Middle Class Food Consumption and Provisioning Practices

The Fridge and Everyday Life in São Paulo

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Abstract

This thesis seeks to examine how food consumption and provisioning practices involving the fridge and other supporting appliances are being shaped in São Paulo. Everyday practices are becoming energy intensive in affluent societies; this thesis has chosen the middle class as a target group due to its increasing size and influence recently in the South. These practices are constantly seen as taken for granted, as they do not require much reflection to be accomplished. However, I argue throughout the thesis that the way people engage with appliances influences consumption, as daily practices demand energy in order to be accomplished, and food consumption and provisioning practices are sources of environmental impacts. A Practice theory approach is chosen for this study, as this is a promising approach to investigating how practices are shaped, carried out, developed and can actually change. Qualitative methods such as interviews and observations were used for this study, as they are able to provide insights into how people conceive of the world they live in, meanings and ideas related to their practices, social context and daily life. Ideas of convenience legitimize practices involving the fridge-freezer and microwave, and people are able to order and reorder their practices to suit their needs, avoiding continued shopping trips, freezing and defrosting, having the chance to cook and buy in bulk. These appliances are constantly put in use in combination in order to make tasks efficient and faster. However, they create a certain rigidity and demand their own temporalities, which makes it difficult for people to engage with them in other ways. Time seems to be an important feature in the daily life of the interviewees, which is experienced as lacking or as a constraint, and I argue that the way people experience time it is also influenced by how these practices are shaped. Women are usually the ones responsible for providing food for the family, but there are exception cases where men engage more in these practices after retirement. When women are active workers, and responsible for managing the house and food provision, they experience the dual time burden, which has influences on how tasks involving appliances are accomplished. The usage of the fridge-freezer and microwave includes the consumption of meat and dairy products, which causes great environmental impact due to the use of more water, energy, etc, and I investigate how these products are highly present in these practices.

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1 Introduction

Energy consumption is embedded in many practices people carry out every day, from taking a shower, moving around and washing clothes, to practices of cooking, buying food, keeping food in the fridge, freezing and defrosting. On practices related to food consumption and provisioning, which are the focus of this thesis, they are accomplished many times with different appliances in sequence. The way these practices are formed and accomplished depends on a combination of factors that are shaping these practices in a certain time and space, which many times is not questioned or a focus of inquiry in some consumption studies, which has effects on energy policies. However, focusing on daily life in order to understand how practices involving technology are shaped, - which need energy to be accomplished - becomes a relevant topic under the sustainability field and seems a promising approach to address unsustainable patterns of consumption. The problematic aspect of having and keeping these unsustainable patterns of consumption is about the urgent need of achieving sustainable development worldwide, *due to the depletion of natural resources, and imminent threats of Climate Change* (Wilhite, 2012a, 84-85).

The aim of this research is to find out how practices of food consumption and provisioning are being shaped in the middle class in everyday life, as well to address what are the prevalent practices with household appliances, such as the fridge, freezer and microwave in São Paulo, Brazil. In order to achieve this kind of data, it is necessary to interview households in person and attempt to grasp the factors that are influencing the way people do things every day. How these factors influence the way practices are accomplished in the household is related to people's routines, and these practices many times are not noticed by people or are taken for granted, which highlights the aspect of not having the need for much reflection on their engagement with appliances in order to accomplish a task. To investigate practices and the factors which are shaping them, I attempt to answer the following research question throughout the thesis:

1 – How have food consumption and provisioning practices been shaped with the fridge and other supporting appliances in the middle class in São Paulo?

The interviewees' reports on their practices in everyday life are investigated from the practice theory perspective, where meanings and perceptions of the interviewees has a role. Due to the aim of this investigation which is focused on social practices, the practice theory approach is chosen, as it seems to be a critical theoretical approach to look at consumption, as it investigates "*how consumption fits in everyday life"*. As it shifts the focus from products, technologies and individuals to an understanding of everyday life that includes routinized activities, differently than mainstream theory and policy that usually focus on individual behavior or technology efficiency (Sahakian and Wilhite, 2014, 26). Based on Bourdieu's work, practice theory approach has been applied to studies of consumption by Shove et al (2012), Sahakian and Wilhite (2014), etc. (Hansen et al, 2016, 7). Shove et al (2012, p.2), for example, say that "*reproduction and transformation of social practices has implications for patterns of consumption and for institutions and infrastructures associated with them*", arguing that policy aimed to promote sustainable ways of life should be rooted in the understanding of elements in which practices are formed, in practice theory. The same is supported by Wilhite (2013):

> "The practice perspective sets up an entirely new agenda for study of energy consumption and opens a new use in everyday practices. It expands the focus of research and policy from motivating individuals (reified as rational and purposive) and implementing technical efficiency, to encompass the contributions to consumption of embodied knowledge, habit and artifacts". (Wilhite, 2013, 63).

Investigations on how much energy in fact people use, as well as the areas where it is necessary to have reductions are important, however, following an approach based in practice theory, it is possible to say that this kind of research which looks to consumption as just "quantity", say very little on "why" and "in which way" people engage themselves with consumption practices (Sahakian and Wilhite, 2014, 26). To understand these different ways to approach consumption, for example, Wilhite et al (1996, 795) highlights how energy use in a household is related to variables such as *physical* and *structural* – dwelling's envelop, size, and appliances, but also to *occupant behavior*. However, the behavior aspect is usually neglected in analyses of household's end use due its complexity as it is influenced *by culture, attitudes, aesthetic norms, comfort,* as well *social and economic components.*

Applying the practice theory approach to this study of consumption makes it possible to understand the different elements that are forming the practice, allowing the analysis of them. Including these aspects mentioned previously such as physical and structural components, that are recognized as *material;* the agent, where its behavior is not analysed under this approach, but is recognized as the *body*; and the culture, norms, economical aspect, meanings and values that are the *social world*. Through this approach I have chosen it is also possible to look how some of these factors influence practices more than others, and I develop explaining the practice theory approach in details in the theoretical framework chapter.

As the research is at the household level, focusing on the daily life and how practices of how people engage with appliances are shaped, it is necessary to gather interviewees, visit the household and be with interviewees at their place, using a research design that covers the aspects that I want to investigate. Qualitative methods are chosen to this research, such as observations and semi-structured interviews. The latter is chosen as it allows one to follow a sequence of questions and promotes the chance to explore the meanings of people's world. (Brockington and Sullivan, 2003, 57). Qualitative methods can be used to answer questions which require them and the nature of answers they provide. Qualitative methods have been used to find out about the world for as long there has been language and speech. (Brockington and Sullivan, 2003, 57).

1.1 Why focus on food consumption and provisioning practices?

The focus of this thesis is on food consumption and provisioning practices due to the recognition that everyday life is full of practices that need energy to be accomplished. Some of these consumption activities have direct emissions, and cooking is one of them. Food consumption, especially of meat and dairy products is one of the biggest contributors of the total environmental impact in the European Union (Huppes et al, 2006, 129). In the analysis of the thesis there is a piece which discusses food consumption practices involving these products, and the interviewees present how the fridge-freezer has a crucial role in keeping them. As it is possible to see in Figure 1, milk, cheese, poultry, meat and meat products account for the biggest environmental

impact per euro and expenditure among other products, constituting total final consumption in the European Union. (Huppes et al, 2006, 139).

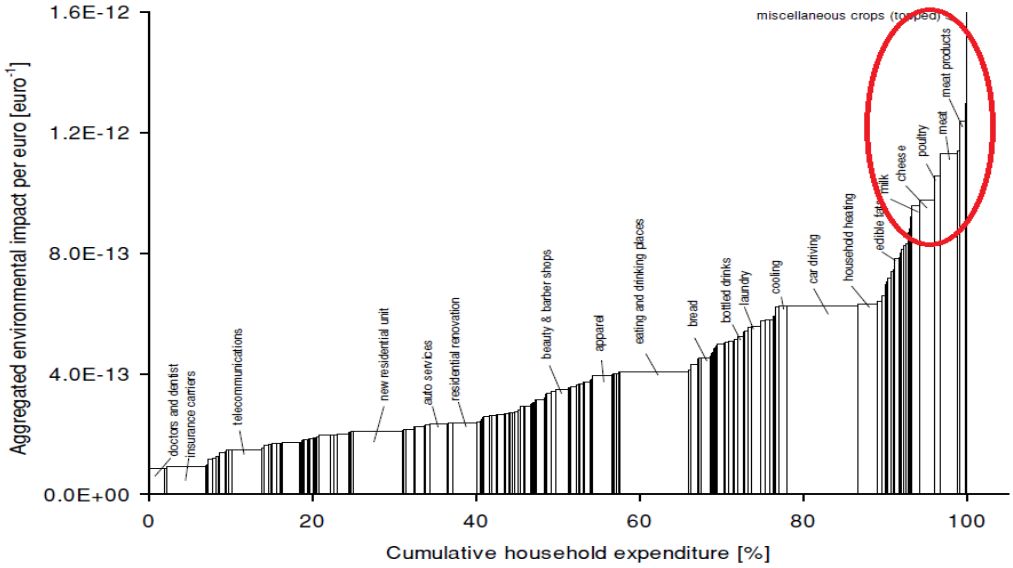

Figure 1 - Environmental impact per euro and expenditure for 253 products constituting total final consumption in the European Union. (Huppes et al, 2006, 139).

With regard to the consumption of these products in Brazil, the survey of household budgets (POF) realized between the years of 2002 and 2003, shows that in the last 30 years, the Brazilians have diversified their food consumption, reducing traditional items as rice, beans, potato, bread and sugar and increased the per capita consumption of yogurt, from 0,4 kg to 2,9kg. The consumption of pasteurized milk, which is the product most purchased in more quantity by the families (38kg per person, annually), it has its consumption reduced by 40%, while in 1987 was of 62,4kg. Other changes in food consumption habits are related to the consumption of ready-made meals, which increased from 1,7kg to 5,4kg per capita in the same period. (IBGE, 2004) Among the food products consumed by Brazilian families in the same survey of household budgets realized between 2008 and 2009, considering food consumption just at the household, meat, viscera and fish are weighing more in the expenditure (21,9%), followed by milk and dairy products (11,5%), bakery (10,4%), etc. (IBGE, 2010).

Having these consumption practices in mind, it is worth noting that in the coming decades due to the growth in population, urbanization and food chains, the global energy demand for refrigeration will increase notably, especially in emerging

economies. (Munzinger and Gessner, 2015, 4). There is an estimation that by 2030, refrigeration and air conditioning sector, known as RAC to account for 13% of the global greenhouse gas (GHG) emissions, making this sector a fast increasing contributor to Climate Change (GCI 2014 cited in Munzinger and Gessner, 2015, 4). In regard to the Brazilian reality, electricity consumption in the residential sector has been increasing - in 1991 it represented 20% of the total electricity consumption (Januzzi and Schipper, 1991, cited in E. Ghisi et al, 2007, 4107); while in 2000 it represented 27% (CCPE, 2004, cited in E. Ghisi et al, 2007, 4107). In the southeast region which houses 43% of the Brazilian population, and is the region where the state of São Paulo is located among others, consumes 58% of the total electricity consumption in Brazil. (E. Ghisi et al, 2007, 4107). Fridge and freezer together are responsible for 42% of the electricity consumption in households in Brazil, where electric showers account for 20%, lighting 11% and air conditioning 10% (E. Ghisi et al, 2007, 4113). Figure 2 below presents how each appliance and lighting accounts for electricity consumption on average in households from 12 states in Brazil.

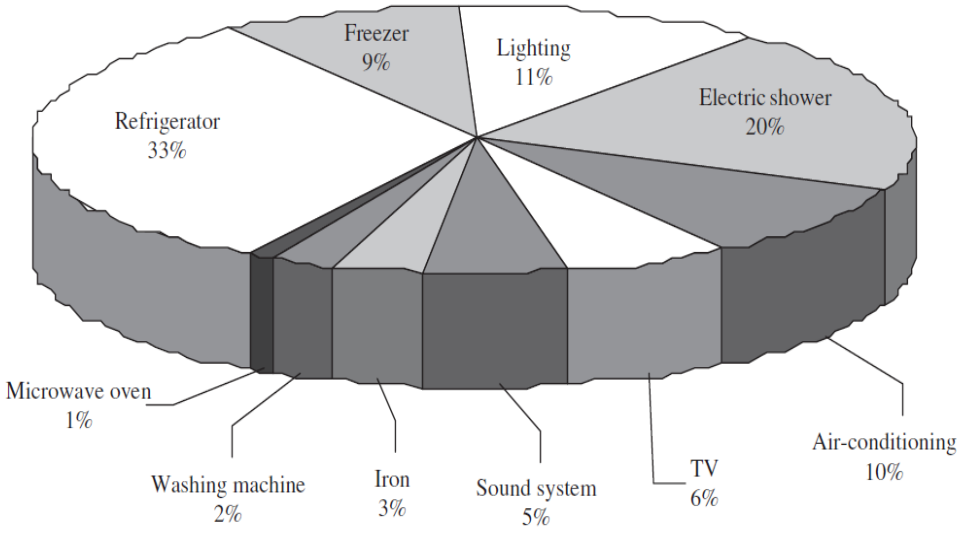

Figure 2 - Average electricity end –use for 12 states in Brazil (E.Ghisi et al, 2007, 4115).

In regard to the electricity end-use during winter and summer on average in Brazil, just air conditioning presents a difference, which accounts for 2% during winter and 16% during summer, but the other appliances do not present significant differences in their end-use. (E. Ghisi et al, 2007, 4113).These statistics highlight how the fridge and freezer together are key appliances consuming electricity in the residential sector, which

is important in terms of addressing which appliances consume more and need to be targeted in policies. However, the quantitative data is the first step to address the problematic aspects of having appliances consuming too much as it does not explain how people engage with these technologies in order to accomplish a task, which influences on electricity consumption and has an impact on the total electricity end-use in the residential sector in the country. The everyday life aspect of consumption is the focus of this thesis and it addressed how these appliances are seen as essential in order to make food provisioning and consumption convenient, as well as how these appliances influence how people reorder their practices around food and some part of their daily life in general.

In regard to the domestic life and how practices of eating, cooking and cleaning are accomplished on a household level in Brazil, for example, Barbosa and Veloso (2014) argue that these practices do not vary much across the country, neither by class or region, but these practices are unsustainable, arguing that they are harmful to the environment, as these practices employ the use of so much water, electricity and soap, increasing both consumption and waste (Barbosa and Veloso, 2014, 166-167). The authors sustain the ideas that the logic of cleanliness is really appreciated among all classes, that they value a "perfect clean" home, and that recently, due to the context of upward mobility, they even value the logic of "the more, the better" which is linked to many appliances they can afford, etc. (Barbosa and Veloso, 2014, 168).

1.2 The broader context

For this thesis is important the concept of *sustainable development*, a concept that was defined by the World Commission on Environment and Development, created by an urgent call from the United Nations in 1983, due to the need of creating a global agenda for change. This commission had the intention to indicate long-term environmental strategies for achieving sustainable development by 2000 and beyond, as well to create cooperation between developing countries and others in different stages of development, etc. (WCED, 1987, ix) The outcome of the work of this commission was the release of the report "Our Common Future", also known as the Brundtland Report, as the commission was headed by the Prime Minister of Norway in that period, Gro Harlem Brundtland. The concept of sustainable development is defined as

"development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, 43). Another important link on ideas related to sustainable development is its connection to consumption and living standards that go beyond the basic minimum, as the report mentions, living standards are sustainable if consumption standards everywhere have regard for long-term sustainability (WCED, 1987, 44). However, it is presented that in general many people are living beyond the world's ecological means, with their patterns of energy use for example, which are social and culturally grounded. Therefore to achieve sustainable development it is necessary to promote values that encourage consumption standards that the world environmental capacity can support. (WCED, 1987, 44).

With regards to Brazil's contribution to sustainability goals and its role considering the climate scenario, the president Dilma Rousseff signed the climate agreement in April 2016, committing the country to reduce greenhouse gas emissions by 37% below 2005 levels in 2025. (INDC Brazil, 2015, 1) The country is recognizing the role of South-South cooperation, basing on solidarity and common sustainable development priorities, committing to undertake its bests efforts to enhance cooperation with other developing countries. (INDC Brazil, 2015, 4).

1.3 The middle class

The middle class has been increasing considerably in the South (UNDP, 2013 cited in Hansen et al, 2016, 6) and it is recognized that this growth impacts on consumption, where the authors Hansen et al (2016, 6) argue that this makes the study of changing consumption practices in the South a crucial area of academic inquiry. Therefore, I have chosen to undertake this research with this social group, observing their processes. With regard to the concept of middle class chosen for this research, first it is important to note that there are different ways to conceptualize it. The minister Marcelo Neri and a commission created by the Secretary of Strategic Affairs in Brazil, for example, presented an article in 2014 which discuss the concept of middle class for the country reality, the definition, profile, attitudes and durability. The commission in this article attempted to demonstrate how 44.7 million Brazilians achieved the new middle class status from 2003 and 2013, due to the combination of growth and equity; which was followed by 12.5 million Brazilians that achieved the traditional middle class in the

same period, and they say that this middle class will increase even more - it will be possible to talk about a new "AB" class, as it was possible to talk about the new "C" class in the lasts years. (Neri, Marcelo, 2014, 7). On this article the methodology chosen to define middle class is based on measurements of social well-being, and it is about economical classes, not social classes. They classify people in household income groups per capita, but also perception, attitudes and actives are incorporated in the analysis. (Neri, Marcelo, 2014, 13). Regarding their definition of economical classes, it ranges from A to E, where class C is central and it is defined between R$ 2.004,00 and R$ 8.640,00 reais (around $ 556,85 - $ 2400,80 American dollars) with an average income of R$ 4,912.00 reais ($ 1364,89) in January 2014. (Neri, Marcelo, 2014, 20).

Table 1, taken from the article, demonstrates the economical classes and the lower and upper limits of income for each economical class. They were calculated by household income per capita from national statistics of income groups. (Neri, Marcelo, 2014, 21).

Tabela 2: Classes econômicas definidas pela renda domiciliar total (R$) (calculadas com rendimentos familiares *per capita*)

CLASSES ECONÔMICAS	LIMITE INFERIOR	LIMITE SUPERIOR
Classe E	0	1.254
Classe D	1.255	2.004
Classe C	2.005	8.640
Classe B	8.641	11.261
Classe A	11.262	-

* em R$ a preços de janeiro de 2014

Fonte: microdados da PNAD e POF/IBGE.

Table 1- Economical classes defined by total household income in Reais (R$). (Neri, Marcelo, 2014, 21).

However, the concept to define middle class chosen for this research comes from the social sciences, and is the one chosen by the work of O'Dougherty (2002) in his research of middle class and the consumption intensified in Brazil in the 90's. He conceptualizes *middle class as a class project*, where the efforts and performances involved in this project have material, symbolic means and ends, which this project is about the idea of *participation in modernity*, - which is easy to recognize, but as he says it is hard to describe (O'Dougherty, 2002, 9).

> "The perspective of middle class I eventually derived from this study developed first from a decentering move to the so-called Third World or Global South, and second, by a methodology and analysis focused on daily-life efforts to attain this goal despite national constraints. Through the categories, practices and discourses produced by a particular group of people in a unique context, I identify processes that reveal how this middle class defines itself at a particular moment". (O'Dougherty, 2002, 10).

For sure the moment Brazil is having today is different from the moment of fieldwork when his study was undertaken, however, there is something important about how a social group defines itself through their practices, their consumption habits and preferences, which is the focus of the social sciences and is applied to this thesis. O'Dougherty says that consumption is central to middle-classes self-definition, not only in a situation of prosperity, but even in recession, and he argues this centrality of consumption. His work shows that the class project to attain social distinction and modernity by consumption engages middle class people in production of inequalities (O'Dougherty, 2002, 11).

In terms of the practical use of this thesis, it can be used by policy makers in order to tackle unsustainable practices on a household level, contributing to strategies that can reduce the intensity of energy and the materiality in everyday practices - one of them could be by reducing the size of appliances that tend to increase and consume more electricity, such as the fridge-freezer. The thesis can also contribute to policy making in terms of promoting environmental friendly practices on food consumption, for example, focusing on alternatives to dairy products and meat consumption, especially beef, across the country. As well the thesis can be useful in terms of addressing social aspects in national policies, which are not approached in many quantitative studies, as this kind of data many times is seen as complex and difficult to address. Another practical contribution is the idea of creating mechanisms that could lead the population to rethink their practices, by demonstrating how daily life impacts on the environment so it is not taken for granted. This needs to be allied to more regulations on appliances that will become available to the market (producing smaller and more efficient appliances, for example). Lastly the contribution of the thesis for practical use in the world is related to the current threat of Climate Change, and how this paper can contribute to the debate of looking on everyday practices that are becoming energy and material intensive in Brazil.

1.4 Place of study in Brazil: São Paulo

I have chosen to undertake fieldwork in the city of São Paulo, Brazil, due to its characteristics of being the capital of the state of São Paulo, which has a daily life that is full of people, different kinds of businesses, traffic jams, long roads and a vivid cultural life. The history of the city is marked by the coffee expansion at the end of the XIX, where immigrants moved there from different parts of the world to work on the crops and afterwards, in the industry. More than a half of the population in the mid-1890s was formed by immigrants. (São Paulo, 2014 cited in Cidades IBGE, 2014) The city has an estimated population of 11.967.825 people for 2015. (IBGE, 2015)

The state of São Paulo, for example, is considered to be the largest economic and industrial center in the Southern Hemisphere, as well the largest business center in Latin America, where it has an important role regarding innovation and technology in the region, being a global leader in the agribusiness, at the same time it is considered a global leader in environmental preservation policies. (Governo do Estado de São Paulo, a).

