I found Southerton's (2003) categories of "hot spots" and "cold spots" inadequate for explaining the strong moral component in the organization of time and space of everyday life, and thus suggested the concepts of "real time" and "waste time." Moments of real time are loaded with value, meaning and importance. By contrast, waste time – which characterized housework – was attached to the feeling of not really doing anything, or was seen as a necessary evil. The technological appliances here were commonly seen as measures for making more "real time" available.

Energy use here seems to be governed by concerns for convenience, getting things done and out of the way. The value of "real time" thus is seen as

surpassing possible concerns for cautious consumption of energy. Many informants said that they do care about saving energy or at least being prudent, but that they found other concerns more important. These are connected to “real time,” exemplified by being able to spend time with the children, at the cabin, or doing things deemed valuable, such as relaxing or socializing. This fits in with the point made by Aune (1998: 43), that when undertaking daily practices involving energy use, people do not usually associate or think of energy consumption in those situations, but rather meeting their subjective and specific needs. In my study, this was shown by how housework or daily chores were seen as something to be kept at a distance and not interfere with the need for real time.

This framework is interesting when we consider an environmentally significant trend in consumption today. Leisure consumption amounts to around 25 per cent of the total environmental strain from consumption in Norway, and is increasing more than other consumption (Bjerck, Klepp and Vittersø 2009). It seems we are concerned about a green everyday life, but not green leisure. While consumption in everyday life is connected with frugality, leisure-time consumption is connected to ideals of happiness, joy and freedom (ibid: 223–226), as we noted in the case of the cabin as a haven of real time. However, this point might overlook the fact that ideals are not synonymous with practices. Here the categories of real and waste time might be useful for capturing the dynamics and variations of everyday life consumption, which is not always guided by frugality but is also influenced by other morally significant factors. This has been illustrated here through the examples of making way for the “real” qualities in life, and the significance of spending time with the children. In terms of energy use, ideals of frugality or rationality are overrun by concerns for convenience and juggling of time in everyday practices, to enable more real time.

### 6.1.2 Reconsidering agency

Introducing the idea that technologies have agency in the analysis, the very concept of agency was discussed. This is related to my second sub-objective, B)

*To see what implications the interactions between users and household technologies have for the way energy is consumed. How is agency distributed in this context?*

On the one hand, informants were influenced by the scripts or frameworks for action that technologies entail. On the other hand, they also actively shaped the functions and definitions of the objects, as through the practice of “clean-up laundering.” Above all, this showed that the consequences of a technology cannot be predicted, and that the concept of technologies as being “black-boxed” after an innovation phase (see Akrich 1992) might be modified. Although the washing machine is now widely diffused in Norway, it is still dynamic in terms of use, definition, functions, and so on. This is crucial for energy use, in that the recommendations for acquiring energy-equipment technologies might not automatically result in a decrease in energy use. This in turn indicates that the relationship between technology and behavior needs greater research attention if we are to understand energy use (Wilhite 2008a).

I have also made the argument in terms of theory, in that we need to broaden our understanding of agency as such. Here the concept *distributed agency* was applied to illustrate how agency is not something always situated in one, fixed spot. The agencies for energy consumption are located not as isolated aspects within individuals or individual technologies, but in their interactions in everyday practices (Wilhite 2009: 1).

The challenge when talking about distributed agency is the risk of leaving out important aspects or agents. Social anthropologist Arjun Appadurai places almost all agency on the production side, describing the consumer as merely a chooser between set alternatives, not a real actor (1996: 7). Albeit slightly radical in asserting the importance of the production phase, this is an important point that

calls for follow-up. I will concentrate on everyday practices of negotiations between the user and technologies, where energy consumption takes place continuously, inspired by the idea of starting from “the bottom.” Examples of processes of de-scripting, such as Cesilie Kroken with her delayed start function, suggested further research into the design and production side. I discovered that processes of domestication in turn shaped perceived needs. How this interacts with production might be a pertinent aspect to follow up.