Regarding energy consumption the state of São Paulo is one of the biggest consumers of natural gas in the country. (Governo do Estado de São Paulo, b) However, in terms of energy production, the state is the biggest producer of ethanol in the country, converting leavings from sugar cane to electricity, gas and vapor. This bioelectricity is important in order to be available when the hydroelectric reservoirs are down, complementing the predominant hydraulic model. (Governo do Estado de São Paulo, c). In the Brazilian context in general, around 70% of the energy capacity in the country and 74% of the generated energy are from hydroelectric origins and clean energy, but there are more 1.570 midsize thermal responsible for generating electricity moved by natural gas, biomass, fuel oil and mineral coal. (ANEEL 2015 cited in ABRADEE).

Between the years of 2014 and 2015 São Paulo municipality and the state witnessed a critical water crisis, which impacted on the daily life of the population that had to adapt themselves to new ways of using this natural resource. From May 2014 to April 2015, the Sabesp company, which is responsible for water supply to the municipalities in the state, had 32 million access their website, and this is explained by the population accessing information on the water levels in the reservoirs. This practice has become

even more usual after the prevision for the need to reduce water consumption by civil society, environmentalists and specialists that defended the need of immediate reduction to avoid the collapse of the system. (CRPSP, 2015, 16). Psychologists recognized the impact of the water crises in the subjectivity of the population, which incorporated the need of reducing water by discussing it with each other on the street, if someone washed the backyard (water that could be saved), as well how it impacted on the suburbs that had often water cuts, reduction of the water flow without notice and showers were carried out using cups (CRPSP, 2015, 17). The water crisis is not developed in the thesis as this is not the focus of the work and it is a complex reality that requires a deeper investigation of all the factors involved in this context, including politicians' management of the water supply, lack of rainfall, use of the water by the population, as well as the relationship between man and the environment as a whole. However, it is important to mention as background information in a specific social context.

1.5 Personal motivation and research considerations

The personal motivation for choosing this topic and writing this thesis is much related with I what I have learned and reflected on as a masters student at the Centre for Development and the Environment at the University of Oslo. As the course developed I realized that I wanted to write a piece that could be useful for the country I come from. As a Brazilian, I knew the need of addressing the daily life that usually is ignored or not noticed by people and in fact, is problematic in terms of how consumption is reinforced in our social context by the media, soap operas and rooted cultural values. As I learned how daily life is becoming energy and material intensive around the world, especially among middle classes that are consuming more, and how there is no possibility for the world to handle all the emissions coming from countries consuming so much at the same time, I could not ignore addressing the problematic practices of my own country which could lead to a change in the climate scenario, even this being a small portion of the problem.

1.6 Thesis outline

This thesis is divided in nine chapters with sections. The first chapter is the introduction, where is addressed the research question, the field of study, the purpose of the thesis, the relevance of the chosen topic, as well as the place of study with background information. The second chapter is dedicated to present the theoretical framework, where the practice theory approach is chosen and it is explained how it is applied to studies of consumption. The methodology chapter comes as the third chapter, presenting the methods chosen for this study, which are qualitative methods, interviews and observations; as well it addresses information on sample, research challenges, description in depth of fieldwork and ethical considerations. The presentation of findings and analysis is divided in five chapters: the first talks about how ideas of convenience are much related to practices people engage with appliances every day to accomplish tasks; the second is about how food consumption and provisioning practices are located in a specific time and space, as well as how some aspects related to time/space and *time constraint* are issues for the interviewees, then is presented how people engage with appliances to manage the organization of the daily life, which is useful in terms of reordering practices on food provision, but is complicated in terms of the environment, as practices are becoming energy intensive. The third chapter addresses the practices with different appliances in sequence, such as the fridge, freezer and microwave, known as the regime of technologies, which is presented in order to demonstrate the main practices of food consumption and provision, how they are carried out, the meanings attached to them, as well the problem of having different technologies working together. The fourth analysis chapter is focused on the long lasting aspect of the fridge, and when people consider is the moment to change their fridge, addressing what factors influence the decision of buying a new fridge and disposing of the old one; as well is presented cases where people were able to repair their fridges, thus avoiding the problem of waste due to the opportunity to repair. The fifth chapter of the analysis is about gender differences with regard to responsibility for food provision, which is mainly carried out by women, and it seems to have an impact on how technologies are used and on food waste; as well exceptions to the case are presented where men engage more in these practices after retirement and having more time available. The conclusion chapter is the last chapter of the thesis, where final considerations are presented and the main findings are stated again.

2 Theoretical Framework

Everyday life is full of practices where energy consumption plays an important role, as these practices need electricity in order to be accomplished. How people go about practices they carry out in order to accomplish tasks, from simple to more complex, involving different kinds of technology is under investigation in this thesis. The focus of this thesis is on food consumption and provisioning practices, with special emphasis on the role of the fridge and other supporting household appliances in middle class households in Brazil. The drawback with these practices, as I have stated earlier, is that, practices involving appliances are becoming energy intensive (Wilhite, 2012a, 89), and this high level of material consumption contributes to keep unsustainable patterns of consumption (Guillén-Royo, 2012, 99). The objective of this thesis is to investigate how these practices involving the fridge, freezer and microwave are being shaped in the Brazilian middle class, as well as detailing the main practices involving these appliances. Understanding this is important in order to grasp the factors – or elements - that are influencing how practices are formed, which leads to the way they are accomplished in the households by people. Moreover it is also important to reflect what the avenues are for change, which can be a way to promote more sustainable practices among the middle class.

A theory that fits to this kind of research, and the one I have chosen to undertake this investigation – which intends to analyze the different elements that shape practices of consumption, and does not focus on individual behavior in order to explain it - it is the practice theory approach. This is a theoretical framework that has its roots in the work of Pierre Bourdieu (1997, 1998 cited in Wilhite, 2012a, 88), and his concept of habitus – defined as a domain of predispositions for action, created and perpetuated through the repeated performance of actions in given social and cultural space. (Wilhite, 2012a, 88) This domain of disposition is always confronting and mediating new experiences, where this confrontation leads to a dialectical process in which experiences are absorbed into habitus and reform into dispositions for new actions. (Sahakian and Wilhite, 2014, 27).

> "The habitus can structure or organize practices and representations of practices – while also being structured by those very practices, in what is ultimately a dynamic relationship". (Bourdieu and Wacquant, 1992, 191 cited in Sahakian and Wilhite, 2014, 27).

Bourdieu highlights the importance of history to the concept of habitus, where there is an "unconscious" part of history in every habitus, in every person. Bourdieu (1977, 79) quotes Husserl (1972) in order to explain this part of history that is not conscious when dealing with habitus and practices "…in each of us, in varying proportions, there is a part of yesterday's man; it is yesterday's man who inevitably predominates us, since the present amounts to little compared with the long past in the course of which we were formed and from which we result. Yet, we do not sense this man of the past, because he is inveterate in us; he makes up the unconscious part of ourselves. Consequently we are led to take no account of him, any more than we can take account of his legitimate demands. Conversely, we are very much aware of most recent attainments of civilization, because, being recent, they have not yet had time to settle into our unconscious".

Practice theory presents the possibility, through the concept of habitus, of taking history that is still vivid on practices carried out by people, in account. From home, kitchens, gardens, to public places, transportation facilities, and offices settings, there are practices being formed and performed all the time. This theoretical approach presents the possibility, through the application of its "framework", to investigate how these practices are formed - the analysis of elements that make "practices" and how they engage with each other, is a venue for comprehension on how practices that happen every day become so difficult to change, or how they can actually change.

The reason for choosing this approach is much related with the idea that it is a critical way to inform consumption: the object of study is more complex, as it does not focus on people or products, but on practices (Sahakian and Wilhite, 2014, 26-27). There are implications of shifting the approaches to reduce consumption and its impacts, from focusing on individual behavior change or efficient technology to focusing on practices and the daily life, as the practice theory approach suggests. (Sahakian and Wilhite, 2014, 26) It allows comprehending the different factors that are shaping the practice of consumption, being able to exert influence on some of these factors to promote change. Approaching consumption in this way, there is no room for placing the responsibility on individuals as the ones responsible for changing behaviors or "uptake" of more efficient technologies, as often happens in the mainstream theory and policy, promoting the idea of "silver bullets solutions" to the challenges of consumption and its impacts.

Consumption practices are actually much more complex than considering individuals as barriers or catalysts to change them. (Sahakian and Wilhite, 2014, 26).

Practices are formed, developed and reproduced in many instances of everyday life, as well as in different environments involving different things. Therefore, what are practices and how are they shaped? "Practices" can be defined as *a combination of elements that results in a routinized behavior*. Reckwitz (2002, cited in Warde, 2005, 133), for example, describes "practices" in terms of theory of social practices *as "…a routinized type of behavior which consists of several elements, interconnected to one another – forms of bodily activities, forms of mental activities, "things" and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge".*

Practices constitute an important and at the same time, unexceptional aspect of people's lives, in many different places around the world due to its nature of constituting a "routine". This aspect of practices being "unexceptional", makes them many time seen as *a taken for granted aspect of everyday life*, where there is not so much consciousness about how they are performed or what can be influencing them. In the interviews, for example, I asked how the person accomplished some tasks involving appliances, such as the fridge. Some answers were around "its normal use", which highlights this aspect of using the technology in the routine as so trivial, that there is not much need for reflection. An elderly couple answered this question on fridge usage, repeating the word "normal" to describe how they did things. A woman, aged 52, industrial pharmacist also spoke in a similar vein, which reflects this idea of engaging with an appliance as taken for granted activity and not presenting, beforehand, need for reflection.

> Elderly couple - Man, aged 68, retired and married: "…In the fridge we keep greens, vegetables, some leftover from lunch to dinner, a beer sometimes, just usual use, nothing special".
>
> Woman, aged 74, housewife and married: "…We need to put eggs in the fridge; sometimes we put a wine, a juice, water, normal…"
>
> Woman, aged 52, industrial pharmacist, married with a child: "(I) use it normal. I keep things that need refrigeration there, when I need these things, I take them…"

However, Warde (2005, 139), for example, argues that practices have a trajectory or path of development, and this history will be differentiated in relation to how practices are conditioned upon arrangements of time, space and social context. This idea of trajectory or path of development of practices is interesting to note, and explains very well why practices have also the characteristic of *not being static* (Sahakian and Wilhite, 2014, 27). Where practices are performed, in which period and in which social context will have an influence on the elements that are shaping these practices, and the combination of these elements change over time, which have an influence on how practices are shaped. All these aspects bring a special view on why it is important to look on practices and not on the individual behavior in order to investigate consumption. At this point, it is important to observe in this chapter that all practices are "social", where practice theory does not place the social in mental qualities, nor in discourses or in interaction as other kinds of cultural theories do, the social is placed in "practices". (Reckwitz, 2002, 249).

> "A practice is social, as it is a "type" of behaving and understanding that appears at different locales and at different points of time and is carried out by different body/minds. Yet, this does not necessarily presuppose "interactions" - i.e. the social in the sense of the intersubjectivits, - and nor does it remain on the extra-mental and extra-corporal level of discourses, texts and symbols, i.e. the social in the sense of the textualists". (Reckwitz, 2002, 250).

In order to carry out tasks in daily life, for example cooking, people combine the different elements of what constitutes these practices, as the authors Shove et al (2012, 14) suggests, being these elements the *materials* – things, technologies, stuff of which objects are made; *competences* – skill, know-how and technique, and *meanings* – symbolic meanings, ideas and aspirations. The elements that form a practice, which can also be described as pillars of practice, as is defined by Sahakian and Wilhite (2014, 28) are the engagement of the *body/mind* - and the cognitive processes and physical dispositions; with the *material world* - technology and infrastructure; and the *social world* - including settings, norms, values and institutions.

These authors are among those that have been applying social practice theory to the study of consumption, in order to have a more consistent understanding of patterns of consumption and how to promote change towards a sustainable way of living. They

define the elements of practices / pillars of practices in a very similar way, as I demonstrated, and their intention is much the same: they intend to demonstrate how practices can change and in fact stay the same, where social theory makes a difference owing to the use of its framework on the study of consumption, because it brings the possibility to understand the *emergence, persistence and disappearance* of practices, and patterns of consumption is influenced by the reproduction and transformation of these practices. Shove et al (2012, 1-2). They argue that policy making towards a more sustainable way of living should be rooted in practice theory. Shove et al (2012, 2).

In this research it is possible to identify the *body/mind* as the individual engaging with its embedded memories and dispositions for future actions, with some activity related to specific appliances use (fridge - freezer and microwave). Then there is the space of the kitchen, where technology and the structure can be seen as the *material world*, which is related to some (or many) tasks around food provision. The *social world* is identified as the place that this research was carried out, in the city of São Paulo, as well as all the values and meanings that are present both in this context and in a "middle class" context, including the rules brought by cooking recipes, appliances use, etc.

In this work I attempt to handle practices through the practice theory framework, and they can be defined as "routinized bodily activities" (Reckwitz, 2002, 251), as a way of "training the body". It is possible to say on relevant practices in this research, for example, of buying food, cooking, freezing food, defrosting in the microwave, keeping the leftovers in the fridge, warming it up afterwards, or throwing the food away, all of them are ways that the body learns that determined practice. This highlights the aspect of the social imbued with this apprenticeship, as these practices are learned in a social context. The person that carries out these practices learned how to undertake them with certain training in the everyday routine, and these practices had a certain development in time and space. Wilhite (2013, 63), talks about the role of *embodied knowledge* to explain how individuals perform actions, he explains that when people perform an action often, predispositions for next performances are embodied, and this embodiment happens in the immersion of the individual in a specific cultural field.

> "Actions such as walking and eating are embodied early in life, as people are exposed to the ways they are performed by others in their family and social networks. (…) Another source of embodiment takes place as

> practices become routinized, such as in the frequent repetition of a routine such as mowing the lawn, walking the dog, or taking a shower". (Wilhite, 2013, 63).

Those, for example, that have habits towards slow cooking, as I address in the first chapter of my analysis, have a different performance than people that are more dependent on frozen food for their daily meals. The person that cooks more often and spends more time at the kitchen probably will have a different routinized bodily activity than the person that mainly take the food from the freezer and defrost it in the microwave. These are different ways of performing practices and engaging the body with the other elements. This idea is more than saying that the actor is "using" the body to in fact carry out a task, actually the single individual *is performing its body in a certain way, engaging it with the other elements, that the practices occur as an outcome*, which also explains the idea that "routinized actions are themselves bodily performances". (Reckwitz, 2002, 251).

For this theoretical framework it is very important to address the concept of agency and how it can be distributed among the elements of practices. Ortner (1989 cited in Sahakian and Wilhite, 2014, 28), for example defines it as the *"capability or power to be the source and originator of acts"*. That means that the capability of agency is not exclusive of one isolated element of practice, instead, it is distributed among the body, the things and the social world. In order to promote change on unsustainable patterns of consumption and their practices, for example, it is necessary to understand their elements and their agentive aspects, which can be not equally agentive. What is important from this perspective is that, a change in one of the elements of practice can shift the habit and influence their disposition, but a change in more than one element can indeed dissolute the habit. (Sahakian and Wilhite, 2014, 28).

Thinking about the technologies presented in this study of consumption, as the fridge, freezer and microwave, it is possible to think through the practice theory that these things have agency. They have scripts, another important concept, which means that they are scripted with dispositions that are influencing practices, but they also can be shaped by the practices, which sometimes was not even planned in the technology design phase (Sahakian and Wilhite, 2014, 29). This thinking is interesting, because somehow the size of the fridge, its internal design, the position of shelves and

compartments to keep food sometimes are not even what people need or want, and yet it can influence the food shopping list, the amount of the food that goes inside the fridge, and crucially, energy consumption due to the way the appliance is used daily. A different agentive aspect on the practice of people engaging with the fridge, was a specific situation from fieldwork that I have encountered: I have never thought about the fridge more than an object to keep and preserve food, for example, but in one specific household, I found a TV on the top of the fridge-freezer. This is clearly not a planned function from the design phase, but the flat top of the fridge somehow was deployed by the individuals as a place to set another appliance, as a kind of support or table, something I had not encountered in any other household.

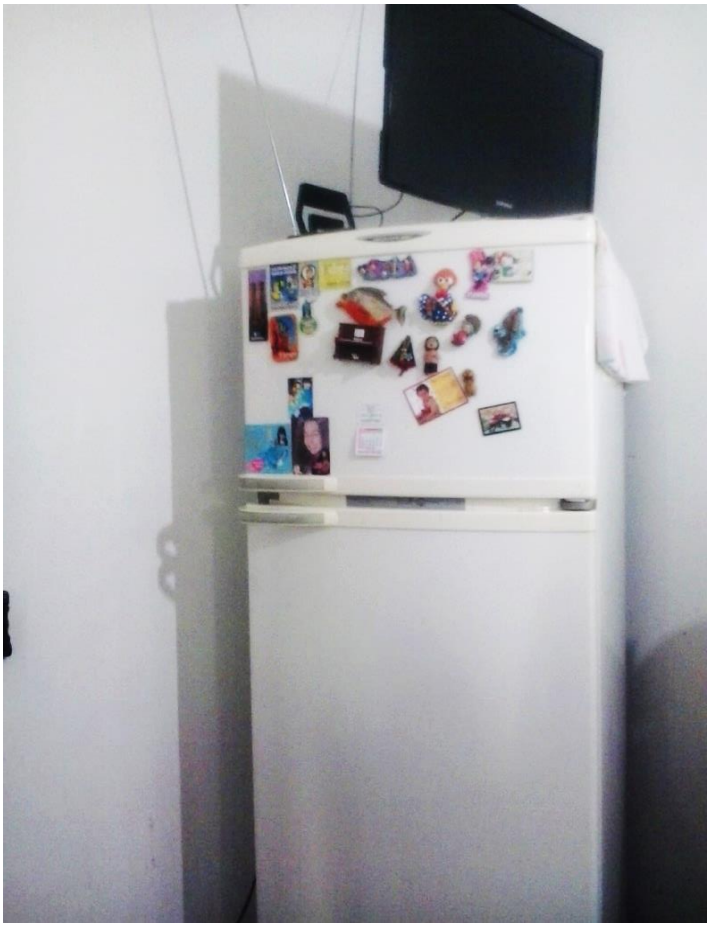

Figure 3 Fridge is shaped as a support for the TV, household in the Jardim Satelite neighborhood. (Credits: Nina Maria)

Another field that has an intellectual tradition in common with practice theory is the science and technology studies (STS), where the role of things and technologies is a central theme. (Shove et al, 2012, 9). Bruno Latour is one of the most important theorists from this field, which claims about the capacity in which artefacts have to

construct, literally, the social order (Latour, 2000 cited in Shove et al, 2012, 9). However, social practice theorists disagree with these ideas, as Schatzki's (2010 cited in Shove et al, 2012, 10), for example, which highlights that in scheme, artefacts, materials and technologies, are not part of practice, but form "arrangements" that are co-produced with practices, but which are distinct. Therefore, the critic towards the actor network theory in Schazki's perspective is related to its problem to recognize that the practices that are tied to arrangements help constitute social phenomena (Schatzki 2010 cited in Shove et al, 2012, 10); as well it does not question what these hybrid entities are actually doing. (Shove et al, 2012, 10) For authors as Shove et al (2012, 10), they suggest *that "aspect of human and non-human relations can be better understood when located in terms of a more encompassing, but suitably materialized, theory of practice"* (Shove et al, 2012, 10).

For this research it is important to define the differences among the concept of consumption and its different appropriations. In the literature, there are two ways to define it, the first is the very common idea of purchasing, that comes from economics and it is based on the idea of market exchange; the second idea is about the use of things, where meanings and symbolic significance have a role, which is the focus of the social sciences. (Warde, 2005, 137). As this is a research which is applying a practice theory framework, that comes from the social sciences, the understanding of consumption is related to practices, as Warde (2005, 145) points out *"consumption occurs within and for the sake of practices. Items consumed are put to use in the course of engaging in particular practice".* Therefore, the concept of consumption chosen for the purpose of this study can be defined as:

> "… I understand consumption as a process whereby agents engage in appropriation and appreciation, whether for utilitarian, expressive or contemplative purposes, of goods, services, performances, information or ambience, whether purchased or not, over which the agent has some degree of discretion". (Warde, 2005, 137).

Thinking through this perspective, the middle class addressed in this thesis somehow lives, buys, cooks, moves around in certain ways in which are expressed their living standards, and as well how they identify themselves by what they do. This way of living and doing things, which is not just one, but can be heterogeneous in their characteristics, is part of consumption. How, for example, it is important to them to have food available

in the fridge and use it as a fresh mini-market, or even to have frozen food in the freezer and the convenience of not actually cooking from scratch; how it is important to them to have the possibility to stock food and reduce food shopping trips (due many times to lack of time and tight working schedules, or other priorities); how it is important to them to have different kinds of technology working together, such as the fridge-freezer and microwave, which constitutes the regime of technologies, and at the same time, it seems useful in order to facilitate tasks and improve tight routines; how people change their fridges over time and what are the factors shaping the practice of replacing the fridge; how it is important to them to have someone in charge of responsibility around food provision. That despite women`s entrance into the work force, as well as the achievements of women`s rights, responsibility for food provision in middle classes homes is still largely dependent on women and their capacity to manage the house, even when working outside the home. All these examples are ways of doing things, which are practices, and consumption constitutes part of them, where different elements in combination are shaping these practices. In order to understand these elements and how practices are being shaped in this context, practice theory seems to present the proper framework to achieve the purpose of this study.

3 Methodology

In this chapter I present the choice of methods, which are qualitative due to the approach of the research and its objective, as well I explain how the processes of data analysis and sample selection were carried out. Further I present the fieldwork, mentioning that I applied two pilot interviews from a previous visit to the city, and then I describe my routine undertaking the fieldwork. Research challenges are considered and ethical implications.

3.1 Choice of methods

This research aims to explore practices of food consumption and provisioning, which often involve many appliances in everyday life. Due to the nature of the investigation which is focused on experiences and perceptions of individuals towards appliance usage and consumption, it seems appropriate to adopt qualitative methods. Qualitative methods were the main source of data, such as interviews, which are frequently used by social scientists as a way to accumulate "solid facts", getting the information straight from the source. Social scientists also use interviews, surveys and/or polls, and conduct them in small groups or with individuals. The individual interviews can be conducted face to face, written, by online questionnaire, by phone, etc. (Moses and Knutsen, 2012, 131). For this thesis, interviews and observations were chosen as techniques to collect data for the fieldwork stage.

With regards to the differences between qualitative and quantitative methods, qualitative methods provide the opportunity to explore the meanings of people's world, *"the myriad personal impacts of impersonal social structures, and the nature and causes of individual behavior",* as well to build up *"theory from observations, rather than deductively, testing theories by trying to refute their prepositions".* (Brockington and Sullivan, 2003, 57). Qualitative methods are also able to incorporate quantitative data and quantification, as they consider how the quantitative findings affect people, problematizing it, rather than just accepting the data. (Brockington and Sullivan, 2003, 59). It is recognized that qualitative data treated properly can be as strong, relevant and interesting as the numerical data. (Brockington and Sullivan, 2003, 71). Quantitative approaches and claims are good in approaching the world in a high precision; however,

statistical descriptions alone do not approach the system of meaning that is the focus of qualitative methods. (Brockington and Sullivan, 2003, 70).

3.2 Qualitative interviews and observations

For this research qualitative interviews and observation are chosen as research methods to gather data on participant's experiences in engaging with appliances in their daily life. I used semi-structured interviews, which use a guide with questions elaborated beforehand. This presents the possibility for the interviewees to express themselves in their own way, which is valuable in terms of exploring the meanings of people's world, as well as it is focused on discussion around particular topics. (Brockington and Sullivan, 2003, 57-58). All the interviews were recorded with a recorder and by mobile phone, with the consent of the interviewees. I contacted the interviewees first through contacts that I already had from Brazil and arranged the first interviews with them, and then the subsequent interviewees came though snowballing, this I explain in more detail in the fieldwork section later in this chapter.

I visited the households to undertake interviews, took notes, and pictures of the fridges opened and closed, and ensured that interview notes were written up when I arrived at home; registering the observations I had from entering the household to leaving. The observations were not-participant, as I did not stay in the household for a long period, just for interviews. However I recorded my observations on the quantity of food and drinks the interviewees store in the fridge; the technological aspects of the appliances and the types of fridge used. I also observed practices of the participants such as the person opening the fridge to show me inside and leaving the door open, while talking, for example. I also observed other appliances which were in use while the interviews were happening, in order to observe how the interviewees relate to appliances that are on, but with which they are not engaging, as a second example.

These two methods, interview and observation, in combination with the notes and pictures I took were essential in order to analyze the data and comprehend life in this city, the daily routine of the interviewees, as well as the practices they have with the appliances that this research is looking at, and what kind of role the fridge and other supporting appliances have in a Brazilian middle class household.

3.3 Data collection and analysis

The sample selection was of 17 households. The criteria for selection; men and women with a variety of ages, diverse familial structure, occupation and civil status living in middle class households varying from lower to upper middle class in the city. The sampling approach chosen is snowballing, which is effective in terms of gathering first interviewees and extending the sample through a chain of people. The other is theoretical sampling that is useful in terms of being grounded in daily life as well as in theory, which in this thesis is grounded in practice theory. The theoretical sampling is described as *"the process of selecting incidents, slices of life, time periods, or people on the basis of their potential manifestation or representation of important theoretical constructs"* (Patton, 2001, 238 cited in Cohen and Crabtree, 2006). The analysis of data and the selection of what could be relevant to analyze in order to address practices related to food consumption and provisioning involving appliances was a process that happened in different stages of the research based in theory.

In order to undertake the analysis, I used the fieldwork notes, the transcriptions of the interviews, and the evidence I had from looking at the pictures I took of the fridges. To ensure clarity it was important to develop categories of themes that I could use to answer questions and base theories. It was necessary to translate the quotations from Portuguese to English and all interviews were analyzed in order to contribute to the thesis. The process of using quotes from the interviews occurred in different steps of the written process. The transcription and analysis of each interview by me was crucial to this step, in order to organize the categories into themes, having a clear idea on the information gathered during fieldwork and to contribute to the research with the experience of a researcher that worked in all steps of the thesis. I also organized the data in table form, which facilitated the formulation of quantitative claims.

3.4 Fieldwork

In order to carry out my research I approached fieldwork with a research design prepared and specific appliances chosen: the fridge as the main appliance, plus the freezer and microwave in order to look at the practices around and with them in the everyday life of the middle class in São Paulo. The target group for the research is

middle class households in Brazil, selected because of their increasingly important role within society in the South. The UNDP (2013, 14) highlights how the middle classes in the South are growing in terms of size, income and expectations:

> "Between 1990 and 2010, the South's share of the global middle class population expanded from 26% to 58%. By 2030, more than 80% of the world's middle class is projected to be residing in the South and to account for 70% of total consumption expenditure". (UNDP, 2013, 14).

As a Brazilian I had some idea how the fridge is seen as a taken for granted appliance, and how it contributes towards a considerable part of electricity consumption in Brazilian households. I also had an interview guide elaborated with questions grounded in social practice theory. I discussed the questions with my supervisor and decided on the city. I also undertook two pilot interviews before the fieldwork, and I had the opportunity to test my questionnaire and improve it. Firstly I went to São Paulo in April of 2015 due to a family commitment on a short trip, and I had the opportunity to undertake the pilot interviews, confirming my idea that the fridge was an important appliance to everyday practices in a household. Before travelling to conduct the fieldwork in June, I contacted people that I knew in Brazil, in order to be introduced to new people there, such as their friends or relatives and have access to informants, providing a possible sample when I was there. I also had access to more informants through "snowballing" during the process, as I mentioned previously, which seemed to be a good research sampling technique, as interviewees introduced me to their relatives and/or friends, sometimes in the same neighborhood or in others. I then conducted fieldwork mid-June and I stayed a month in Brazil. My first interview was on the 16.06.15 and I carried out the last one on 01.07.16.

I stayed in my mother's in law home in a neighborhood that is socially recognized as having middle class households, called Jardim dos Lagos. She was a very important actor when I needed to meet some interviewees and she helped me in the process of getting the trust of some of them, in order to be able to enter their homes. She was important helping me with the busy routine on fieldwork and the management of my own life during this period, as I took my daughter with me. There is a factor with trust that is important to mention, and it is related to concerns of violence that people have in the Brazilian context, as I present along the thesis in different situations - I believe that people let me enter their places because I was introduced by someone they trusted. To

handle this situation that I previously expected, I used the snowballing through people that I interviewed to introduce me to new possible interviewees.

I wanted to come in contact with a wide range of households from lower to upper middle class, because I wanted to see practices of this social group that are able to buy food and fill the fridge more often and how practices are shaped and carried out. First I went to neighborhoods that are recognized as having middle-class households, with more and less purchasing power among the middle class, to get the right sample. I asked my contacts about people that would be available to talk from different neighborhoods where there are middle class households, which promoted the snowballing process and made it possible for me to transit to different areas in the city. In the Brazilian context due to inequality, there is a considerable gap between rich and poor (OECD, 2016), and it is possible to have a certain degree of variation of social groups within the same neighborhood, and I was aware of how I could not consider one neighborhood as being all "middle class". Therefore, I made sure that the interviewees were part of the middle class, ranging from the lower to the upper, due to the combination of their work, assets and educational level.

This investigation is about everyday practices using the fridge, the freezer and microwave, and I wanted to look on these usages, which are consumption, in its many nuances, seeing how the target group relate to technology and the social world in their households, in order to have a broad understanding of consumption that is able to touch on the three pillars of habits, that is discussed in the theory chapter. To accomplish this, meeting the participants at their own households was very important and essential to this kind of research. This seems very obvious as I undertook qualitative interviews and looked on practices of daily life, but in some cases, people asked if it would be possible to do the interviews by phone, for example, due to lack of time and being unavailable at home, and I explained that it would be better to visit the households. In some cases this made people cancel the interviews, but with most of my contacts, I got positive answers and people were able to find a time in their busy schedules.

After I got the contacts, I contacted people both by phone or sms asking when they would be available for this interview, I informed them of the topic of the interview and the university I was coming from, saying also that other family members could join the interview if they wanted. The sample included both men and women, with a variety of

ages, as I described, from 11 different neighborhoods that present middle classes households, ranging from lower to upper middle class. The neighborhoods I went for interviews were: *Morumbi; Campo Belo; Jardim dos Lagos* (where I stayed during fieldwork); *Vila Mariana; Jardim Ernestina; Jardim Ipanema; Vila Olímpia; Jardim Paulista, Jardim Satélite; Mooca and Vila Emir*. It is possible to see on Figure. 4 the map of São Paulo and the neighborhoods I have mentioned with the number of interviews I undertook in each place. I undertook in total 17 interviews and 26 people participated in them. Table .2 presents the sample showing gender, age, family size and location.

	Gender	Age	Family size	Location
1	Female	34	4	Morumbi
2	Female	39	1	Campo Belo
3	Female Female	58 27	3	Jardim dos Lagos
4	Female Male	68 74	2	Jardim dos Lagos
5	Female	52	2	Vila Mariana
6	Male	63	1	Vila Mariana
7	Male	64	3	Jardim Ernestina
8	Female	63	1	Jardim Ipanema
9	Male	25	2	Vila Olímpia
10	Female	53	4	Jardim Paulista
11	Female Female Female	70 21 48	3	Jardim dos Lagos
12	Female	21	1	Jardim dos Lagos
13	Female Female Male	27 49 22	4	Jardim dos Lagos
14	Male Female Male	34 68 62	3	Jardim Satélite
15	Male	40	3	Mooca
16	Female	Missing	4	Jardim Ipanema
17	Female Male	43 48	4	Vila Emir
17 households	26 interviewees	-	-	11 neighborhoods

Table 2 - showing gender, age, family size and location

From 6 of the 17 interviews I undertook in the evening, after the persons have arrived from work, and in these situations I used a private car to get there, mostly due to safety concerns. In others, and most often, I used public transportation 5 times, back and forth, and I had the experience of testing and trusting the public transportation system in the city, which for me worked well, but many times I needed to plan the trip carefully and also calculate it with some extra time, in order to arrive on time at the interviewees' homes.

To 6 interviews I walked, as the homes were a short distance from my mother in laws home. The interviews that I took public buses and walked to were realized during the day, which was nice in terms of experiencing the city how it is, around people that are going to work, going home after work and to see a little bit of how working people spend time in traffic daily. It is very different to experience the city by car or by public transportation and walking. I had the impression that I was in a kind of bubble or inside an aquarium every time I needed to get the car to do an interview, and I had a completely different experience when I needed to take a bus, pay attention to the bus stops (many times I didn't know where I had to stop), but I said to the ticket collector where I was going and asked where I should get off.

Starting a conversation with my interviewees was not difficult. I am Brazilian, from the country side of Rio de Janeiro and a native Portuguese speaker, which was an important factor in order to understand what people meant. During the interviews some people were more reserved than others, but in general, they liked to contribute and were able to think about their practices when I asked about their daily routines. In some cases, I had to rephrase the questions in a different way in order to clarify what I was asking, not due to a question causing problems in itself, but I realized during fieldwork that people usually do not spend time thinking about habits and routines, how they engage with appliances, how they cook, etc. In this kind of situation, I preferred to wait for a while until the person was able to understand the idea and then answer. In some instances during the interviews people that were not part of the household were present, and listening to the conversation. In the end, they as well as most of my interviewees were curious about how life in Norway is, what I liked or disliked about it. In some situations, I arrived at the households when some daily activity was in progress, such as lunch, or television time, etc. I preferred not to interrupt the activity in process, as this is

a part of people's routine and I wanted to observe practices without much interference. In general, the householders reduced the sound of the television or turned it off to start the interview.

3.5 Research challenges

3.5.1 Establishing trust

A good example of establishing trust was during a household visit to an elderly couple's home to undertake an interview and they explained that they just let me in their home because I was a woman and I was introduced by someone they knew, in this case, the previous interviewee. I identify this as a possible challenge if I did not know many people in the city. I probably would need more time undertaking fieldwork to be able to position myself in some neighborhoods and establish relationships with people. For me it is very clear that the snowballing through people I had contact with subsequently enabled others to trust me. Actually I was welcome in all households I undertook interviews. The elderly couple also talked about the possibility of having a fridge-freezer as a way to avoid going shopping often, due to safety concerns. Which I relate to the fact of them not having contact with strangers due to safety concerns and they would not have done the interview without the introduction by someone they knew. I also identify that if I had more time on fieldwork, I would know more people spontaneously and I would be able to undertake more interviews.

3.5.2 Time frame

As I already mentioned, I stayed in Brazil for fieldwork during a month, from mid-June to mid-July of 2015, and time constraint was indeed a challenge. First, it was a challenge in terms of making contact with people, as many of them have a busy routine during the day, and often I had to contact them in the evening to be able to talk by phone or I used sms to communicate, and people were able to answer at work. I spent long periods contacting possible interviewees, and due to the busy routine that people in general have, working or not, I tried to organize at least one interview per day, being ready for interviews any time. Every day after an interview I noted how the interview transpired, perceptions, how I travelled to the place, etc. I also transferred the files of

the recordings to the computer, in order to always have space available on my recorder and to protect the interviews.

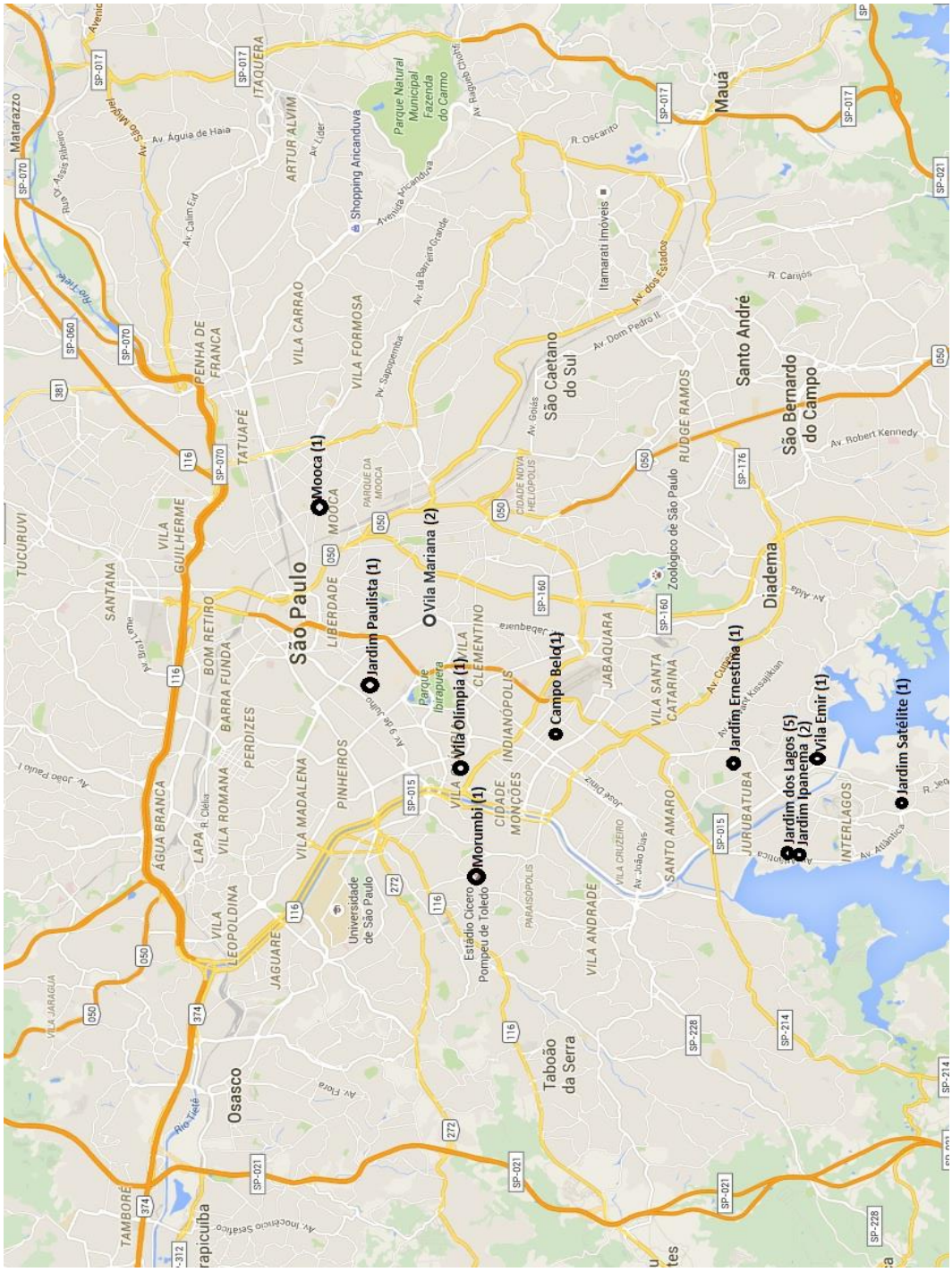

Figure 4 - Map of São Paulo (city), with indications of the neighborhoods I visited and the amount of households from each area. It is a Google maps print screen and it was edited by Nina Maria Figueiredo.

Time seems a challenge also for my interviewees due to the routine they have in São Paulo, and I always tried to hold the interviews at a time that best suited them, in order to cause as little disruption as possible to their daily life. In one situation an interviewee that had I booked a time with, to go to their home, came to my mother's in law home first, asking if I could go exactly in that moment, because it would suit them better. I was not quite ready, but I said that I could go; I collected my things and left quickly in order not to miss the opportunity of having the interview. In order to tackle this time frame challenge, when possible I organized my interview schedule beforehand. For the places I needed to take buses, I also spent time in traffic. Depending on the time the person had available, I spent most of my day just conducting one interview, including time spent on organizing myself, departing, taking public transportation, undertaking the interview, returning home and transcribing notes.

As I have mentioned already, due to a rigid time frame it would have been a more complicated challenge for me if I had not contacted people I know to get in contact with possible interviewees. I would have had to spend more time and undertake a lengthier fieldwork in order to be able to know people spontaneously and develop trust. Snowballing indeed seemed to have facilitated the process of gathering more interviewees that allowed me to visit their households. As well, time was a constraint in terms of not being able to observe over a longer period how practices on food consumption; appliances use; eating and disposal or not, in fact happens. I was not able to see all the nuances of these practices around the fridge that are executed every day in the households, and I believe this to be an interesting subject for further research in Brazil.

3.6 Ethical considerations

Certain topics during interviews could be sensitive, such as income for example. I did not ask participants about income, and I was careful to focus on shopping and purchasing power, in order to avoid any uncomfortable situations for the participants, but in general, they described these practices themselves without the need for much inquiry.

In the beginning of the interviews I always provided general information about the research and I asked for the interviewees' consent. I asked as well if I could record the interviews and explained how I would store them, explaining that after the conclusion of the research all recordings would be deleted. The confidentiality and privacy of interviewees was respected throughout the process and continues to be kept after the conclusion of the thesis.

The next chapters show an application of the chosen methodology with the objective of discovering how food consumption and provisioning practices are shaped with the fridge and other supporting appliances in Brazilian middle class households in São Paulo.

4 Convenience

In regard to comfort, cleanliness and convenience (the three Cs), Elisabeth Shove (2003) analyses the notion of user involvement in relation to technology, convention and practices. In her view, understanding of what these concepts mean, how they are defined and realized is very significant in terms of how they contribute to more resource-intensive practices, which impact the environment. She argues that convenience is a complex concept, but it is used to sell any number of appliances and devices (Shove, 2003, 195), and the central environmental challenge is one of understanding how meanings of services (including services of convenience) change. (Wilhite et al, 2000 cited in Shove, 2003, 195). She also mentions that comfort, cleanliness and convenience legitimize and explain many intersecting practices, being these concepts full of cultural significance and social meaning (Shove, 2003, 195). Here I present how the concept of convenience articulates with the practices that happen among the users, the refrigerator, the freezer and the microwave in the middle class households in São Paulo. In this chapter I focus on practices related to food and cooking, first how some people relate themselves to frozen food, as well as their engagement with different appliances to accomplish their meals, what I describe as fast-mode practices. For these kind of practices, it is important the perspective of Warde (1999, 525), who says that *"convenience food symbolizes a new stage in the development of space-time ordering",* and the reason for its increasing usage is related to a response of people *"to a particular configuration of problems in the temporal organization of daily life"*. Further I look on the convenience of having a fridge that keeps the food fresh to be used in slow cooking practices. Then I present the benefits of frost-free technology as a means to convenient practices towards the fridge's cleaning process to reduce time and labor in this activity.