### **6.1.3 Making technology our own**

The theoretical framework of technological agency and actor-network theory proved useful for explaining how technologies are not silent, but not sufficient alone for understanding the practices at the micro-level. The perspective of domestication was introduced in order to look more closely at the negotiations and processes of evolution between user and technologies in the households. My informants interacted with the technologies as more than mere recipients of the scripts for use, and through them this jointly shaped energy consumption as more or less energy-intensive. Importantly, change in these processes took place at several levels. It was not only the users and the technologies that were shaped in different directions – also aspects of everyday life as such were adjusted. This was evident in how routines and habits were adjusted to the technologies, especially in the case of the Børresen family getting a dishwasher for the first time. The findings disavow both technological determinism and voluntarism at the micro-level. However, technological developments seemed determinant in the sense that people quickly get used to the material standards in their daily life, and take them for granted as normal. Few questioned the need for household technologies, except for the tumble dryer, which evoked highly mixed feelings.

The analysis of domestication showed that people create their material surroundings and in particular the technological objects as meaningful in their

everyday lives: they are not merely puppets who put them to use in ways determined in advance. These “mutual constructions of material and culture,” as Aune calls them (1998: 40), may have differing outcomes for energy use. The phenomenon of “clean-up laundering” is illustrative of how users shape the function of washing machines in negotiation with their everyday routines. The washing machine has opened up for this possibility by altering the amount of time necessary for washing clothes, but the practice is actively shaped by consumers and in use. That might help explain why energy use is on the rise for washing machines despite the increasingly more efficient machines.

From this we can conclude that technological efficiency alone is not enough to bring about lower energy use. Social and cultural aspects must be taken into account also in understanding the quantitative aspects of energy use, not as isolated features, but as integrated context.

#### **6.1.4 Domestication, objectification and creating identity**

In her study of electrification of a village in Zanzibar, Tanja Winther (2008) focuses on how routines of everyday life and acquisition and use of new technologies also articulate values, ideologies and identities. This point is important, and I was actually somewhat surprised as to how significant this was also in my study although I was looking into inconspicuous consumption. It indicates that the very concept of “inconspicuous consumption” may be slightly misleading. Although there might be differences in terms of display of status and symbolic significance of different objects, consumption of objects is intrinsically a question of creating social identity and defining yourself (ibid; Douglas 1966; Miller 1994). This became clear in this thesis when we looked at the domestication processes, and especially the part of objectification. In the course of consumption of certain objects, people make choices that confirm and evolve their identities and view of who they are (Giddens 1991). Significant in this study

were the ambivalent feelings connected to the tumble dryer. While on the one hand it was legitimized as necessary in order to juggle time and not least to have enough real time to spend with children, it was problematic in the context of seeing oneself as environmentally aware and concerned. Consumers also have creative roles, using objects to construct identity and moral projects not necessarily intended by the producers (Miller 1995). Actively shaping the image of the dishwasher as environmentally benign is an example of such a project. With the washing machine, identity appeared connected with care, as some said that washing the clothes for the rest of the family was a practice full of concern and consideration for others. This also indicated aspects of gender differences and identities worth looking into. Overall, these dimensions were not included to any large extent in the initial plan of this study, and I was taken somewhat by surprise when analyzing the data. These are interesting aspects for further inquiry. In relation to energy consumption and sustainability, we can note the need to examine the growing use of “luxury” technological household artifacts, which is also a factor behind the areas where electricity consumption is still rising in Norway (Heidenstrøm 2010).

### **6.1.5 The significance of habitus**

“Habitus” has been applied here in order to understand and illuminate certain culturally sensitive practices in relation to everyday life and housework. It appeared as a sense of catalyst in the processes of domestication for the user. As for Aune (1998: 222), habitus seemed more important to the processes of domestication than I was able to grasp in the analysis. Limitations in my empirical material restricted the use of it to some extent. Although habitus was introduced as a predominantly conservative force and means for explaining resistance to change, in fact the most illustrative examples came from looking at situations where changes occur, like having the first child, or moving into a new



home. That was when the informants were really able to reflect most clearly on their practices, removed from their usual field of everyday practices.