4.1 Frozen food and a "fast-mode" cooking practices

During my visits to the 17 middle class households I encountered 18 fridges - as one household had 2 fridges. All households I visited owned microwaves. From the 18 fridges I saw, 17 had freezers, all these fridges being of the "duplex" model, where the

freezer is on the top of the fridge. Just one fridge I saw had the freezer compartment inside the fridge. This specific fridge was the oldest one I have encountered, and the interviewee, a girl, an administrative assistant, 21 years old, single and living alone, said that her family bought this fridge when she was a child, and this fridge she owns now, is the first fridge she remembers in her whole life. Recently this young girl began to live alone as her parents moved out of this accommodation. They took with them the newer fridge they have and left the older one with her. She is still learning how she is going to organize herself in terms of buying food, keeping frozen food, cooking and even managing her bills. She owns a microwave and keeps frozen meals in the freezer compartment, the practice of warming up frozen food in the microwave is essential to her new routine.

This girl wakes up in the morning and opens the fridge to take milk, and then she drinks it and goes to work. When she comes back from work, she takes ham and cheese from the fridge to prepare a sandwich, or something like that, and has a meal before going to bed. Apart from that, she keeps frozen food in case she needs an easy meal and to avoid time spent cooking meals.

> Woman, administrative assistant: "My parents have moved two weeks ago. Since they have moved, I bought nuggets, hamburgers, these "easy meals", noodles".

When I asked about her practices using the fridge, microwave and freezer together, she also mentioned these meals that she can prepare quickly:

> "Usually I buy these frozen lasagnas, something like that. I have to put it into the microwave afterwards. So I take it from the fridge (freezer compartment) and put it into the microwave. I also use the microwave to make popcorn and warm up food".

The routine of this girl is very similar with others routines I have encountered. They are usually individuals that work and do not stay at home during the day, but open the fridge in the morning to have breakfast and in the evening to have another meal. I have categorized using the appliances in this way as "low consumption", as in these cases the parties do not stay at home and there is no one using the fridge while the person is working. The categorization of "low consumption" does not mean that the habits that the person has with the appliances are not important or not essential. Despite the fact

that I have encountered people that do not use the fridge, microwave and freezer during the day due to their work routine, they rely very much on the combination of using these appliances together, mostly to prepare their meals and accomplish tasks related to food in what I call here "fast-mode" practices.

With regards how much control the fridge's owner has over the energy use of the appliance, there is very little control of it, as the end-use of electricity cannot be changed much through changes in utilization. The level of energy use for the service performed (cooling food in a given volume) is determined by the manufacturer, although the amount of food contained and number of doors openings do affect appliance unit consumption. (Schipper and Hawk, 1991, 247). University of Florida, in an article on their website regarding energy efficiency in the home indicates that "streamlining usage patterns can lower your monthly payments", by, for example "curbing idle time while the refrigerator door is open". Both data from Schipper and Hawk (1991) and the recommendation on energy efficiency by University of Florida highlight that the consumer influences on energy consumption by the amount of food kept in the fridge as well by the number of doors openings; however, this is a small portion of the consumption.

I have encountered the same kind of "fast-mode" practices towards the fridge and frozen food with another young man, aged 25, single, Engineer. He shares his apartment with another single man, but in this case, the fridge is part of the apartment appliances. When I asked him how he uses the fridge on a daily basis, he presents the same kind of practice as the girl, aged 21, single Administrative Assistant. He also presents habits favoring the consumption of frozen food to have practical meals when he is at home, relying very much on the facility of having a freezer and a microwave.

> Man, aged 25, single, Engineer: "I just use the fridge for basically two things… water, ham and cheese. These are the things I use, and during the weekends I use the fridge to keep frozen food, lasagna, pizza, these kinds of things. But I do not use it for anything more… (…)"

When I asked about his practices using the fridge, microwave and freezer together, he also mentioned these meals that can be prepared rapidly, as otherwise he dines out:

> "Twice per week I prepare something frozen in the microwave. Lasagna and pizza, twice per week. I take the frozen food from the freezer,

> something very practical, 15 minutes, and I put into the microwave. That's it."

Both girl, aged 21 and guy, aged 25 do not present slow cooking practices often, and both rely on frozen food to have meals when is necessary. These two young persons mentioned habits towards cold water, where they cool water in bottles in the fridge and keep opening the fridge to take cold water. This is interesting to observe, as this practice of opening the fridge to take water is accomplished many times when they are at home, and somehow is taken for granted, as there are others ways to cool water. For example, this young man after saying that he opens the fridge very often to take water, realizes he could have a support to put the water gallon in, which cools water, changing his practice of opening the fridge many times.

Regarding the consumption of frozen food and practices related to it, I found in the household of a man, 63 years old, administrator, and widower. I met him when I went to have an interview with his neighbor, and his neighbor introduced me to him. I entered his apartment during lunch time, and he stopped his activities to talk to me. His daughter, granddaughter and friend were there cooking for him, and during the interview he said that he cooks sometimes, but he also has people that can cook for him and used the example of this day. As he lives alone and does not cook often, he needs the fridge, the freezer and the microwave to accomplish his practices towards food daily, relying very much on the performance of these appliances to stock and warm up his frozen food.

When I asked him in general how he uses the fridge daily, and asked to describe it, he said:

> "I use the fridge daily for liquids and solids, food and drinks. I buy lots of frozen food, so I use the freezer to keep this food. As I live alone, I take the frozen food and warm it up in the microwave. I do not have to cook. There is everything in the fridge; I keep everything, every food."

Furthermore, I asked if he could live without the fridge, and his answer confirms the need for these appliances in order to accomplish his practical and "fast-mode" practices. He answers that he would not have anything to eat if he did not have a fridge, and he just drinks cold water. For this man it is also very convenient to have these appliances, where these practices facilitate his life in terms of no need to cook and keep frozen food

all the time stocked. It is interesting to note that technology, his individual experience towards lack of slow cooking habits, and his cognition that allows him to accomplish these practices are all related and arranged around the consumption of frozen food, the engagement with the freezer, microwave and fridge together. Regarding the conceptualization of convenience, it is worth noting that this man does not stay at home during the day due to his job, so he keeps food in the fridge and freezer, including yogurt, milk, dairy products in general, and things that need to be kept in the fridge, and all the frozen food he needs, meaning less trips to the shops, filling the fridge and freezer every week.

4.2 Slow cooking practices and keeping food fresh

The same aspect on convenience I suggest that is related to slow cooking practices and the possibility of keeping all the food fresh due to the fridge's use, I found this trend in 11 families that engage more with the appliances during the day. They have family members that stay at home and do not go to work. This occurred in cases where I encountered wives that do not work outside the home, retired people and families with children.

This is the case of the family of a man, aged 64, married, retired and has one son living with him. In his interview he talks very clearly on how they perform slow cooking practices daily and rely on the fridge and freezer to keep the food they need for cooking and prepare their meals. His wife is recently retired and did not have time to cook before, so he was cooking every day. Now he says that she is participating more in the cooking. In this specific household, man, aged 64, married and retired is responsible for buying food four times per week, planning meals and cooking. He tells me about his habits regarding food and the use of appliances, saying that they use the fridge the "whole day, the whole week", and he attributes this routine to the fact that they buy the food and cook it themselves. So the main meals are lunch and dinner, and they engage with the fridge constantly. Sometimes they do not cook dinner, but keep cheese, ham or pate for a quick snack in the evening. Here the fridge and freezer work together facilitating the daily routine of this family, in regards to the food that is necessary to cook every day. These appliances promote the facility of keeping food fresh and create

a kind of mini-market in their own kitchen, even with the fact that this family buys food many times per week.

And how a day for him engaging with the fridge would look like? The family members begin the day selecting food for breakfast, and then they take these things out and have breakfast. Afterwards, they return food back to the fridge. For lunch, they do the same. Man, aged 64, and his son have the habit of drinking cold water, soft drinks, or juice, opening the fridge the whole day to take out cold drinks. He does not know how many times he opens the fridge per day, but he guarantees that is a lot. Then, they use the food that is kept in the fridge to cook lunch. What is not eaten, they keep again in the fridge for subsequent meals and he explains that they do not throw food away. In case there are leftovers, they keep them in the fridge, and if it is a big amount of food, they put the food in small pots and freeze them. For dinner they are used to cooking not so much, usually they eat leftovers, or end up cooking a little bit more to complement the leftovers. Before they go to bed, they also eat something. He concludes talking about their routine and the fridge's use: "The fridge is our big buddy".

Further, he describes how he could not live without the fridge, saying that he would "need to rethink lots of things", and attributes this to being used to the practical aspect of the fridge, explaining that you can buy lots of food and keep it there, having no need to buy perishable food many times, every day for example. He also attributes the benefit of having a fridge and the possibility to stock food to the fact they live in a big city, to the lifestyle they have, making a comparison with the past, where people did not have fridges, but life and routines were calmer. And then, again, the convenient aspect of frozen food and its implications to the actor's engagement with supporting appliances to accomplish food tasks has a role, as the microwave:

> "With the hectic lifestyle we lead, we (in general) buy lots of ready meals (…), if in need you just put it into the microwave, warm it up and eat".

In order to discuss these cases from these different households' arrangements, it is worth noting the fact that I encountered freezers in all households I visited. This is not something unusual, as I have interviewed people from middle class households. Shove and Southerton (2000, 303) question the fact how mundane devices as freezers become normal, and relates this to factors as the development of the frozen food industry and

changes in the division of domestic labor. The authors explain that analyses of household time budgets (Gershuny, 1992 cited in Shove and Southerton, 2000, 303) suggest that management of domestic labor is increasingly problematic, articulating this with the female work force participation, in their example in Britain, which increased between 1971 and 1997. The freezer can be understood as a way to alleviate these problems, but the authors question how the freezers found their way into British kitchens, and say that it is important to learn how they have been promoted and positioned. Shove and Southerton (2000, 305) highlight some features of the three moments of the freezer journey, how its history has been changing through the introduction of this appliance, the establishment and the redefinition of it. They show in a table how these histories change over time and here it is important to highlight they mention that today the sales narrative is that the freezer is a normal device for the convenient home; for an imagined consumers is a taken-for-granted object of mass consumption, essential for domestic organization; about its use, the freezer is to store essential food-stuff and convenience meals; regarding its benefits, it would be an imperative of convenience in the management of everyday life.

It is possible to notice the nowadays' sales narrative that Shove and Southerton (2000, 305) mention in the examples from the cases I present: the freezer being a normal device for the convenient home. In the three cases around frozen food earlier presented, there are practices toward this specific kind of food, where the freezer and a whole structure allow a "fast-mode" way of accomplishing food practices. In these three cases, the interviewees presented working schedules and almost do not stay at home, engaging very little with cooking practices from scratch. They rely on frozen food and the usage of freezer combined with the microwave to complete their meals. Warde (1999, 525) explains that *"many people are constrained, in the face of more pressing social obligations to eat convenience food as a provisional response to intransigent problems of scheduling in a de-routinized society"*.

Regarding the convenience aspect of having an appliance keeping food, it is also possible to say the same for the fridge, as well in regard to the idea that it is a taken-for-granted object of mass consumption, being essential for domestic organization in the four cases here I have presented. I also recognized this very "essential role" of the fridge in the 17 households I interviewed. I did not have any interview where people said that

the fridge is not an important appliance; actually, in all of them it is interesting to observe how people's practices toward food and consumption are completely intrinsic to their engagement with these three appliances, to different extents.

In the case of the man, aged 64, married, retired, I bring a different factor toward keeping perishable food fresh and convenience, as he has slow cooking practices daily and needs the fridge and freezer to keep all the food he buys four times per week. This aspect of convenience is clearly related with the fact he can get the amount of food he needs with not too much concern of it going bad, as he buys many times per week and has the appliances to keep it fresh for his meals. Rees (2015, 4) explains how the word "fresh" is used to mean a food that is straight from the source, but today this is usually used for "not rotten". The author (Rees, 2015, 4) says that food can still decay when refrigerated or even frozen, depending on the time it is kept, but the important aspect here is what the refrigerator and freezing, in his view, can do for people: give to them more time to enjoy the perishable food they buy – which again, is clearly related to convenient ideas attached to food consumption and provisioning practices. This also allowed food producers to make more perishable food and to charge with affordable prices, contributing for the consumers that can keep food fresh in their kitchens. (Rees, 2015, 4)

In the household of the man, which engages with the fridge during the whole day to accomplish mainly slow cooking practices, the fridge and freezer are working in favor of his family's needs: to the basic needs if we talk about food in terms of "being fed", but also about the needs of having a "specific taste" toward food and drinks. He described the possibility of having a ready meal available just for situations where they would be "in need", what he confirms as not being part of their daily practices, or in a way of accomplishing food practices which I called "fast-mode" previously through the experiences of others interviewees in this chapter. This man prefers to cook, buy food more times, but he will have the food he cooks himself. Analyzing his slow cooking practices, his family and himself are the actors in the practice; the fridge, the available markets with food available and all the food this family buy many times per week are the material elements and are situated in a specific social context. All these elements are engaging with each other making the practice, promoting a specific way of food consumption and provisioning, allowing the family to have a mini-market at home,

where is possible to get ingredients without the inconvenience of buying food every day, as these foods are kept and fresh to daily cooking practices. As I already mentioned, I found in 11 households I visited (from the total of 17) the same trend on slow cooking practices and the convenience of stocking food fresh owing to fridge and freezer technologies. These are families with children, retired people or wives that do not work outside the home. These people spend more time cooking, planning shopping and preparing meals. "Time" is a very important factor towards the need of engaging with appliances to accomplish tasks, as well it is linked to ideas of convenience. I will discuss this aspect in the subsequent chapter, where I talk about "Time and Space".

4.3 Frost –free technology and its convenience

There are more aspects on convenience related to practices around the usage of the fridge-freezer, and I believe they are worthy of being investigated. From the 17 visits I had with the households, I have encountered 14 frost-free fridges-freezers. The other 4 were the type that is necessary to turn off, defrost and clean it. In my interview questionnaire I had two different questions that brought answers on frost-free technology as something related to a "convenient" practice on the cleaning process of the fridge and freezer. One was when I asked if the person was satisfied with the fridge they have, and the other was when I asked if they notice any changes on this appliance over time. 9 persons (from different households) of the 17 households I interviewed were reminded of the practice of not having a frost-free fridge in the past somehow, and how hard the cleaning process was. It is possible to notice the convenient aspect of this technology through the testimonials I present here. The automatic defrost is seen as an improvement in the fridge's technology, as well is mentioned by people as facilitating and saving their time on the cleaning process.

Man, aged 64, when I asked if he notices any difference between the fridges his family had over time, he said:

> "I notice. It is about this automatic defrost thing. The previous one (fridge) did not have it. You needed to turn off the fridge, wait for a while, to take out all the ice that had formed; you could even turn on a fan to help defrost it. Then lots of water spilled on your floor, and you had to clean it as well. Today the process is better, right? The big difference I note is this one, and

> also on design. Today they are making more modern designs, such as ones with steel, something like this".

For the same question regarding changing of the fridge over time, a woman, 52 years old, pharmacist industry, married and living with her daughter associates the frost – free technology to a specific moment, which in my view marks a different point in the history of the fridge and the practices around the cleaning process:

> "About technology, for me it was very interesting the frost- free, right? Because of the easy maintenance, cleanliness. It finished that thing about needing to turn off the fridge, put a bowl to take out the water… that thing about a layer of frost. It was the whole day in function of the fridge".

The same practical aspect on the frost-free technology is possible to observe in the experience of an elderly couple, woman (aged 68, housewife), and man (aged 74, retired), where this technology counted in the process of acquiring their third fridge, the one they own today. They told me how the process of acquiring fridges during their marriage was. When I asked questions on when it is time to buy a new fridge, they said that is important to have a long lasting appliance. The first fridge they bought did not have a freezer and was long lasting (not mentioned how long). The second fridge they bought contained a freezer, lasted for 26 years, and it was not frost –free, initiated for them the "frost problem". The husband describes how intense the cleaning process was, much similar with others experiences I presented from the convenience aspect of the frost-free technology. He explains that they needed to take everything out from the fridge, put in a thermos bag or take it to the bar (that is besides their place) to defrost it. Then, they needed to wash the entire fridge inside. The couple explains that this was an important factor in choosing the fridge they have now, since 3 years ago, due to the availability of frost-free technology, as well the brand. He also says that if it was not for the "frost layer problem", they would have kept the older fridge, because it was working and cooling very well. This second fridge with no frost- free technology they gave to their nephew and it is still working well.

Regarding the frost-free technology and its "convenient" role, Shove and Southerton (2000, 311) say that the promotion of frost-free freezers, for example, represent another recent development. These kind of "frost-free" appliances usually cost more than their non-frost-free equivalent and are considerably less energy efficient to run, but they are really convenient in terms of never needing defrosting and do not require the aspects of

re-stocking, for example. These aspects I suggest are widely related to the experiences from the interviews I described earlier.

Another important aspect to point out on the automatic defrost fridge-freezers is that they use more electricity than those without it (Schipper and Hawk, 1991, 248). This aspect significantly relates with what was already mentioned here that they are less efficient to run, which can be problematic in terms of using more electricity and how it contributes to a parcel of emissions, which is problematic in terms of the current threat of Climate Change. The authors Schipper and Hawk (1991, 251-252) gives the example of the estimated unit consumption from fridges, freezers and fridge-freezers (combi) in Sweden in 1973, 1978 and 1987, and it is intriguing to observe what the authors mention: size was not increasing much, but features were, as more consumers were buying three door "combis" or models with automatic defrost, and they say such changes tend to increase unit consumption.

It is worth noting that the authors Schipper and Hawk (1991, 254) mention in regard the fridge-freezers displacing in Scandinavia the single-door fridge in homes and slowing the spread of freezers to some extent, also the automatic defrost was becoming popular. During my visits to the households in São Paulo I also did not encounter any households with a separate fridge and freezer, just the fridge-freezer models, where the automatic defrost option was very significant.

There is another characteristic of the frost-free technology's history that is important to observe. As refrigerators have been long lasting appliances (Rees, 2015, 27), it would be important to offer new features to attract new fridge purchasing by consumers, even with a current fridge still working fine. This is what Rees (2015, 29) argues, explaining that besides other kinds of features that would attract new sales as design, the frost-free technology, today taken-for-granted, was introduced in the 1950's in the US, bringing this technology that defrosts the fridge automatically and meaning less time spent on cleaning to the consumer. For the market side, this meant a known product with a very useful new feature.

4.4 Conclusion

In this first chapter of my analysis, I attempted to show how ideas of convenience are much related to practices around frozen-food, and the kitchen appliances, such as the fridge, freezer and microwave. I have presented three cases showing how people very much rely on this structure and combination of elements to have their meals, what I have denominated as "fast-mode" way, a kind of practice where people do not have slow cooking practices often and rely on frozen food to have quick meals at home, mainly due to their working schedules. I also attempted to demonstrate how my interviewees from 11 households have practices toward food and slow cooking, to different extents, what I have shown through the case of a man, aged 64, married, retired, which presents the role the fridge takes in his life as a "big buddy". This other convenient aspect of the appliances as a way to keep food fresh suggests preferences around a specific kind of food, food that is cooked from scratch at home and can have a specific taste, which seems important to households where there are more people at home during the day, as wives, retired people and families with children. Another important convenient role of the fridge-freezer regarding slow cooking practices is about the possibility to stock food as a "mini-market" at home, meaning fewer trips to the supermarket and saving time. Further, I analyzed the frost-free technology and its role on the convenient way to clean the fridge and the freezer, how it has facilitated people's lives in regards to the cleaning process. Then I attempted to show how this technology was introduced as a new feature to an appliance that was already known to people, but it could be improved, meaning less time spent on defrosting, reducing the labor required in washing the fridge and the kitchen's floor. Furthermore, I discussed how the automatic defrost fridge-freezers are less efficient to run and use more electricity than those without it, which brings insights in regard to concerns with the rise of energy consumption in everyday life practices, which are relevant to be addressed due to their implications to the climate scenario.

5 Time and space: reordering time, appliances and the organization of everyday life

In the last section I talked about how ideas of convenience are related to practices with the usage of the fridge-freezer to my interviewees. In this section I will present how these ideas are much related to time and space, and through the experiences of the interviewees I will demonstrate how this is connected to their organization of everyday life. This is important to think in terms of the environment, as practices with appliances are becoming energy intensive and the imperative thinking seems to be around managing time as best as possible. The management of the contemporary daily life in this chapter seems to be grounded in concerns on optimizing time, having more convenience and better organizing food shopping, which many times requires reordering of practices in time and space, where appliances have their role. The need of an optimal management of daily life also promotes the acquisitions of appliances to handle practices around food provision, which makes it important to understand how practices are shaped in this particular social context.

5.1 Temporal aspect of practice and how practice configures temporalities

To this chapter it is important the idea of the temporal aspect of practice, which defines that *"experiences of time are part and parcel of the experiences of practices"* (Shove et al, 2012, 129). By this point of view and in simple words, *"practices make time"*, and this is much related to how days and hours are experienced due to practices and their elements. These authors explain how some practices have temporalities that are difficult to avoid, such as cooking practices for example baking bread, because it is necessary to wait for the dough to rest before baking it, then there is the time necessary to be inside the oven, and this temporal sequence is born in the practice. (Shove et al, 2012, 129).

Another important perspective is the idea of Southerton (2012, 343), in regard how practices configure temporalities, where he explains that *"different practices produce their own temporal demands based upon the degree to which they require coordination*

with other people or practices." He gives a good example showing how different practices require different temporal demands, such as having a meal with other people, which requires more coordination with these people's schedules; as well were located in sequence of practices as food provision and preparation, and this is different than, for example, watching television, because this last practice is requiring fewer temporal demands. Therefore, different temporal requirements of practices have an effect of how temporal rhythms of daily life are ordered (Southerton, 2012, 343 - 344).

5.2 Practices with appliances and their connection with time and space

In regard to the convenient aspect of the fridge-freezer, and this was what I have shown and discussed in the last section, that indeed: the use of these appliances mean less trips to the supermarket. Both for people who consume frozen food or have slow cooking practices regularly. In this sense, the fridge-freezer also works as a mini-market, preserving food that will be available more often than living without this appliance to keep food edible. In my questionnaire I had a question about how often households buy food, and I found that: *9 out of 17 households I visited buy food weekly*; 3 of them buy food more than once a week, 2 of them daily, 1 buys food every fifteen days, 1 household buys food monthly, and just 1 of the households did not answer the question. Through this data, it is possible to visualize that for the greater part of the sample (which means people that buy weekly, every 15 days and monthly), the fridge is not being stocked so often or even daily, which highlights the fact that the fridge is able to prolong food durability, making it possible for people to avoid shopping trips, thus it is very convenient in terms of management of time.

From the 17 interviews I undertook, 9 people mentioned some aspects related to *time* in regard to their practices with the fridge- freezer, to different extents. I did not have any specific question about time, but I found it on the *idea of saving it*; about people being able to *better organize their routines*; how the *freezer can stock meat* and *work against time, making food last longer*; how people experience *time differently in the week days and weekends* and engage with appliances to a different frequency; how a different location than a big city, such as small farm, *would make life different* and this would have implication on the need of appliances, etc. This theme appeared in different

questions as *what would change their habits; if the fridge has any special importance; if they could live without a fridge and when I asked them to describe how a day using the fridge would be.*

When I asked a man, aged 40, single with children, advertisement manager, how a day using the fridge would be, he mentions the possibility of having a fridge-freezer as a way to save time on food shopping. In a further answer, he talks about the possibility of buying food whenever he is in São Paulo and optimizing his time, by going to the market when on his way home:

> "Usually how I use the fridge… I use the freezer a lot to store frozen food, meat (beef) that I buy at the butchers to last one or two weeks, avoiding to go and come back many times to the butchers, due the lack of time. (…) There is a very good market close to my place, but usually I am in some place in São Paulo and I want to optimize my time, then I go to the market on the way (home)".

It is worth noting that he mentions if he did live closer to the market, he would not have the need of a fridge, but as he needs to keep milk and products that require freezing, he needs the appliances. The same aspect on avoiding trips to the market, as well on buying meat in bulk to keep in the freezer was mentioned by the elderly couple, man and woman, 74 and 68 years old respectively, retired and housewife. They mention how the fridge-freezer is important in order to preserve all meat (beef, chicken and fish) they buy, and how this impacts on their budget (it is cheaper to buy a bigger amount then go every time to buy meat for a recipe); how this provides the possibility to avoid going shopping many times; as well as how this makes them less vulnerable outside home, due to concerns of violence in the streets.

> Man, aged 74, retired, married: "Chicken too, I buy four chicken breasts, bone it, make filets, and cut it for stroganoff. Meat (beef) too, I buy tenderloin in a piece, usually 4 kilos, cut in filets, and it is there frozen (in the freezer). I take it and defrost. I freeze maybe 10 filets separately, and I am taking (in relation to need).
>
> Woman, aged 68, housewife, married: "If you buy like this it is cheaper. If you go there and buy just some filets… (It is expensive).
>
> Man, aged 74: "And you do not need to go there all the time to pick it up (to the market)".

> Woman, aged 68: "All the time going there (to the market or butchers), at risk… so we usually buy (food) to maintain. The fridge is very important."

The same aspect about using a fridge to keep food and avoiding many shopping trips is mentioned by a woman, aged 53, engineer, married with children. She talks about the convenience that the appliance brings to everyday life, as she does not need to buy food and cook in the same day, thus this gives insights to the different organization of practices of food provision. In figure 5 it is possible to note that her fridge is stocked to provide meals for a family with 4 people, and she also mentioned that she buys food weekly. The convenience aspect of the fridge can be identified as the possibility to have a variety of food available, which helps in terms of avoiding shopping trips, as well the possibility of keeping food as leftovers. When I asked if she would live without a fridge she answered that she would not, and explained articulating the convenience aspect of the fridge with practices she has daily:

> "No, due to the convenience that it (the fridge) brings. Due to the fact that you do not have to go shopping every day, having to cook what you are going to buy in the same day, or having to throw away (food) because you do not have someplace to keep it. I think I would not live (without the fridge). Without the microwave I could live easily, but not without the fridge".

Another woman talks about the possibility of having a fridge as a way to cook in bulk in order to facilitate the family's routine, including hers, as she is the person responsible for cooking and preparing food for the children's lunch the following day. Another important aspect on time saving is the possibility of having the freezer to stock frozen vegetables, already washed and cut that she buys to facilitate her cooking process, and consequently manipulate time in the kitchen.

> Woman, aged 43, administrative manager, married with children: (…) and also it is about daily life. If you see, I leave (home) early and come back late. I do not have the possibility to cook fresh every day. (…) For example, during the warmer weather, I cannot cook a dinner and leave it for the next day, because it will be sour, and I cannot cook lunch. So it is depends a lot on your daily life. (…) Another thing, today you go to the supermarket and find every kind of food. I found kale already cut in the freezer, fresh; it (the freezer at the supermarket) has tomato, apple, and pear. They (the supermarket) put a big freezer, and the amount of greens and fruits are even bigger than some time ago. Some time ago this did not

exist. Today everything is nice, washed and cut. Everything is already frozen, you just buy it, and if you want to make it, just defrost and it is ready. There is no work even to peel it. Look how this is changing, and if this is available, it is because the house wife, the woman has a hurried life, it is more practical. For me it is even more practical to go to the supermarket and buy everything already cut. I arrive at home, open (the package) and put it (the food) in the pan and it is done, than to have to peel it, cutting… So today you find a variety of greens and fruits in the freezer at the supermarket".

Figure 5 - The fridge-freezer as a convenient appliance due to the possibility to stock food and avoid shopping trips, have a variety of food available, as well keep leftovers, which allows a different management of time and food provision. (Credits: Nina Maria)

The same convenient aspect of the fridge as an appliance which creates the opportunity to cook in bulk and rearrange time spent in the kitchen is also mentioned by woman, aged 68, piano teacher, married with an adult child living at home. She explains how the fridge is essential to her daily life, as she is also responsible for cooking for the family,

and at the same time it is interesting to see how she talks about the possibility of carrying out the cooking task allied with the technology potential to keep food, finding ways to have time available for her and not be constantly occupied with the food provision in every meal:

> "I think the fridge (is important) for the housewife, right? Because it facilitates lots of things. You can cook food and you can go out, you can cook in the morning. The next day, you have already the morning food prepared, so (the fridge) is a very important factor in the household. I think housewives cannot live without one".

Then, other interesting quote on time and technology potential was presented by man, aged 40, mentioned in the beginning of the chapter. When he was explaining about the decision making in acquiring the fridge he has, technology was one of the factors involved in the acquisition. The front of the fridge has a panel, which gives him the possibility to control the temperature in relation to his different needs and social occasions, by clicking one of the six pre-programmed options. This was the only fridge I have encountered with a panel in its front, and it is interesting to note the association between control of temperature and the time required to get a cold drink, which is defined by the fridge's program. In his quote he says the amount of time he spent waiting for the fridge work and have the expected temperature on drinks:

> "Then suddenly you arrive with something, I have a sparkling wine out of the fridge, then I will balance (the temperature), in 45 minutes this wine is good. I bring a can, I want a colder drink, in 1 hour it is ready. Ah, you are going to have guests in 1 hour, you click the button and the fridge works by itself. Party, you fill your fridge with drinks; a power is generated to make everything to the right temperature. Vacation, now I will leave for vacation, the fridge does not need to work on full power all the time, so you click the button "vacation", and it will work in a lower power, just to keep the food edible until you are back, and click the button again. If I am without ice, I click here and it will work faster this ice compartment…"

Figure 6 - Fridge with easy control of temperature – it can be selected in relation to people's needs or social occasions by the panel that offers six pre-programmed functions, Mooca neighborhood. (Credits: Nina Maria)

There are two experiences from different households where they discuss how their daily life is in relation to practices with appliances. In these quote it is possible to note the aspect of time and space involved. The first is from a woman, aged 34, lawyer, married with children, and how she describes her family`s engagement with the fridge during weekdays and weekends, which demonstrates a certain difference in relation to the routine the family have in days where the family has a work/school schedule, and weekends where the whole family is at home. The second is woman, aged 48, school monitor, divorced with a daughter, and having the same feature of how things that are done in the weekdays, are done differently in the weekends.

> Woman, aged 34, lawyer, married with children: "How we use the fridge… the whole day to eat, the whole day to take something, but me, it is more

> about dinner and weekend. (In the weekends) it is opened more, it is the whole day to take something to eat, to have snacks, lunch and dinner. (In the weekends) is even more (used), because we are (at home) the whole day, and it has more people, so…".
>
> Woman, aged 48, school monitor, divorced with a daughter: "The daily life (weekdays using the fridge) is calm, it stays closed, unless a guest is coming. Sunday there are lots of people, her boyfriend (daughters' boyfriend), but our daily life is like this, the fridge stays more closed than opened. In the weekends we use it more, it is more a beer, a juice, and to take an appetizer".

These two examples are interesting to observe in regard how time is shaped differently in weekdays and weekends how Shove (2009, 19) points out regarding distinction of practices that are done in week days and weekends. Regarding the space, which can be both the city as well the private home, they will be also influenced by practices that happen from Monday to Friday, and others that happen Saturday and Sunday, - weekdays being days of responsibilities linked to work, school and responsibilities, which promotes certain demands and amount of practices. Differently than how weekends are seen and experienced, as they are usually days where families engage more with appliances because they are at home, and it is usually a day when visitors come.

An interesting articulation between time, space and practices with appliances, is the experience of woman, aged 58, hairdresser, married with a child, and how she justifies her need of having a fridge due to the reality in which she lives, that requires the convenience of having an appliance preserving food, and how this could be shaped differently if she did not live in a big city, but on a small farm for example:

> "No (would not live without a fridge). Just if I lived in another place, maybe a small farm, a green place, a more secluded place,then I would adapt myself in a situation of not having (a fridge). But not here (in São Paulo)".

All these experiences from different households show how daily life and practices with appliances are shaped in a specific time and space. The way people experience time is shaped by these practices they engage in everyday using especially, the fridge-freezer. It is interesting to observe how many of them carry the perception that, somehow, without these technologies, life would be more difficult, they would need to buy food more

often or even change their food practices in order to afford food provision. For man, aged 40, mentioned in the beginning of the chapter, *time constraint* is a reason why he struggles to do food shopping, and he tries to manage time (or the amount of things compressed in his day) by doing it in different locations in the city, depending on where he is in his way back home. Warde et al (1998) talks about how *convenience* is linked to conducting an activity which is useful to the practical aim of an agent, where people or labor can be distributed differently, and the planning for the activity be acted out is guided by the desire of the agent in optimize its *trajectory through time and space*.

The same aspect on having lack of time of buying meat many times, man, aged 40 attempts to handle through the possibility of freezing the meat, where the freezer will work as a device to prolong the durability of food, where he also keeps frozen food, which allows him to prepare meals when is convenient. A very similar aspect was presented in the experience of the elderly couple, where other social aspects where mentioned, such as the possibility to save money when they buy meat in bulk, as well as avoiding being exposed to danger on the streets, therefore the opportunity to reduce trips to the store to buy meat many times, highlights economical, safety and convenience aspects involved in this practice.

This violence concern of the elderly couple on the Brazilian street, which is identified as one of the reasons they prefer to buy meat in bulk, avoiding shopping trips and this feeling of being exposed is not an exaggeration. In 2015 was released the "Violence Map" in Brazil, by the General Secretariat of the Presidency, National Youth Secretariat, Secretariat for the Promotion of Racial Equality in cooperation with UNESCO. In this document is presented violence in statistics of deaths caused by firearm: from 1980 to 2012, the number of fatal victims by firearms in the total population, in murders was 747.760. (Waiselfisz, 2015, 22). Between the period of 1980 and 2012 the population increased 61%, and murders by firearms increased 387%, but among youth this percentage was higher, 460%, meaning that more youths die by firearm, and the majority are afro-Brazilian youths, despite of the initial reduction caused by the approbation of the Disarmament Statute (Waiselfisz, 2015, 10).

In order to understand how the freezer has become so essential to people, and at the same time, so common in order to accomplish practices related to buying frozen food, freezing meat, buying in bulk (and having less trips to the market), it is important to

present the development of the technology over time, in this cases, the freezer, as well the idea of it as *time-machine*. Shove and Southerton (2000, 301) examines how the freezer has become a normal device in the UK, what I previously mentioned in the last chapter, which is defined by three moments – the first was about the possibility to preserve home produce in the 1970's; the second the development was in regard to the frozen food infrastructure and how the freezer is established as part of domestic economy in the 1980's, and the last phase, and very important for this chapter, the primary benefits of freezing is redefined regarding convenience in the 1990's. In this last phase where it started in mid-1980's, the freezer is redefined *as a necessary device for the coordination and management of time*, which highlights its convenient aspect. (Shove and Southerton, 2000, 304). In relation to the different freezer's phases over time and the shifts in consumers understanding of what freezers are for, today the freezer is best seen as a "time machine*": that is as a device with which to manage the otherwise intolerable demands of schedule, ordering and co-ordination.* (Warde, 1999 in Shove and Southerton, 2000, 315).

Therefore, it is important to note that concerns with schedules is a modern topic. The later part of the 20th century witnesses the increased concern with schedules, where can be noted the essence of a *hypermodern form of convenience*, that is a concern with timing, ordering and reordering of activities which forms everyday life. Then, convenience is associated with the development of the concern with schedules and time (Warde et al, 1998). Struggle with management of life and need of optimizing time were clear issues for man, aged 40, and it shows how he carries out practices engaging with appliances, especially the freezer to freeze the meat he buys for a longer period, with the intention to cope with the demands of the practices allocated in a certain space, which constitutes his daily life. Moreover, this "time-machine" freezer and the convenience the fridge-freezer promotes, which was also demonstrated in the case of the elderly couple due to security concerns and economic reasons, bring to them the possibility of buying in bulk and freezing meat, which becomes a strategy to reduce trips to the market. For the three women, aged 53; aged 43, and aged 58, the possibility of having the fridge as a way to preserve food and reduce food shopping improve their routines, as well the chance of engaging in the cooking practice when suits them, not having to provide every meal fresh, which brings the possibility of affording food for the family, but at the same time, it will not impact their "personal time". Their time can

be used to other practices that will demand other temporalities - they can somehow "count" with the fridge to prolong the durability of food in the context they are living, as well they can arrange and rearrange their cooking practices in relation to the routine and activities they have in the day. Warde et al (1998) explains how devices such as the fridge permits this reordering of time and practices, being the *fridge lied on the cusp of the modern/hypermodern boundary, where the freezer is a device of manipulating time, and it is identified as hypermodern convenience items*:

> "Among the devices permitting the reordering of time in this sense are the refrigerator which saves shopping journeys. Despite its deviant uses, its operation involves almost no labor and it allows the reallocation of time around shopping, it perhaps lies on the cusp of the modern/hypermodern boundary. The use of its cousin the freezer is, we hypothesize, more clearly a device for manipulating time. Of course, the freezer develops certain unique functions of its own – for example, the making of ice – but we would anticipate that most people would, as do its advertisers, currently consider it as a time saving instrument. It belongs to the generation of machines like the video and electronic mail, hypermodern convenience items which neither save labor nor compress time, but rather allow the re-ordering of sequential use of time". (Warde et al, 1998).

However, other aspects presented by the experience of man, aged 40, advertisement manager, single with children, is the practice of cooling drinks in a fridge that offers a "set of choices" in regard to different temperatures, times and needs. It is interesting to observe how he explains that the fridge works in relation to supposed needs he can have, as what is the right temperature for a beverage in a can, for a wine, as well how to accelerate the cooling process of drinks in high demand when hosting a party, or how there is the "right temperature" to set the fridge when leaving for vacation by clicking a button. It is clear that this fridge comes with more *convenience tools* that can adapt to the needs of the user, but somehow, these needs were calculated in the design process of the fridge, and there is no possibility for the user to interfere in the control of the temperature more than the technology offers. Therefore, the choice of controlling the temperature is limited by the technology, and how time is experienced by the practice of cooling a drink, for example, it is more dependent on how long the fridge takes to cool it than the real choice of the user to control in this timing. For the convenience aspect, it is seems amazing that the user can just click a button to the technology to adapt to the user's need. From a sustainable point of view, it is not clear what the possibilities are to

shape less energy intensive practices, as the demand of the user can be completely different on different days of the week, changing its energy consumption in relation to different social demands. This fridge with panel somehow, through this experience I present, presents a supposed possibility to the user to have more control of their own fridges cooling power or even adapt it in relation to different circumstances. What is interesting to note, is that, the program of the fridge is not available for change by the consumer/user, and the idea available by the experience is that there is much control of time and the practice of cooling a drink by the user. Then, the program of this technology has more agency in this practice than the actor, despite of the fact that it is the person who clicks the buttons – the temporality that the practice of cooling requires is more dependent on the technology.

To sustain this idea that the technology imposes certain demands, Shove and Southerton (2000, 314) quotes Akrich's (1992) saying that the freezer *has a script of its own*. Then Shove and Southerton explains:

> "From the moment of purchase on, freezer owners are obliged to behave in certain ways: they have to learn the likes and dislikes of their new acquisition (it likes ice cream, it does not like potatoes); they have to take special steps to prepare food for freezing; they have no option but to wait, sometimes for hours, before they can make proper use of deep-frozen food; and so on. Although the freezer does allow it uses to re-order shopping, cooking and eating practices, freezing, thawing and defrosting impose demands of their own". (Shove and Southerton, 2000, 314).

This idea of the script of the technology imposing demands is worth pointing out, as in the previous experience I described of man, aged 40, advertisement manager, is mentioned how he uses the fridge that has this pre-programmed option, showing the convenience of having cold drinks by clicking a button, but at the same time, it is possible to note how the technology is imposing a certain way to behave, how long it takes to have the right temperature for drinks, as well the amount of energy that is consumed by these practices shows there is an "illusion of choice". Shove and Southerton (2000) exemplify that even within households, gadgets and appliances script the action of their users, and this creates this illusion of choice while also closing avenues of possible action. (Shove and Southerton, 2000, 315).

The aspect of the freezer being able to re-order shopping, cooking and eating practices as Shove and Southerton (2000, 314) mentioned, can be observed as well in these cases I presented in this chapter. To a different extent these people are using the fridge-freezer to re-order practices around the food provision, and optimizing their trajectory in time and space in the food shopping, as in the example of man, aged 40. The elderly couple is reordering practices of buying and freezing meat, which is related to economic benefits and the perception of being safer as they do not need go shopping so often. This aspect is much highlighted in the experiences of the three women, where they use the fridge and they have the possibility to rearrange their practices around the responsibility of food provision.

How people experience time by using appliances in practices of food provision seems to be dependent on the sequences of practices they have in weekdays and weekends, and how these practices are internally structured and differentiated (Shove, 2009, 19). In two cases mentioned by woman, aged 34, and woman, aged 48, both describes that in weekends the fridge is more used, because there are more people at home, including children or there are others that come to visit them. An interesting thought about how time is constituted in weekdays and weekends comes from Shove (2009, 19) as she says:

> "…recognizable infrastructures of objective time – the day, the week, the morning routine, the annual holiday – are made so because they are made by distinctive kinds of practice. The week-end is the weekend precisely because we do things in Saturdays and Sundays that we do not do on Monday and Tuesdays". (Shove, 2009, 19).

Therefore, it is possible to say that practices around food provision happen more in weekends due to higher demand, which demands more energy in order to have practices accomplished. The idea of *social load* (Hilhite and Lutzenhiser, 1999, 281) is interesting to this situation, because it can identify levels of consumption in base and peak.

> "The loads on an energy system vary of course by time of day, day of week, and season of the year. A certain amount of energy demand ("base load") can be assumed for much of the time, while relatively short term heavy demands sometimes add considerable "peak load" to the system". (Hilhite and Lutzenhiser, 1999, 281).