## 6.2 Change: Resistance and potential

My overarching goals were set out to be furthering our understanding of as well as looking for resistance to and potential for change in household energy consumption, as indicated by my main research question:

*Looking at everyday practices, where can the resistance to and the potential for change in energy consumption be located?*

Throughout this thesis, I have located all of these aspects. In terms of understanding energy use and what it is about, we have seen that how energy is consumed in households has to do with the mutual construction of everyday life habits, household technologies and ways of thinking about time and space, and most fundamentally in the practices which are both the outcome and the origin of these processes. Viewing energy consumption as purely rational, optimized acts undertaken by independent and non-influenced individuals might thus deprive us of the possibility of understanding it properly and obtaining proposed changes. Moreover, we have seen that technology is not silent or static, and that the consequences of it and how it is used cannot be predicted but are the outcome of processes of mutual negotiations between user and technology. The fundamental insight gained is that technology is *agentive*.

The organization of everyday life has been shown to be about processes, with change in a way occurring continuously. The *resistance to change* has thus seemed to be about opposition towards steering energy use into lowering the spread of consumption, despite efforts towards that end. We have seen how this has to do with the un-reflexive character of the organization of everyday life habits, guided by principles of moral significance and workings of the habitus.

These more immediate moral concerns, involving the value attached to different times and spaces of everyday life, seem to outweigh the broader issues of long-term environmental sustainability and economic and rational issues connected to the use of energy. Energy use is the outcome of such everyday practices, but it is masked by the fulfillment of needs and wants driven by other concerns.

We have seen examples of room for change opening up when the doxic domain is shaken up by major alterations in the field of everyday life. Firstly, this calls for further research on, as well as discussions of, this area of what is normally taken for granted. It indicates a need for inquiries into what it means to be “comfortable” or “clean”—issues that rarely figure on environmental research agendas. This is not a matter of pure individual choice, but of the collective dynamics of normality and social processes. How do new ways of life, new ways of defining cultural energy services, take root (Shove 2003: 199)? This also calls for a more broad societal debate of what are meant by “convenience” and “cleanliness,” what we want them to mean, and how they influence energy use.

## 6.3 Final reflections

I started out by quoting from a speech titled *Innovative Household Appliances: Saving Energy without Sacrificing Convenience*. The underlying assumption there was that saving energy implies some sense of sacrifice. That, however, is not the intention with the arguments behind lowering energy use that have motivated this work. What is needed is a re-thinking of values of life, and how a “good life” is defined. How can a life-style that is ultimately a threat to our very existence be considered good? Here the term cultural energy services may prove helpful. As noted by one of my informants, energy use is largely driven by the demand for culturally significant services:

*We know that we maybe should lower the indoor temperatures, or turn off the lights when we leave the room, wash clothes less often, and all that. But we...just don't do that. I guess it is comfort that stops us. Marianne Eriksen (41)*

The question then remains: how can we obtain those services in a less energy-demanding way? Or to turn it around: How can we re-define these services in sustainable terms? Here, recognition of the apparently high level of knowledge about these matters as well as positive attitudes and willingness amongs my informants, is an important insight to keep in mind from this study. However, this thesis has revealed that positive attitudes does not always manifest themselves in mere action.

## 7 Appendix

### 7.1 Informants

All names are fictional. Members of the same household are given similar surnames, regardless of whether they are married or not. In the cases where children have been participatory or directly referred to, they are given fictional names. In other cases, only their gender and age are indicated.

#### **Interview 1: Hansen**

Siri (35) is a single mother with two children, Girl (4) and Girl (7). They live in a 100 m<sup>2</sup> detached house (rented). Siri works full-time. They have a dishwasher and a washing machine.

#### **Interview 2: Knutsen**

Petter (73) and Johanne (70). They own a 130 m<sup>2</sup> detached house (owned). Petter is retired from full-time employment, Johanne is retired from a 50% position. They have a dishwasher and a washing machine.

#### **Interview 3: Pettersen**

Janne (21) and Geir (21). They live in a 48m<sup>2</sup> rented apartment. Janne is a student with a 30 percent position; Geir is a student with a 50% position. There is a common laundry room in their apartment building.