In this case, the load of energy that is used in weekends is probably higher than the load that happens in weekdays. It is possible to say through this experience that there is peak load in energy consumption in the weekends due to practices that are accomplished at the households in these period, as the two women said, they use the fridge more in weekends, because all the family members are at home, and visitors also join this space.

On the experience of woman, aged 58, she does not imagine herself without a fridge to handle her practices of food provision in the context she lives. But she mentioned that she would be able to live without it in case she lived not where she lives now, in a big city, but in a context of living on a small farm. In this experience is possible to note the relationship between time and space, as there is a supposition that the daily life on a small farm would be different than in the city, and this would allow her to have different practices of food provision: somehow there is a perception that life in a big city demands more than life out of the city, and this makes sense as practices of harvesting and feeding the animals have different temporal demands than shopping and cooking engaging with appliances, as well the social contexts are different. Others experiences of this chapter, as from man, aged 40, woman, aged 43, and the elderly couple present the need of having appliances to handle practices in this context of a capital city, where life seems to be hurried and the public space can be violent.

5.3 Conclusion

Given these ideas, practices engaging with appliances create demands of time to be accomplished, and they influence how time is experienced by people every day. Cooking practices that many people experience daily create the demand of having time for food shopping, to cook the meal and have it with others, which demand coordination and can be reordered by the fridge-freezer. As I have mentioned in this section, time seems an important feature in the organization of the everyday life of 9 of my interviewees that mentioned it spontaneously during the interviews, and the fridge-freezer seems to be a convenient appliance to keep food for a longer period, without having the need to go shopping so often, allowing people to buy meat in bulk and defreeze when needed (avoiding danger and saving money, as the case of the elderly couple), beside the aspect presented in the cases of the three women, that can cook when is convenient and keep food for the next day. However, this current “convenience

thinking" on practices that are allied with these hypermodern convenient technologies promote the demand of more energy to them be accomplished, and this is problematic from a sustainable-environmental point of view. How these practices with different appliances are carried out will be developed in the chapter where I talk about the regime of technologies.

6 Fridge, freezer and microwave: the regime of technologies and its implications for food consumption and provisioning practices

This chapter is focused on the usage of the fridge, microwave and freezer together in daily practices. In order to understand how practices of food consumption and provisioning are formed and how they can actually change, I have reflected on the way people engage with different appliances. The usage of the appliances is linked in practice, which is known as the regime of technologies, where one appliance promotes the demand of using another. Practices on this usage-consumption happen with the combination of these different technologies that are at the kitchens of middle classes households in São Paulo. Wilhite (2008, 65) already presented this regime through his research in India, highlighting how the fridge, microwave and freezer constitute a mutually reinforcing regime, which is very agentive in terms of how it has influenced changes in food consumption practices. Sahakian and Wilhite (2014, 28) through Wilhite (2013) explains that the way we shop for food on a daily basis, how we clean our bodies and homes, and how we get around are accomplished without much need for reflection. However, these habitual practices have become energy and material intense in affluent societies, and they share this characteristic of being anchored in habitus and resistant to change.

Throughout this chapter, I show how different households presented practices involving more than one appliance in order to accomplish a task, as a meal or drink at the kitchen. These practices are related to warm leftovers, defrost food in general and prepare frozen food, warm drinks (particularly milk), as well to defrost meat and beans. In this chapter I highlight the environmental impacts of food consumption. Then I discuss how combining different technologies is linked to ideas of making tasks more efficient and practical. Further, I discuss how certain practices can actually make time (Shove et al, 2012, 129), explaining how the usages of appliances create a certain demand of tempo of their own, analyzing the combination of different technologies under a radical perspective, showing the implications of these practices that are under this regime of

technologies. Practices with appliances' usage in sequence create a certain temporality, which influences on how people experience time in their daily life through their practices. The combination of elements in the practice, such as appliances that are under the regime of technologies - which are the material, plus the body and the social world, shape the practice. It is important to consider how these different elements relate to each other and form the practice in order to influence on energy intensive practices and unsustainable food consumption practices, and I address some possible avenues to promote change.

6.1 Combined practices involving the fridge-freezer and microwave

All 17 households that I visited and interviewed owned these three different appliances in their kitchens, the fridge-freezer and microwave. I did not find any household with an individual freezer, just fridge-freezers. With regards to different practices around these appliances' usages by people, I have encountered diverse frequencies on the usage specifically of the microwave, by people that engage more or less with this appliance in relation to their practices at the kitchen, but it is interesting to observe that the microwave is placed close to the fridge-freezer at the kitchen even when it is not so used as the fridge-freezer or cooker, for example.

My interview design included questions on the daily usage of the fridge, freezer and microwave. Participants were able to remember and explain how they engage with appliances in combination, with the exception of just 3 participants. In some cases, I had to repeat the question and ask how in practice they engage with these appliances in sequence, as some participants had straight answers explaining that it is a "usual" use, but when they were enquired with questions how practices are actually carried out, in a simple way, they were able to explain these practices. The fact that people do not remember at the first moment how they engage with appliances every day exemplify how these appliances are usually taken for granted, and people do not reflect much to accomplish a task as much of their performance becomes automatic after learning how to accomplish a task, and it becomes fixed in habitus, which I have explained in the theoretical framework chapter, as "a domain of predispositions for action, created and perpetuated through the repeated performance of actions in given social and cultural

space" (Wilhite, 2012a, 88). However, the way people engage with appliances is part of the practices of food provisioning and consumption, and it has implications for electricity consumption through the technologies that are implicated in the practice, for example.

In this section I investigate the usage of the fridge, freezer and microwave by the sample households in order to demonstrate cases of regime of technology, and these appliances were at the kitchens of the whole sample. Households presented some different practices: take leftovers from the fridge and warm it in the microwave; take food that was kept in the freezer and defrost it in the microwave; take milk that was kept in the fridge and warm it in the microwave; take frozen meat from the freezer and defrost in the microwave; take frozen beans from the freezer and defrost it in the microwave; prepare frozen food in the microwave. 14 of 17 the households presented answers on these appliances used in combination, having at least one combination of practices that I have described. In order to demonstrate the regime technologies by these practices, I use experiences of the households that have presented more than one practice with these appliances.

6.1.1 Warming leftovers, defrost food and warming drinks (particularly milk)

The first example is the case of woman, aged 34, lawyer, married with kids. When I asked if she uses the fridge, freezer and microwave in combination, and how it is, she says that she uses it to warm dishes (leftovers), as well to defrost food. She explains that she does not use the microwave to cook dishes, and associates that the fridge is an appliance that is always turned on:

> "I use (the microwave) to warm dishes, as well to defreeze food. I do not use the microwave to cook dishes, as many people do. But as the fridge is always turned on, it can be that we use (the appliances together).

It is important to point out on this case that this woman presents practices on warming dishes in the microwave (leftovers), which means that the food cooked was kept in the fridge, and the same happens with the food she defrosts, as it was necessary to take food out of the freezer and defrost it in the microwave. At the end, she also complements saying that the fridge is an appliance that they never turn off at the household, which

implies as well that every time when the microwave is on use, the fridge-freezer is working to keep the food this family needs.

This aspect of the fridge-freezer as an appliance that is always turned on at a household was also presented in answers of other households when I asked how people use these appliances together. In five different households some participant realized this aspect of the fridge and associated that the appliance is working all the time to preserve food, even when they are not actually performing an action with the fridge. For them, this aspect means that even when they are not engaging with the fridge in itself, and the microwave is on use, they recognized as they use these appliances together.

This aspect was also presented in the household of woman, 58 years old, hairdresser, married with kids, the mother, and daughter, 27 years old, physical education teacher, single. When I asked how they use the appliances, the mother answered that the fridge is always turned on, and she uses the microwave in relation with what she is cooking in the day. In this household they usually use the microwave to warm food and drinks with milk, and they do not use it to cook dishes for example. The microwave seems to be important to some part of the cooking process, as well to warm leftovers. At the same time, the fridge takes its role as the leftovers are kept there before to be taken to the microwave, showing the regime of technologies happening in practice. The same practice happens with the milk that was kept in the fridge and it is warmed in the microwave, in order to become a coffee or hot chocolate.

When I asked at this household of three people how they use the fridge, freezer and microwave together, the mother said:

> "The fridge is always on. The microwave I will use in relation with what I will cook in the day. I usually do not cook much elaborated dishes in the microwave, it is more (the microwave is more used) to warm food, milk, coffee with milk, hot chocolate".

This practice on warming milk in the microwave was mentioned as well in three more households during the interviews. With regards to the consumption of dairy products in general, 12 households mentioned spontaneously in different parts of the interviews to consume milk, cheese, yogurt and butter. These products were mentioned in answers related to the importance of the fridge to them; if they would be able to live without the

fridge or when describing how a day using the fridge is, which demonstrates how practices of cooling include the consumption of these products and the fridge. It is already recognized that household consumption in most countries makes 60% or more of life cycle impacts of final consumption, being among the products groups which have the greatest environmental impact, and in less developed countries and emerging economies within household, food and housing dominate greenhouse gas emissions. (UNEP, 2010, 60-61) As I present in this chapter, many practices involving different appliances as the fridge-freezer and microwave include the consumption of milk and meat, and it is important to mention that animal products, including meat and dairy implies the use of more resources and cause higher emissions than plant-based alternatives. (UNEP, 2010, 79) There are other practices around specific foods as red meat and beans involving more than one technology that are going to be analyzed next.

6.1.2 Defrost meat and beans

The practice of warming milk and more practices related to food - where is also possible to observe the regime of technologies - are present in the case of this couple, man, aged 48, engineer, married with kids, and woman, aged 43, administrative manager, married with kids. In this case is possible to note the combination of appliances usages in sequence: on warming food in the microwave (leftover that was kept in the fridge), warm milk fast (that was kept in the fridge) and defrost frozen minced meat (that was kept in the freezer). They also said that they do not use the microwave to cook dishes, but it is seems that they engage with it in part of the cooking process, as for example with the minced meat, and they mentioned about the aspect of the fridge that is on all the time. In this case it is interesting to observe that the couple express they do not use the microwave so often on daily basis, but at the same time, they present practices where they engage with the appliances in combination, presenting the need of accomplishing tasks with more than one appliance, which can be seen as an example of the regime of technologies that I have mentioned.

When I asked to the couple how they engage with the fridge, freezer and microwave together, they said the fridge is always on and the microwave is always on too and plugged. Then they described what they do with the appliances:

> Man: "We do not use it (the microwave) too much. It is more to warm milk fast. We do not use it (the microwave) to cook, for example".
>
> Woman: "The only thing I do it is to defrost minced meat, actually. Our daughters use it (the microwave) to warm food (leftovers). The sequence is basically that, because I only defrost minced meat. (...)"

In this case it is possible to observe that the fridge takes its role in keeping the food, especially the leftovers that become lunch for their daughters in the next day, as the mother is not at home and cannot cook fresh food many times per day. After, the microwave in combination with the fridge has an importance of warming this food that is eaten by the kids when the parents are not home during the day. The minced meat shows a certain practice that the woman has on defrost it, engaging with the microwave to defrost the meat that was kept in the freezer. She also mentions that she defrosts other kinds of meat in the fridge, but not minced meat. It is not clear why this specific meat is not defrosted in the fridge; however what it is interesting to note is the usages of different technologies in order to accomplish the task of cooking this specific food.

Practices on freezing red meat and consumption of this specific food were also presented in 6 more households in different parts of the interviews. In another interview, the participant also mentioned to defrost frozen red meat in the microwave in order to facilitate the cooking process of the meat. When I asked the man, aged 40, advertisement manager, single with kids how he uses the appliances together, he mentioned the practice he has with frozen food and red meat. It is possible to observe that he mentioned the practice of taking a frozen food or red meat out of the freezer and put them in the microwave in order to have something faster to eat. I have elaborated on how life nowadays is experienced as hurried by the interviewees, the convenient role of appliances in the management of the daily life, and the implications of it to appliances usage-consumption on the chapter of Time and Space.

In regard to meat production and consumption in Brazil, it is worth to cite that the country is known as the world's second largest beef producer and the world's largest beef exporter (de Carvalho et al, 2014, 1). The research of de Carvalho et al (2014), shows trends in meat consumption and the percentage of excessive red and processed meat consumption in the last decade in São Paulo, where it was found that daily red and processed meat consumption was higher in 2008 than 2003, and almost the whole

population consumed more than what is recommended by the World Cancer Research Fund (de Carvalho et all, 2014, 1).

Meat is a typical food within Brazilian eating habits and is desired by most of the population. (de Carvalho et all, 2014, 3). Beyond the red meat, it was also presented the same aspect of freeze and defrost beans. Beans are a staple in the Brazilian meal, usually eaten with rice, some meat and salad. 3 of the 17 households mentioned practices on freezing and defrosting beans when I asked about practices with the three appliances together, and more 4 households mentioned practices on keeping beans cool or frozen in different parts of the interviews.

In the household of this man, aged 64, retired and married with a kid, he considers that they perform a high usage of the microwave, and it is possible to observe that the fridge-freezer is also present in some part of their practices with the microwave. He explains that his family and he do not use the microwave to cook dishes, and they use it a lot to defrost food and warm leftovers. The practice on frozen beans happens when he cooks beans for 10 days, put it in many small pots, and then he put them in the freezer. When he notices that the beans that are in the fridge is finishing, he takes the frozen beans of the freezer to defrost in the microwave. Then, the fridge will be useful again to preserve the beans leftover and food in general, as he describes:

> "We use a lot the microwave here in our home. The microwave is not used to cook food; I do not know how to make. Some people know to cook rice in the microwave. I do not know how to cook anything in the microwave. I use it a lot to warm food or defrost. In this sense that I am saying, for example, when I am preparing some beans, I cook beans for 10 days. I put it in many pots and take them to the freezer. When I see that the one in below (in the fridge) is finishing, I take one from one from the top (freezer) and put it (beans) to defrost in the microwave. The microwave is used basically in this sense, to warm food, like dinner. We eat leftover from lunch in the evening, and complement it with something more. So we do not warm everything, usually each person serve your food in a plate and warm it".

On this answer it is interesting to observe that this man notices they use the microwave in different practices at the kitchen, and consider them as a high use, even not using the microwave to cook dishes. On the description of the practice, he is also able to articulate two different practices as freezing cooked beans and defrosting it in the microwave with

certain naturalness and idea of normality. The same naturalness is present on the description of daily practice on warming individual plates in the microwave. These two examples presented by him show the habitus (Bourdieu 1977, 1988 cited in Wilhite, 2012a, 88) that is much attached to his cooking and eating practices with the usage of more than one appliance to accomplish tasks.

The same practice on defrost frozen beans in the microwave was found in the household of a family with 4 people, and 3 members participated in the interview. The mother and daughter answered on their usage of appliances in combination and their daily practices. They also realized the aspect of the fridge that is always turned on and the small practices they have with the appliances. They cited to warm milk in the microwave, which seems to be a practical way to warm drink, warming just the amount of milk that is going to consumed in that moment; warm food (leftover) in the microwave; also cited that they do not use the microwave to cook dishes, but use the microwave to defrost red meat and frozen beans.

> Woman (daughter), aged 27, auxiliary personnel department, single, said: "The fridge is always turned on, right? Every morning I warm milk in the microwave. Every day".
>
> Woman, aged 49, maid, married with kids said: "Sometimes (I warm) a food dish, milk. We do not use it always too much, we use it (the microwave) every day, but not that thing of cooking rice in the microwave, I do not cook a dish in the microwave".

Then, she complements:

> "It is more a mistura (red meat) that I will buy and I will not cook in the same day, then I freeze it. I cook a kilo of beans each time and I freeze the half, then when this half finishes, I defrost the other half".

It is important to point out here that the same pattern of practices cited in previous interviews on warming milk that is in the fridge and it is taken to the microwave happened, as well the same practice of not cooking dishes in the microwave, but engaging with the microwave in some part of the cooking process, in order to defrost red meat and beans, or to warm food (leftover) that was in the fridge previously. Again, the fridge takes its role combined with the usage of the microwave, as it was important to keep the milk and the leftover that are warmed in the microwave after; the freezer's

usage is also combined with the microwave in order to keep frozen beans, meat and frozen food that are defrosted.

6.2 Discussion

In order to discuss the cases presented in this chapter, it is possible to observe that there are different practices on the usage of more than one technology by people in order to accomplish their tasks on cooking and eating, all at the space of the kitchen. To contribute to the discussion of regimes of technologies, where different technologies are used in sequence, as it was demonstrated through the cases, I bring the idea of "innovation junctions" (Wit et al, 2002 in Hand and Shove, 2004, 237), where the author explains it as sites in which "location specific innovation patterns" arise because of the ways in which technologies interact. It is presented by Wit et al (2002 cited in Hand and Shove 2004, 237) that in office settings, for example, the existence of one technology as the typewriter had implications for the development of others, as carbon copying, dictation machines, and so on.

6.2.1 Practices involving different technologies and the idea of facilitating a task

In cases of the kitchens I visited, that are key elements to be mentioned as the existence of the fridge-freezer and microwave in all households, even with the fact that people engage with these appliances in different frequencies. This relates very much with the example from office settings of Wit et al (2002), and the idea about the existence of one technology having implication for the development of others, which brings insight on this contemporary regime of usages of the fridge-freezer and microwave in sequence at the space of the kitchen, known as the regime of technologies.

This research shows that people are engaging with these appliances in certain ways in order to cook and eat. Aside of these two elements, technologies and people, there is a meaning on time, which seems to be an important factor influencing usage. Time is seen as lacking in people's routines and routines are often experienced as squeezed in contemporary life, which in turn influences the way that people engage with appliances,

in order to achieve certain goals in their kitchen and in the management of their daily life.

I have developed in chapter 5 on the topic of Time and Space, and those insights can also contribute to this discussion of combining the usage of different appliances to facilitate a task, as in the example of practices with the microwave to defrost food in order to accelerate the cooking process. As well, to have the fridge-freezer as a way to preserve food, having the possibility to stock leftovers and warming them in the microwave later, or to defrost something to eat fast.

At this point, it is possible to note that the space of the kitchen with these three appliances available for people that carry out practices on defrost beans and meat, prepare frozen food, warm milk and leftovers, and keep all that in the fridge-freezer, reflects-and-make a social world that is also hurried. Life at the household level and practices are undertaken in certain ways as people need to accomplish routines that are demanding many activities indeed, but I will demonstrate further in this discussion how practices at the kitchen are also making a temporality that is part of the social world. The first point is that fridge-freezer and microwave seems to come to people's kitchens as a pack to facilitate and improve squeezed routines, promoting certain convenience on practices of cooking and eating, as it is possible to see by the experiences of the interviewees and their usages with appliances in order to facilitate tasks. But how we can analyze this urgency of using appliances in sequence in a different perspective?

6.2.2 Time is something that "practices" make

To examine this *urgency* of having appliances working in combination to accomplish cooking and eating practices efficiently, another understanding of time seems to contribute to this discussion. As I have mentioned previously in the chapter of Time and Space, Shove et al (2012,129) talks about the temporal aspect and sequences of practices, and this framing is the most radical in their view, suggesting that rather than competing for time, time is something that "practices" make. They give the example on practice like baking bread, and how its temporal qualities are difficult to avoid, as the temporal sequence of this specific practice is born of the practice itself - there are the timing necessary for each step of the cooking task, the rise and rest of the dough, plus the necessary time to bake the bread inside the oven (Shove et al, 2012, 129).

In this sense, practices that people carry out such as cooking and preparing meals with appliances have temporal sequences that are difficult to avoid. In practice when defrosting food, for example, it is necessary to take food out of the freezer and put it in the microwave, then there are the minutes necessary to prepare each plate, combined with the power of the microwave that needs to be adjusted; to warm a specific food or drink, first it is necessary to take it out of the fridge, then there are the minutes necessary in the microwave to have these tasks accomplished. Practices involving different appliances as fridge-freezer and microwave have temporal qualities and sequences that are created by the practices in themselves. To accomplish certain tasks at the kitchen, people engage with different appliances, which have an influence to certain sequences of practices, and these practices make the temporal sequence that is needed to have a meal or drink done.

To make it clear, Figure 7 shows how elements shape the practice, in this case with the preparation of frozen food, and I discussed about this kind of consumption in chapter 4, where I talk about convenience: the actor is the element of the body; the technologies fridge-freezer and microwave (that are under a certain regime), plus the frozen food with its structures of food provisioning and markets are the material world, then there is the social world that is implicated in this practice, which are the meanings involved in this practice, which can be ideas of facilitating task, convenience, how life is perceived as hurried; or even the rules and orientations towards this kind of food preparation. This practice related to frozen food preparation makes its own temporal sequences, and the combination of all these elements make some part of how time is experienced by people in the daily life.

Through the examples presented in this chapter, it is possible to see how people engage with appliances together in daily life at the kitchen, having all the three appliances mentioned at their kitchen. As presented earlier, households reported practices as defrosting food, to facilitate the cooking process; warm food or drinks in the microwave, particularly milk. They engage with appliances in combination, which brings insights on the regime of technologies where one appliance creates the demand of having-using another in order to make the task more efficient and convenient.

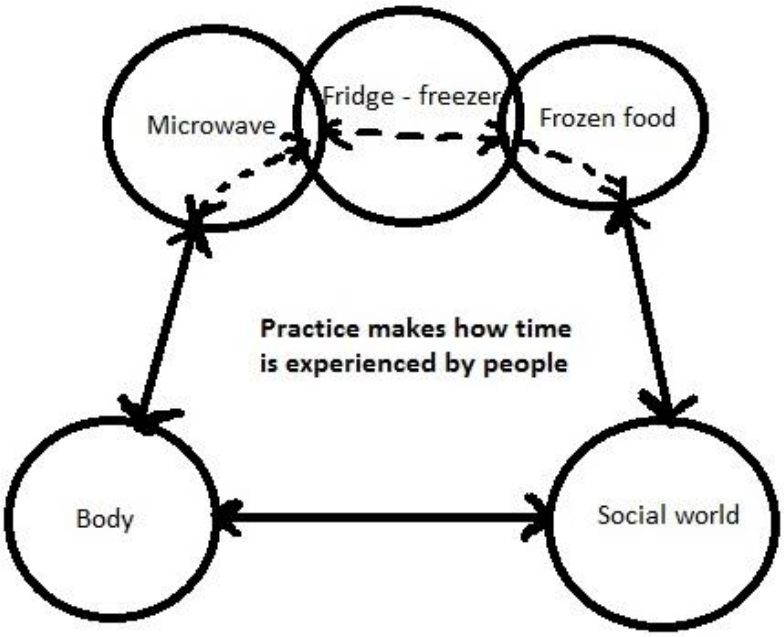

Figure 7 - Elements linked in practice and how time is experienced by people in the case of frozen food (Credits: Nina Maria).

This idea of usages of different technologies and the idea of making the task more efficient was presented in the work of Wit et al (2002, 58) where they present the case of how the presence of the typewriter in the office of Netherlands had implication in the emergence of others technologies, and these technologies interacted together, where sales agents and importers of office technologies picked up these interactions indicating the efficiencies created by the using of different technologies combined to reinforce their sales. This is an interesting example to examine the emergence of the fridge, freezer and microwave, as the appliances came to people's household in different periods contributing to change practices. It was possible to have a glimpse of this by the experience of the elderly couple case presented in the first chapter where I discussed about the convenience related to frost-free technology. I will reflect in more depth how they changed fridges over time in the next chapter about life expectancy of the fridge. The elderly couple purchased different fridges over time, their first fridge did not have a freezer and they purchased the second due to this technological change and the need to have a freezer. Their microwave was purchased 15 years ago, which also shows that these appliances emerged in different periods, bringing with them a technology that could exert influence on practices at the kitchen.

This kind of sequences on practices involving different appliances in order to make cooking more efficient or convenient seems to be a good strategy in a social world where there is a common sense on the idea of no much time available in people's routine in São Paulo and generally in the world. However, I argue that practices make their own temporalities in combination with different elements, and this also makes the social world and reflects it.

6.2.3 The problem with routinized practices and ways to promote change

The main idea developed in this chapter was to show how practices that are formed with the usage of different technologies, which are under a certain regime, make temporal sequences - as Shove et al (2012, 129) has demonstrated in some practices as baking bread. These practices that are accomplished by the actor with the need of using appliances combined, lead to a certain rigidity in the dynamic that these practices happens, what can be called as routinized activities (Sahakian and Wilhite, 2014, 26), which it makes difficult to find an alternative strategy on the way that practices are carry out by people. The problem with those practices involving different appliances combined, their sequences and this rigidity is that, these practices in the daily life can be very energy intensive, and in many cases are not perceived by the actors that are undertaking those practices. (Sahakian and Wilhite, 2014, 28)

However, it is recognized that changing more than one element on this model can exert influence on how practices are formed. Technology, for example, goes to people's places with scripts and the same time, those scripts will influence on the way people will carry out practices:

> "Our dispositions towards getting around, heating and cooling our homes, and eating foods – all highly relevant areas in terms of environmental impact – are directly affected by the power of infrastructure and technology to act upon our actions. People are "carriers of a practice" (Reckwitz 2002), but technologies are also scripted with a set of dispositions that have the potential to shape practices and in turn be shaped by practices – beyond what was originally planned in the technology design phase". (Sahakian and Wilhite, 2014, 29).

Manufacturers can influence on patterns of consumption and how practices are going to be shaped at the household, as they produce the product to people. If those practices are energy intensive and unsustainable, as presented earlier, one possibility could be to change the scripts of technologies in general, but even more in the appliances that are under the regime of technologies, as they are working in sequence to accomplish a task, demanding more energy. Promoting a change in the script of the technology can exert influence on how these practices with different appliances are shaped, promoting less energy intensive practices of consumption, contributing to the environment and Climate Change.

Another possible intervention could be by the national policy makers, who can promote a change in more than one element of practices related to food consumption and appliances acquisition-use, for example. Shove et al (2012, p. 14) explains that during activities such as driving, walking or cooking, people combine the elements of which these practices are made: the material (things, technologies, etc.); competences (skill, know-how, and technique); and meanings (symbolic meanings, ideas and aspirations). However, to exert influence on practices it is necessary to have a change in more than one of the three pillars of habits, how is presented by Sahakian and Wilhite (2014, 28), by the body, the material world and the social world, very similar with what Shove et al (2012, p.14) explains in regard elements of practices.

With regards to the middle class engaging with appliances in sequence to accomplish a task, practices related to freezing and defrost meat are important, involving the freezer and microwave technologies. Trips to the butcher shop to buy this meat can be rearranged due to the possibility of freezing the meat and defrost it when convenient, what I have discussed about in the chapter of time and space. Other practice highlighted here was the one related to warm milk in the microwave, what seems to be related to a practical way of warming a drink, having just the desired amount of milk already in the cup. Therefore, the regime of technology is linked to ideas of convenience and practicality, which seems to reinforce the need of having appliances working in combination. Other practices in which is possible to look on the regime involving these appliances were related to warm leftovers and have the possibility to have a meal when suitable, letting food prepared for the kids in the next day, for example; as well practice related to freeze beans and defrost it when convenient; and one more time, is mentioned

frozen food, which highlights the intrinsic need of having these appliances in combination, as these food are made to be kept in the freezer and prepared in the microwave. The social world where these practices are accomplished is in a big city, where people experience time as hurried and for some of them the street is even dangerous, what I discussed previously.

Applying the practice theory approach to the findings in this chapter, a policy could be focused on meanings people have of buying food that needs to be frozen or cooled as processed meat, dairy products, and frozen food, by for example, the spread of information of how these products impact the environment in order to raise awareness towards more environmental friendly consumption of food; and a policy on the material aspect of the fridge-freezers and microwave in themselves, through changes in the script of the technology which can limit the demand of energy, influencing on how people engage with the appliance; or even a policy on health that could promote courses across the country, at schools and among the health sector, teaching in practice how to cook reducing red meat and dairy products and the real benefits of that to people, as well different ways to preserve food, as fruits and vegetables that many time do not really need refrigeration, could have an effect on the pillar of competences or know-how, and combining more than one of these changes can influence on how practices are accomplished at the kitchen. Different practices can emerge by these changes in the pillars of habits, which can make different temporal sequences, and the combination of the quality of these new elements will have an effect on how people experience time in the daily life. These changes can also shape the social world, they can shape meanings on how time can be experienced by people, questioning the general idea that time is something that is lacking in the world and generally in people's lives. As it was shown in this chapter, are the practices and the combination of their different elements that, in fact, are making temporal sequences, and influencing on how people are experiencing time.

6.3 Conclusion

In order to conclude, the regime of technologies was presented by different practices people accomplish with the usage of the fridge-freezer and the microwave together at the kitchen, and these practices were mainly related to defrost food as red meat and

beans, in order to accelerate the cooking process, as well to warm milk and leftovers, or prepare frozen food in the microwave. Then I articulate how these appliances come together to people's places as a pack to facilitate tasks and improve routines that are lacking time and are squeezed by the management of many activities. Further I question this contemporary urgency on having these appliances in order to facilitate tasks presenting a radical view of time through Shove et al (2012, 129), with the idea that actually time is something that practices make. I showed how the relationship of the different elements, as actor and technologies that are under this regime, plus the social world creates temporal sequences of practices, and this combination contributes to how time is experienced by people in daily life. I presented that the idea of having appliances combined to make tasks more efficient is not new, citing the example of the office settings, and I presented the problem of having routinized practices using appliances in combination. The problem is mainly related to how these practices at the household level are becoming energy intensive, which brings to the fore the responsibility of the country to achieve sustainability including people, being necessary to address everyday energy intensive practices. Focusing in more than one pillar of habits can exert influence and promote change on how practices are shaped. I presented examples focusing on meanings people have on buying food that need to be frozen or cooled as meat, milk and frozen food; or changing scripts in the technology in itself by the manufacturer, addressing the material aspect; or even a national policy that creates mechanisms to promote courses across the country teaching on how to cook healthy, showing how to preserve food including fruits and vegetables, without much need of mechanical refrigeration, addressing the competence aspect of elements of practice. Those insights can be useful in order to address ideas of how time is experienced by people today and the perception of having squeezed routines, can actually be reshaped by the change in elements of practices using appliances in the everyday life: practices can become less energy intensive and maybe people will notice that they have more time to enjoy life.

7 Fridge: is it a long lasting appliance?

This chapter aims to investigate what are the factors influencing people's decision when purchasing a new fridge and disposing of the old one. Fridges are considered to have a long life expectancy (Rees, 2015, 27). However it is possible to see through the experiences of the interviewees that many times people decide to purchase a new fridge it is due to family cycles, such as moving to a new place, or the family getting bigger with the arrival of a child; or even due to technology changes over time, where the freezer and frost-freezer technology are recent developments of the fridge. Social identities, for example, can also influence the decision making when purchasing a new appliance in order to avoid being seen as an outdated person by others, etc. I also investigate when people consider a fridge obsolete, as well as what are the possibilities to repair the fridge when experiencing a problem with it. This is an important topic due to the fact that household waste is arising from unsustainable consumption patterns (Cooper, 2004, 421), which is relevant, to address and understand as there is the urgent need of nations to achieve sustainable development, reducing consumption that goes beyond of the world's ecological means are part of this agenda. (WCED, 1987, 44).

7.1 When do people change fridges?

In order to understand practices around the cycle of acquisition, using and disposing of the fridge in the households, in the interviews I included questions about the longevity and durability of the fridge, for example when it was bought and if the fridge has been repaired over time. It also included questions related to the decision of the participants on the purchasing of a new product, as when it would be the time to buy a new fridge, and when it was necessary to change the last fridge for the current one, what happened with the previous fridge and so on.

Indeed, I found out from the experiences of some of my interviewees that the fridge can be a long lasting device. 9 households from the 17 I visited own a fridge that is between 7 and 13 years old. In one of these households, I encountered a young woman, 21 years old, administrative assistant that began living alone recently, and has inherited the old fridge from her parents, where this is the first fridge she remembers in her household;

and in one specific household I encountered two fridges both long lasting. On the short time side, 8 households I visited own a fridge that varies from 3 months to 5 years old.

It is possible to find the same information on the long life expectancy of the fridge in the literature, that the fridge has been a long-lasting appliance. It seems that in 1920, the American refrigerator lasted 6 years on average, and that durability has been increasing over time, as by 1938 the longevity increased to 15 years. Today it seems that the average fridge will last between 14 and 17 years. (Rees, 2015, 27).

Here it is important to note that I have divided the ownership of the fridge in to two different categories: long time of fridge acquisition that is between 7 and 13 years old; and short time of fridge acquisition those between 3 months and 5 years old. I have not encountered any fridge that is more than 13 years old, despite the experience of the 21 years old woman, administrative assistant that presents the experience of having a fridge since she was child, but did not know exactly when the family had purchased the fridge.

This experience of having a fridge for a long time seems important to analyze in order to understand, why people buy a new fridge and dispose of the current one before it breaks. Here I will present examples of this kind of practice from different households, specifically on three interviews as they are clear in terms of how long people have continued using their previous fridge and why they have decided to purchase a new fridge. An aspect these three households have in common is that, all of them have children and had a family routine during their lifetime. All these stories provide an insight into what is considered obsolescence of an appliance, which can vary from household to household, depending on different factors. It is possible to observe through the reasons why these three families changed their fridges for a new model, despite the fact that the older fridges were working fine.

7.1.1 Technology change over time: freezer and frost-free technology

I begin with the experience of an elderly couple, man, 74 years old, retired and woman, 68 years old, housewife. They live in a house with 105m2 and have purchased their current fridge 3 years ago, which I consider as a short time of fridge acquisition. They say that this fridge, GE brand was chosen due to its model, and the first fridge in their marriage was GE, which lasted longer than the second fridge, and they decided to have

a new one from the same brand. The second fridge has lasted 23-24 years with no repairs during this time, and it was working well, but they decided to buy a new one because this fridge did not have the frost free technology. They were looking for frost free technology for the new purchase, as they explain it was necessary to defrost the fridge every three months due to the ice layer and associate it with the work involved in the activity:

> Man: "We have chosen (the current fridge) at the store, then I came home and bought it on the internet, because it would be cheaper. The fridge and the cooker. The other fridge was good, it was working, but it had a problem, it was freezing everything inside. So every three months we needed to defrost the fridge, take everything out and defrost the fridge. The fridge (the previous) did not have this automatic defrost. Then I gave it to my nephew, and it is working up to today there".

Within three months of buying their current fridge with frost free technology it began to present problems. As the fridge was under warranty, they contacted the company, who in turn repaired the fridge. However this took a month leaving the couple without the use of the fridge, they associated inconveniences, of having to take food to their daughter's place, because she lives close to them. This elderly couple expected the current fridge to last at least 10 years but it has already caused dissatisfaction. They then presented their whole fridge purchasing history and the longevity of the fridges during their marriage. Indicating that usually a fridge is expected to function and be long lasting, and not bring so many inconveniences as the current fridge has given them. When I asked when is time to buy a new fridge, they said:

> Woman: "This fridge needs to last at least 10 years…"

> Man: "The first fridge lasted more (than the second). The second lasted between 23, 24 years. The first fridge did not have freezer, it was just a fridge, and then we changed because of that. We bought the other (second fridge) because (the first) did not have freezer. The fridge I gave to my nephew (the second) lasted for 24 years and it is good, but it was forming ice, and this one (the current) I bought 3 years ago."

During their whole married life, they have purchased three different fridges. The first the longest lasting, lasted more than the second fridge which they used for 24 years. The first purchase was just a fridge, without freezer, because they said that the freezer did not exist in that period, and it was GE. Then, they wanted to have a freezer and

purchased the second fridge, a Westinghouse fridge-freezer. The first fridge they took to a house they have in the countryside and continued to use it until it had problems with the gas, breakages and rust. The second fridge lasted also for a long time, around 24 years, until they realized it would be better to have a fridge-freezer with a frost free system and not spend so much time defrosting and clean it. They gave the second fridge that was working fine to their nephew and acquired the third fridge, which is a frost free fridge-freezer. Despite the many problems they have had with the current fridge-freezer, they say that this one is better, in terms of having the automatic frost free technology and avoiding the time spent on this defrosting and cleaning activity.

It is interesting to note in this case that, they purchased fridges overtime due to technology change. As their first fridge did not have a freezer, they purchased the second with freezer. When they realized it would be better to have a fridge-freezer with frost free technology, they purchased the one they have today. With regards to the fridge's technologies changing and its development in Brazil, in 1969's was released the first fridge with a "Super Freezer", and this first model release of fridge with freezer was made by Consul. Then, in the 1990's the microwave was introduced to the market from the same brand. In 1983 the brand Brastemp released the frost-free model, a system which prevents the ice layer formation inside the fridges (Di Rienzo, 2006, 74-75).

Analyzing the entire sample, looking at the long lasting aspect of the current fridge, that people have, were encountered in 9 of the 17 households I visited, the fridges were purchased between 7 and 13 years ago, as I mentioned earlier. 5 families from these 9 households also presented the long lasting property of some of their previous fridges. Just 1 household (with a 3 years old fridge) - which I consider short time of fridge acquisition - of the 8 households where I have encountered new fridges (varying from 3 months to 5 years old), had a long lasting experience with their previous fridge. On these 7 households with new fridges, it is not clear if they had a long lasting experience with the previous fridges.

7.1.2 Social identity: family life cycle

In regard of families with long lasting experience with their current and previous fridge I present the case of a woman, aged 53, engineer, married with two children in the

household. Her current fridge is 8 years old, and has never presented any problem. It is a frost-free fridge freezer. This current fridge, she says was purchased due to the need of requiring a bigger fridge with freezer, as her family increased. The previous fridge they had lasted for 17 years and they bought it when they married, it was smaller and was not frost-free. They were also moving to a new apartment and their family was getting bigger, which seems to have contributed to the need of requiring more freezer space, besides the convenience of having the frost-free technology in the new appliance. This woman said:

> "…Now is like that, I do not think about buying another (fridge), because my family remains the same size. This one we bought by the need of having a bigger (fridge-freezer) size. So we needed more space to keep things. But I would just buy a new one in case of a defect".

Additionally, when I asked when it was time to buy a new fridge, and what happened with the previous one, she explained about the moving aspect, she focused on the need of having a bigger fridge, and the fate of the older fridge:

> "It was because we moved apartments. The last (fridge) was already 17 years old, it was not presenting any problems, but the size was not enough. It was the necessity to have more space. Today I would just buy a new one in case of defects. The last one went to my father's apartment at Guarujá (the beach area in the state of São Paulo), because the one in his house was presenting problems, and then this one from my place went there".

The same aspect of having purchased a fridge when the family moved to a new place and the family was getting bigger, was found in a household of a man, aged 64, retired and married with an adult child living at home. The current fridge they have is 12 years old, what I have considered as long time of fridge acquisition and consequently, it is long lasting, though it has required some repairs. They are married for 31 years, and this is their second fridge. Their previous fridge that was smaller, had an outdated design, but it was more efficient, lasted for 15 years and was working fine. They bought it when there were just two of them, but when their son was born, they needed to purchase a bigger fridge:

> " It was when we moved to here, and the fridge was 15 years old. Then, when we moved, the fridge was still working, it had not any problems, but it already was 15 years old, and the design was outdated… Then my wife said like that "Ah…now we are moving to a new place, let's change the

> fridge". Then we changed the fridge. The other we donated to charity, you know? But it was great (the older fridge), did not have problem, you know… Like this one (they have today), it is working perfectly fine."

Another aspect that is important to observe, it is that the current fridge 12 years old of this family is already being substituted by a new version. As man, aged 64 is moving with his family to the countryside, the house is already finished and the appliances were purchased. There are not many details about the new appliance, but it is described as "other kind", with control of temperature in the door (suggesting that it is the same kind of fridge I have presented in the case of the advertisement manager in the chapter 5 of Time and Space), which brings ideas on contemporary design. Again, the moving aspect seems to be an important moment in people's lives in order to contribute to a new fridge's purchase.

What is repeated in the experiences of these three households I present here is that, indeed, their previous fridges were a long lasting. But what is also common to these stories is that these people did not hold onto the previous fridge until it wore out, they replaced fridges when they were still working fine, and other factors influenced the choice of purchasing a new fridge. For the first household of the elderly couple, it is seems that the decision to purchase their third fridge was about having frost-free technology, which made them give their second fridge, 24 years old, working fine, to their nephew. For the second family, the household of woman, aged 53, engineer, married with children, they decided to buy a new fridge when they were moving to a new apartment and they had the need of having a bigger fridge-freezer, frost-free technology, as the family was getting bigger. And they took their 17 years old fridge, working fine, to another house their relatives have at the beach area. Then, for the third household I presented, man, aged 64, retired and married with a grown up child living at home, it is seems that the moving aspect contributed to the choice of purchasing a new fridge, as well as the outdated design of the 15 year old fridge, combined with the need of having a bigger fridge-freezer, as the family was also getting bigger.

Cooper (2004, 440), explains that obsolescence occurs when products become "out of use" or "out of date". There are different forms of obsolescence that need to be taken into account, in order to understand how appliances become obsolete for people: absolute obsolescence and relative obsolescence. Relative obsolescence can be

described as an evaluation of existing products in comparison with new models, and as Cooper (2004, 425) describes through the work of Granberg (1997), the relative obsolescence can be "functional" or "psychological". Functional obsolescence happens when a decision to replace a product is made through objective criteria such as economic depreciation, technological change, and situations that affects "needs", as different family situation, for example; and psychological obsolescence comes from a subjective change in the user's perception of a product and is related to learned experience, status achievement, fashion and aesthetic quality. While absolute obsolescence is related to the intrinsic durability of products depends on the ability to resist "wear and tear" and material degradation, process of quality (related to consistency in manufacturing) and factors related to maintenance. (Granberg, 1997 cited in Cooper, 2004, 425) The results of Cooper's research project (2004, 440) on household appliances in UK indicate that absolute obsolescence, which arises from technical failure, exerts less influence on life spans than relative obsolescence.