#### **Interview 4: Eriksen**

Jonas (44) and Marianne (41) with their children: Boy (15), Girl (14), Boy (12). They are expecting a new baby in a few months (at the time of the interview). They own a 200 m<sup>2</sup> terraced house. Both Jonas and Marianne work full-time. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 5: Nouri**

Shariar (45) and Anitra (40) with their daughter Arezo (9). They live in an 80 m<sup>2</sup> terraced house, rented with support from the municipality. Both adults have had polio, and Shariar is in a wheelchair and is unemployed (receiving disability payment from the state). Anitra participates in a government-sponsored program to get into paid employment. They have a dishwasher and a washing machine.

**Interview 6: Bjørnsen**

Trine-Lise (35). She rents a 120 m<sup>2</sup> terraced house, and works full-time. She has a dishwasher and a washing machine.

**Interview 7: Andersen**

Hans (32) and Marit (29) with their children: Boy (7), Girl (5), Boy (3), Girl (1). They own a 300 m<sup>2</sup> detached house. They run a garage in parts of the house, where Hans works full-time and more. Marit is a stay-home mom but helps out with accounting, amounting to a 20% workload. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 8: Stensen**

Pernille (88) owns a 120 m<sup>2</sup> terraced house and has retired from her previous full-time job. One of her three daughters (50) was present during the interview.

**Interview 9: Larsen**

Øyvind (26) owns a 43 m<sup>2</sup> apartment and works full-time. He has a washing machine.

**Interview 10: Monsen**

Steinar (36) is a single father with two children, Boy (13) and Boy (9). They live in a 90 m<sup>2</sup> terraced house which they own. Steinar works full-time. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 11: Berg**

Bjørn (32) and Lise (31) with their two children, Girl (3) and Girl (1). They rent a 70 m<sup>2</sup> apartment. Both parents work full-time. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 12: Haug**

Victoria (33) and Tina (32) with their child, Boy (2 months). They own a 75 m<sup>2</sup> apartment. Victoria is currently on maternity leave, Tina works full-time and more. They have a dishwasher and a small washing machine (half the most common size).

**Interview 13: Arnesen**

Trond (51) and Berit (51) with their children, Fridtjof (19) and Jonathan (15). They own a 200 m<sup>2</sup> detached house. Trond works full-time; Berit has a home office and works 80%. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 14: Kleven**

Signe (72) and Mauritz (72) own a 160 m<sup>2</sup> detached house. Signe has retired from her previous work (part-time, full-time), Mauritz has retired from his full-time job. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 15: Kroken**

Cesilie (44) owns a 100 m<sup>2</sup> apartment and works around 150%. She has a dishwasher and a washing machine.

**Interview 16: Grav**

Hedda (44) with her children Boy (10) and Girl (6). They live in the ecological village at Hurdalsjøen in a 50 m<sup>2</sup> detached house (temporary while a larger house is being built). Hedda works full-time. There is no water or no electronic equipment in their house, but in the common house in the village there is a dishwasher and a washing machine.

**Interview 17: Børresen**

Anne (46), Gunnar (44) with their children, Boy (15), Boy (8), Boy (5). They own a 135 m<sup>2</sup> terraced house. Both parents work full-time. They have a washing machine and a tumble dryer, and acquired a dishwasher during the interview period. When I spoke with them, they had just moved back into their home after living in a rented apartment for a couple of months while renovating and redecorating the house.

**Interview 18: Mikkelsen**

Anton (63) and Klara (59) own a 160 m<sup>2</sup> detached house. Anton works from home 70%, Klara works full-time. They have a dishwasher, a washing machine and a tumble dryer.

**Interview 19: Lunde**

Karianne (29) and Jørn (29), expecting their first child very soon (at the time of the interview). They own a 120 m<sup>2</sup> apartment. Karianne works full-time; Jørn is a student with a 50% job. They have a dishwasher and a combined washing machine/tumble dryer.

## 7.2 Interview guide

### **Før intervjuet**

Informere kort om meg selv, hvorfor det blir tatt opp på bånd, og så videre. Minst mulig utdypende om studiet, det kan diskuteres/tas opp i siste punkt. Husk å underskrive samtykkeerklæring.

### **Spørsmål/samtaleområder**

#### **KONKRET**

##### **1. Rutiner, praksis**

#### **Oppvask**

Beskriv en dag eller uke i forhold til oppvask.

Når? Hvor ofte? Bevisst rutine? Hvorfor velger du det/de tidspunkt?

Hva gjør du mens oppvaskmaskinen går? Går den på natt eller når du er borte?

Vasker du noen gang for hånd. Hvorfor? Hva synes du om resultatet om du gjør det?

Hvor ofte vasker du tallerkener, glass; bruker du noe om igjen, for eksempel til frokost og lunsj. Lar du en kaffekopp stå ute til neste bruk?

Involverer du barna i arbeidet? På hvilke måter?

#### **Klesvask**

Beskriv en dags rutiner i forhold til klesvask.

Når? Hvor ofte går maskinen? Når? Hvorfor dette tidspunktet?

Hva gjør du mens vaskemaskinen går? ”Venter” du på den?

Har du nøye sorteringsrutiner?



Vasker du noe for hånd? Hvorfor? Resultatet?

Tar barna del i vaskingen?

### **Tørking av klær**

Hvor tørker du klær? Hvis du har tørketrommel, går alt inn der? Ville du ønsket eget vaskerom/tørkerom? Er plassproblemer knyttet til dette?

Har du mulighet til å tørke ute? Gjør du det? Foretrekker du det?

Har du klær hengende ute til tørk i huset når du har besøk (eller ellers)? Hva synes du om det?

### **Dynamikk i husholdningen**

Par: Vil du si at du og partner gjør likt? Eller gjør en av dere mer når det kommer til rengjøring og husstell? Hvem gjør hva? Diskuterer dere dette og planlegger?

Hvis barn: Ble det noen forandringer etter at du/dere fikk barn?

Hvis gravid: Hvilke forventninger har du til husarbeidssituasjonen når babyen kommer?

Hvis enslig/par uten hjemmeboende barn: Hadde det vært annerledes om det hadde vært flere i husholdningen tror du? Hvis utflyttede barn eller lignende: Hvordan ble det annerledes etter barna flyttet ut/hva var annerledes når du hadde småbarn?

## **2. Om husholdningsapparater**

Kan jeg få se på oppvaskmaskin/ vaskemaskin/ tørketrommel? Eller, vaskeplassen/oppvaskplassen? Hvor tørkes klær? Snakke om plassering, miljømerking, type maskin, når den ble kjøpt, hvorfor ble den valgt, om den tilfredsstillter forventningene?

For husholdninger som IKKE har oppvaskmaskin, vaskemaskin og/eller tørketrommel: Var det et bevisst valg ikke å ha dette? Hvorfor har dere ikke? Er det noen som sier noe om dette? Vurderer du/dere innkjøp noen ganger?

For husholdninger som HAR tørketrommel:

Hvorfor har dere tørketrommel? Er det noen som sier noe om dette?

Når kjøpte du sist ny oppvaskmaskin/vaskemaskin/tørketrommel? Hvor lang levetid er det rimelig at den har synes du? Hva får deg til å ville kjøpe en ny? Hva er viktige kriterier ved kjøpet?

Har oppvaskmaskinen/vaskemaskinen/tørketrommelen gått i stykker? Hva gjorde du da? Ble dette problematisk?

Hvordan tror du folk klarer seg uten oppvaskmaskin/ vaskemaskin /tørketrommel? Kjenner du noen som har to? Det er visstnok på vei ”in”

## **REFLEKSJON**

### **3. Tid**

Synes du at du har for lite tid til husarbeid? Skulle du hatt mer tid, prioriterer du det? Er det i konflikt med andre gjøremål?

På hvilke måter er husholdningsapparatene lettvind/gjør det arbeidet lettere for deg? Har du noen teknikker/triks/strategier for at ting skal bli enklere og bli gjort mer effektivt? Er det viktig for deg å spare tid på husarbeid?

Tror du vi bruker mer eller mindre tid på husarbeid nå enn før? Tror du det er lettere nå, at det var mer slitsomt før? På hvilke måter?

#### 4. Renhet

Når er et klesplagg skittent? Når er det rent? Flekker, lukt, farge, temperatur på vaskeprogram? Hvor ofte vasker du klesplagg, sengetøy, håndklær?

Når er kjøkkenutstyr skittent? Når er det rent? Hvor ofte vasker du det? Er det noe du for eksempel bare skylder av?

Er du opptatt av renhet synes du? På hvilken måte? Ble dette annerledes etter du fikk barn?

Tror du vi har kommet ”fremover” med tanke på renslighet? At det er bedre nå, enn tidligere? Hvordan?

#### 5. Historie

Husker du første gang du hørte om/så/kjøpte de ulike husholdningsartiklene? Eller; Vet du når artiklene kom på markedet? Hva tror du folk gjorde før de fikk dem?

Hvordan ble husarbeidet (som er knyttet til oppvask, klesvask og klestørk) gjort i din barndom/oppvekst? Ble de aktuelle maskinene brukt? Tok du del i dette?

Kan vi fortsatt utvikle oss innen husholdningsteknologi? Trenger vi det?

### **HOLDNINGER**

(Eventuelt informere mer om problemstillinger rundt energiforbruk, klimaendringer. Fakta, statistikk)

Hvordan forholder du deg til de varslede klimaendringene? Engasjerer det deg? På hvilke måter? Hva tror du de eventuelt består i?

Er du opptatt av å holde forbruket (av ting og av strøm) nede? På hvilke måter?

Hva føler du er hindringene for å endre forbruksmønster? Hva skal til for at du endrer vaner?

Hvem har ansvaret for å få til endring i forhold til energiforbruk, klimaendringer?

Føler du at det er noe du kan gjøre i forhold til å ta vare på miljøet/klimaet/energiressurser (...eller er det en sak for politikere og store firmaer?) Hva gjør du, eller kunne du gjort? Får du gjort det du vil i forhold til dette? Hva stopper deg eventuelt?

Er du bevisst på at husholdningsapparatene bruker strøm, og hvor mye? Synes du man bør spare strøm i Norge, eller er det en sak som hviler på u-land? Tenker du på det?



## 7.3 Paper of consent

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### **Samtykkeerklæring for deltakelse som informant i masterprosjekt**

Dette er en samtykkeerklæring som gjelder frivillig deltakelse som informant i masterprosjekt forfattet av Kristin Gregers Evensen ved Senter for Utvikling og Miljø, Universitetet i Oslo.

#### **Vilkår**

- Intervjuet foregår i ditt/deres hjem og har en varighet på rundt 1 time
- Du/dere blir behandlet anonymt med fiktivt navn i det ferdige arbeidet
- Intervjuet blir tatt opp på bånd for å sikre at opplysningene/svarene du/dere gir blir gjengitt korrekt og ordrett
- Opplysningene/opptakene blir lagret som identifiserbare, for så å bli slettet etter prosjektets slutt i desember 2010
- Veileder Harold Wilhite ved Senter for Utvikling og Miljø kan dersom ønskelig få innsyn i opplysningene
- Kristin Gregers Evensen opererer i henhold til forskerrollen, herunder med taushetsplikt

#### **Jeg/vi samtykker herved**

- 1) Min/vår deltakelse som anonym informant til masteroppgave i "Culture, Environment and Sustainability," forfattet av Kristin Gregers Evensen ved Senter for Utvikling og Miljø, Universitetet i Oslo.
- 2) At intervjuet blir tatt opp på bånd.
- 3) At opplysningene jeg/vi gir kan og vil bli brukt i masteroppgave i "Culture, Environment and Sustainability," forfattet av Kristin Gregers Evensen ved Senter for Utvikling og Miljø, Universitetet i Oslo.
- 4) At Kristin Gregers Evensen kan kontakte meg/oss igjen før fullføringen av arbeidet i desember 2010, dersom noe er uklart eller forespørsel om et nytt, anonymt oppfølgingsintervju skulle bli aktuelt.

*Jeg/vi har fått tilfredsstillende skriftlig og muntlig informasjon og er villig til å delta i studien*

**Dato og signatur:**

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