In the experience of the three households presented above not any of the fridge's discards can be identified as cases of absolute obsolescence, as their fridges were working fine when they decided to purchase a new one. For the first household of the elderly couple, it is possible to observe that it was a case of relative obsolescence through the functional obsolescence, as they wanted to have a frost-free fridge-freezer and new technology contributed to the choice of purchasing a new fridge. In the second case I presented, of the household of a woman, aged 53, engineer, married with two children, additional family needs and technology seemed to have contributed to the choice of purchasing a new fridge and replacing the old one, as the family was getting bigger, they were moving to a new apartment and wanted the frost-free fridge-freezer as well, what I can identify as relative obsolescence, being a functional obsolescence. In the third case I presented, the household of a man, aged 64, it is seems that it was also a case of relative obsolescence, but two different factors can be observed, first this family had the need of having a bigger fridge-freezer, as the family was getting bigger, combined with the moving situation, but it was also presented that their 15 years old fridge had an outdated design. These factors can be associated to relative obsolescence, in both functional and psychological obsolescence.

7.1.3 What about the rest of the sample?

As I have mentioned in the beginning of this section, firstly I intended to present three different households where the disposal of their previous fridge and the decision to buy a new one was clear, and how long they have stayed with their previous fridge. It is possible to understand these cases in depth, by observing the reasons for purchasing and what happened in people's lives in the period. With regards to the rest of the sample, 2 households had some sort of malfunctioning with their previous fridge, and decided to purchase a new one; 3 households decided to purchase the current fridge as their previous was considered small and had been long lasting, presenting some problems due to long time use; 3 households decided to purchase a new fridge in order to have a better appliance, two of them due to increased usage of electricity, and the other to have an "upgrade" of the technology. 5 households have never changed fridges, and 1 household purchased the second due to new family structure.

These insights into the decision making process of purchasing a new appliance, and the different situations of fridge's obsolescence are interesting to know in order to grasp the different factors that are contributing to the current process of consumers replacing products when the current products are still working. It is already known that the growth of post-war affluence in the USA (Galbraith, 1999 cited in Cox et al, 2013, 21), Europe and now many newly developing countries has been characterized by the evolution of a "throw away" society (Packard, 1963 cited in Cox et all, 2013, 21). Now it is also known that for many modern economies, there is the widespread disposal of products before they break, and through market mechanisms, this has led to a decline in the lifespan for which products are designed to last (Park, 2010 cited in Cox et all, 2013, 21). These practices on disposing of the fridge before it breaks are also important to understand, as there is a need for the global communities to achieve progress on sustainable development in its nations, and household waste is arising from unsustainable consumption patterns, which needs to be curtailed. (Redclif, 1996 cited in Cooper, 2004, 421).

The kinds of obsolescence discussed previously are incomplete, because they do not include these social factors that are contributing to people's decisions to buy new fridges. There were changes in family structures in two of the cases: where the families were moving to a new place and there were changes in the size of the family unit, which

lead to a decision to buy a new appliance, and it can be widely related to what is socially acceptable and expected from a bigger family and the kind of appliances they should have. The need of purchasing a fridge principally due to technology change, as the freezer and frost-free appliance were the reasons for replacing the old fridges in the experience of the elderly couple, and this can also be identified as a social aspect, as in some situations the technological factor can be related to a way to differentiate themselves from others, but also as a way to show to others that they are able to follow the technological development.

With regards the others households, for 3 of them after a long lasting experience with the fridge, somehow the size of the fridge no longer serviced the family's needs, combined with a certain malfunctioning, and they decided to purchase a new appliance; 2 of them experienced malfunctioning and decided to replace the fridge; 3 of the households decided to replace the previous fridge due to the need for a better appliance (2 of them in regard to concerns of electricity usage increasing and the other to "upgrade" the fridge). 5 of the households have never purchased new fridges, and 1 replaced the fridge due to the new family structure. From these cases, the absolute obsolescence of the fridge is presented in the three cases where the households presented a long lasting experience combined with some malfunctioning, as it is possible to say that the fridge was used up to almost the end of its life expectancy. In the others, absolute obsolescence is not a factor influencing people's reasons to replace their fridges. In the three cases mentioned in the beginning of the chapter it is possible to see that life cycles and technology change over time are much related, and this influences the purchasing of new appliances. Wilhite (2012b) has already mentioned in regard the moment people are more open for change, it is when they are in transition to a new home, where the purchase of new appliances is part of the plan, and this influences changing practices in the new home. He also has mentioned about other periods of reflection, which starts when a family is preparing to have a child, or when children move out of the home, highlighting that sustainable policy should be more focused on household transitions, informing and encouraging low-energy alternatives. (Wilhite, 2012b, 96-97).

In the next section of this chapter on long lasting of fridges, I will look on how the people of the whole sample, the 17 households I visited, consider a fridge obsolete, and when it is time to purchase a new one.

7.2 When does the sample consider it is time to buy a new fridge? Insights on obsolescence from households' opinions

In the previous section I have discussed the two kinds of obsolescence, the absolute and relative. I analyzed people's experiences on replacing their fridges in order to understand what influenced their need to purchase their current fridge. This section is about *when people consider it is time to buy a new fridge*, and the households presented different explanations to justify the choice to purchase a new fridge. In this part of the chapter I analyze their *opinions* in order to grasp the factors that could lead to the replacement of the current fridge, when would they consider it obsolete. From the 17 households I visited, 11 had answers on relative obsolescence of a fridge; 4 of the 17 had answers regarding an absolute obsolescence of the fridge and 2 households did not present clear answers.

On the relative obsolescence side, people said that they would have different reasons for buying new fridges. 11 households had answers on relative obsolescence of the fridge, which justifies the choice of purchasing a new one. 9 households of these 11 answered about the functional aspect, 8 of them answered on the economic depreciation of some aspect in the fridge; and 1 of them on technological change, which would justify the replacement of the fridge. Still on the relative obsolescence answers, 2 households presented answers on the psychological aspect of considering a fridge obsolete, being 1 regarding the aesthetic quality, and the other on fashion. 4 other households had answers on absolute obsolescence in regard to some aspect of the fridge; 1 answered in regard to some issue with maintenance, and 3 other households on material degradation of the product.

These answers from the 11 households on opinions in regard to the time to replace a fridge, and their answers on relative obsolescence of the appliance can be useful in order to grasp people's practices on replacement of an appliance that is supposed and

expected to be long lasting. The economic depreciation aspect on answers of 8 households seems to be a valuable insight on this kind of obsolescence, as it is possible to observe concerns on 5 households' answers regarding costs of maintenance, and what these costs are worth in relation to the purchasing of a new appliance; and there were concerns on answers of 2 households on electricity consumption increasing by a fridge that is consuming too much energy. One household had answers in general on economic depreciation that shows when a fridge is not worth keeping.

7.2.1 Economics reasons

The opinion related to economic depreciation and concern with costs of maintenance is possible to observe through the answer of this couple when I asked when it is time to buy a new fridge. Man and woman, 48 and 43 years, respectively, administrative manager and engineer, married with two children, bought their first fridge 1 year and 4 months ago, but they think when the fridge begins presenting problems, it will be time to replace it, as sometimes the price of maintenance costs the same as buying a new fridge.

> Woman, aged 43, engineer, married with kids:
>
> "In the moment that this (fridge) cannot be fixed. In case it breaks and we repair, or sometimes the maintenance will be the price of one (new fridge)".
>
> Man, aged 48, administrative manager, married with children:
>
> "For me it is like this, you have to mend it once, it means that it will begin to have problems. It is the same with a car, you buy a new car, and you have it three years to use it fine. Then the car will need that maintenance that is normal after some time, but for me with the fridge is the same thing: you begin changing this, or that, and then more problems, and what you are spending on maintenance it is better to buy a new one (fridge)."

The same concern regarding the cost of maintenance was found on the answer of another woman, 63 years old, retired widow, where the answer is much related to obsolescence when there is a need to repair the fridge and the charges for that will not be cost effective, creating the need to buy a new fridge. Woman, 63 years old, retired, widow, said:

> "Usually people have a fridge during 6, 7, 8 years, rarely more time, and some things happen with it (the fridge). After a while you need to change the gas. Then you are buying the gas, but it is more expensive than to buy a new fridge. So you end up buying a new fridge because of that".

Another aspect that is important to point out in the experience of this woman, 63 years old, retired widow, is that the last time she replaced the fridge, other concerns regarding the economic depreciation aspect were involved. She said that the previous fridge was spending too much energy, and then she realized the need to purchase a new one. She also explains that due to technology that was not frost-free, it was necessary to turn off the fridge to clean it, and this process of turning the fridge off to clean and turn it on again increased the electricity bill, which motivated her to change the appliance.

This kind of opinion on electricity consumption increasing due to the fridge's use being the reason of purchasing a new fridge was also found in 2 households, where both presented answers on that. The first was in the household of woman, 49 years old, maid, married with two children; and one of the children is female, 27 years old, single, auxiliary of personnel department. When I asked when is time was to buy a new fridge, both women had answers on the concern with electricity consumption and the fridge's use.

> Woman, 49 years old, maid, married with two children (mother): "When this is showing that it is not working well, or we confirm that increased electricity consumption is being caused through that (the fridge), so we have to replace it".

> Woman, 27 years old, auxiliary of personnel department, single (daughter): "When this (the fridge) begins to present problems, when it is not cooling, and suddenly is increasing the electricity consumption, so then it is a good time to replace it".

The second opinion on replacement of the fridge due to electricity consumption was in the household of woman, age was not provided, nurse, living with her partner and two small children. When asked about time to purchase a new fridge, she said when it is very old, and explained that her previous fridge was from her parents-in-law and they used it for a long time, then she and her partner decided to purchase a new one, because the fridge was consuming too much energy:

> "When is very old, this (fridge) lasts for so long. The other (fridge) was from my parent- in-law, and it was going, and going… (it was used for a long time), and then we bought this new one, because the other was using too much electricity. It was "pulling" (electricity) too much".

Through the analysis of the households' opinions on the fridge obsolescence, it is possible to observe that the relative obsolescence has a great influence on their ideas for replacement. The economic depreciation due to the concern people have with costs of maintenance and the energy efficiency aspect, seems important to discuss in order to grasp these meanings and practices of replacement.

Cooper (2004, 437) presents data from a research with households on consumers' attitudes to obsolescence and their discarded behavior in the UK, where was investigated the influence of households on appliance life spans, the extent to which repair work was done, and the condition of discarded items. It is presented that a high proportion (38%) of the households said they "rarely" or "never" had their appliances repaired; only 26% "usually" had appliances repaired, and 33% said that "sometimes" had them repaired (3% did not answer). The reason most presented as one of the factors discouraging them from repair was cost, and this was identified by over two-thirds of respondents in this research.

This research from Cooper (2004) and data showing that people did not repair their different appliances due to cost in UK, can be useful in order to question the affirmation in the first section of this chapter, where the fridge is presented as a long lasting appliance in itself, as the fridge can have be long lasting indeed, but in practice it is also possible that people replace it before it breaks. This data from Cooper (2004, 437) is also important to bring to the discussion, as in this second section, I presented meanings of obsolescence on the fridge by people from different households, which could motivate the replacement of the fridge due to the concern with maintenance costs. 5 households had answers on costs with maintenance when it was asked the time to buy a new fridge.

In the next section I will draw on cases where households in fact repaired their fridges and the implication of repairing to longer life spans of fridges.

7.3 When do people repair their fridges?

On the maintenance side, it is possible to identify that 6 of the 17 households have repaired their current fridges that are between 3 years and more than 12 years old, including the case of the young woman where her parents left their old fridge to her and this is the first fridge she remembers in her whole life; as well one fridge from a household which owns two fridges, and one of them has been repaired. 6 of the 17 households have never repaired their current fridges that are between 7 and 13 years old because they have not had any problem, including one fridge of the household which owns two fridges; and 6 new fridges between 3 months and 4 years old have never presented problems, and consequently, required no maintenance.

On the case of the elderly couple already presented here in the first section of this chapter, their current 3 year old fridge started to present problems when it was just 3 months old. Their fridge was freezing too much in the freezer compartment, but was not cooling in the fridge compartment, the food was going off and they were not able to preserve food at home with this problematic fridge-freezer. This made them have different practices on taking food to the fridge in their daughter's place or to a bar beside their home. Then, after contacting the fridge company, and due to the warranty they had, they had the fridge repaired, they experienced this problem over a month. What is interesting to point out here, is that, just in a situation of need, people were able to share their fridges, and what is common to all households I visited is the practice of having at least, your own individual fridge. The experience of having a practice of sharing the fridge, even with your own child is seen and felt as inconvenient.

The other case of maintenance is with the fridge of a woman, 21 years old, where I have already mentioned having this fridge in her home since she was child, she does not know exactly the age she was when her parents bought it, but this fridge is the first she remembers in her life. Then, recently her parents moved, bought a new fridge themselves and left this one with her. She said that if she would have money, she would like to buy a new fridge, because this one is old and the color is not satisfying to her anymore, she prefers white. When I asked about maintenance of the fridge, she said that this fridge has been repaired twice, she did not explain what happened with the fridge, but explained that there is a man, on the other side of the street, that repairs fridges:

> "It was twice that we needed (repairs). There is a guy in the other side of the street that repairs".

Indeed, I saw this man that repairs fridges and appliances to be repaired in front of his office/home on the sidewalk on this street. It seems that this man works for people that want to have their appliances repaired in the neighborhood, but I did not have the chance to arrange an interview with him due to our schedules not matching. What is interesting to observe is that, this man does not work for any company, but he has this small business fixing big appliances such as fridges and washing machines. He repairs appliances when the owner cannot afford an authorized technician, and at the same time, it is interesting to note that this happens in a neighborhood where many middle classes households are.

The other experience of having repaired the fridge is presented in the case of a man, who I have introduced in the first section of this chapter with regards the purchasing of a new fridge due to family life cycle, such as moving to a new place and having a child, and also in regard to slow cooking habits in the chapter of convenience. He has repaired the current fridge, which is 12 years old. It was necessary to change the fridge's gas, the rubber was not good, and some ice inside the tube was freezing, which he learned from the technician that it could be good to put some warm water in this tube when he is cleaning the fridge. He always calls for a technician to undertake repairs.

On the experience of a man, 63 years old, administrator, widow, who I have mentioned in the first chapter on habits of frozen food, it is presented maintenance of the fridge with a technical problem. The fridge was turning off by itself, when he turned the lights on in his apartment, the fridges turned off. Then he contacted the technician to undertake the maintenance:

> "I contacted the technician, because it (the fridge) was presenting a problem that it was turning off by itself. I turned on a light, and it (the fridge) turned off. Then the technician came and changed something (gadget)."

The other technical problem that happened with a fridge and required maintenance, was in the case of a woman and daughter, 58 and 27 years old, hairdresser and physical educational teacher, married and single, living in the same household. They have contacted the authorized technician to repair the fridge twice. It is not clear in which

period this problem happened, but the plaque burned and the fridge stooped cooling. The mother said in regard to maintenance:

> "It happened twice, the plaque burned, it (the fridge) stooped cooling, you opened it (the fridge) and it was warm inside, and the things (food) were like normal (room temperature)."

What is interesting to observe here, is that the current fridge from these households have different ages, varying between 3 years and more than 12 years old and were able to undertake maintenance when needed. Also it is important to note that the elderly couple did not mention the wish to change the problematic appliance even when the fridge was just three months old and with warranty. The same aspect of not changing the fridge when some more complex technical problems happened was the case of man, aged 64, when his 12 year old fridge presented more than one problem, having the need to change the gas and fixing the rubber, etc. The maintenance of a more complex technical problem was also the case of a fridge in the household of woman and daughter, 58 and 27 years old, where their fridge burned some part and they were able to contact the authorized assistance and repair their current fridge that is between 8 and 10 years old.

In order to discuss the main ideas of this chapter and the point that it is crucial to this part of the analysis is that, the fridge has the potential to be a long lasting appliance in itself, as I have shown by data on the first section. But there are cases where people changed their fridges before they break, as were presented in cases where technological change was important (the need of purchasing a freezer and frost-free fridge-freezer), as well as factors of families getting bigger, and families moving to new apartments, enjoying the opportunity to purchase a new appliance. These factors cannot be considered as an absolute obsolescence of the fridge, as this actually questions the fact of a fridge having the potential to be a long lasting appliance, and others factors influenced people's decisions on the replacement of their older fridge. Regarding the rest of the sample, they have changed their fridges due to different reasons, 3 of them after having a long lasting experience with their fridge, the size of the fridge no longer attended the family's needs, and it was malfunctioning, so they decided to purchase a new appliance; 2 of them experienced malfunctioning and decided to replace the fridge; 3 of the households decided to replace the previous fridge due to the need of better appliance; 5 of the households have never purchased new fridges, and 1 replaced the

fridge due to new family structure. From these cases, the absolute obsolescence of the fridge is expressed in the three cases where the households presented a long lasting capacity combined with malfunctioning, and these fridges were used up to almost the end of their life expectancy.

These experiences bring to light the point discussed in the second section of this chapter, on when people think it is the moment to purchase a new fridge and on their reasons for considering a fridge obsolete, where the relative obsolescence seems to have a role. The economic depreciation aspect on the households' opinion to purchase a new fridge also has its role on 8 households, where 5 presented concerns on the costs of maintenance and 2 on electricity consumption of the fridge, and just 1 had an opinion on general aspects of the fridge not being worth keeping anymore. At the same time, it is possible to observe that 6 households of the 17 have repaired their current fridges, which brings insights to the fact that is also possible for people to repair their fridges when needed. The fact that people from the different households found different ways to repair their fridges, both with an authorized technician as well with the man that has a small office and attends people from the neighborhood bring insights in the same direction, showing that there are others possibilities available to people than purchasing a new appliance. It was also encountered 6 fridges varying between 7 and 13 years old, which here is considered a long time of fridge acquisition, that have never been repaired because they have never presented any problem, confirming the long lasting aspect of the fridge. What seems to have a role in the moment of the decision of purchasing a new fridge is, by these experiences, both the need for better technology, family cycles and changes and in its structure, which brings different needs to people in regard to a specific moment of life and what is socially acceptable to them.

8 Women, gender differences and practices related to food consumption

This chapter is focused on practices regarding food shopping, the planning of the daily menu and concern about food, as well on who is responsible for cooking and other practices such as cleaning the fridge. These practices bring to the fore the role that women take regarding the whole the cycle of food, from the moment that is bought at the supermarket, cooked, served, and discarded. The analysis of the cycle of food and practices involving appliances, under a gender role perspective and practice theory seems important to address what are the different factors contributing to make them. Factors of identity such as how a woman - living in a couple arrangement -, a wife and a mother should be at home in order to be "virtuous", in contrast with the identity of man, who should battle in the public space, be mainly the provider, who also experience a social pressure of how a man should be, bring insights into the unequal division of the household duties, including tasks related to food provision. Further, I present how other factors related to working status, where the situation of being retired and having more time available, contribute to men becoming more responsible for tasks related to food. Then I argue that tight working schedules can also be a factor contributing to this unequal division of household duties, where women experience a "dual burden" – when women in dual income households experience this as a consequence of "juggling" both paid employment and their continued responsibility for domestic tasks (Sullivan, 1997 in Southerton, 2007, 116). This unequal division of housework in Brazil was demonstrated in the analysis (Simões, 2008 cited in Simões and Matos, 2008, 100) of 2005 National Household Survey, where women are mainly those responsible for housework, even when they are in the labor market. Quantitative data on this analysis shows that 92% of working women do housework, compared with 68.6 % of working men. The idea of what is expected from a woman from society when having a family seems to reinforce this practice where women engage more with household tasks than men. I also highlight that the lack of cooking knowledge of men can be other factor that influences on how food provision becomes mainly a women's responsibility and men engage very little with it. The comprehension of how these factors relate to each other

and contribute to the unequal division of household duties are crucial in order to address problematic practices in the household level, as practices become more energy intensive due to the use of more appliances, as well as the problem of food waste.

8.1 Who is responsible for what: insights of gender differences on tasks related to food provision and consumption

In this section I present practices that married women and women that live with partners carry out in the household, related to the responsibility for food shopping; who usually plans the menu and food, and who is responsible for cooking. I have interviewed 9 households with couples, man and woman, 8 of them have at least one child living with them, and the other one is an elderly couple. In most of the cases it is possible to observe that women take a different role than man regarding responsibilities related to food shopping, cooking and planning the family meals. Therefore, it is worth noting that women are engaging more with household tasks then men in relation to tasks connected to food consumption and provisioning, which reinforce that tasks are kept under women's responsibility, contributing to the unequal division of duties. Southerton (2007, 125) have already presented this in research in the UK that women's temporal experiences are more impacted then men, with regards to coordinating practices within networks and the range of fixed institutionally timed events around which practices are allocated:

> "Meeting the timings imposed by schools and/or hours of employment, insuring that meal times were sustained on a regular basis, coordinating the social activities of oneself, one's partner or one's children, were all described in contexts of temporal dis-organisation and density, and these were characteristics of daily life described by women more so than men. (Southerton, 2007, 125 - 126).

The fact of being a woman in itself was given as a possible explanation in some of the answers, when I asked who usually undertakes determined activities. However I will attempt to demonstrate what other factors there are, beyond gender that could influence the division of tasks related to food. As there were exceptions in cases in households of retired men, where these men are more responsible for some of activities linked to food,

it is seems wise to have a look at these cases in order to notice other factors that could be promoting the very gendered division in practices related to food.

8.1.1 Responsibility related to food in households of couples is usually the woman's

In order to understand the roles that man and woman take, in relation to different activities around the food cycle and its practices, - from food shopping, cooking, and planning the daily meals for the family, - I had both women and men in my sample, married or living with partners, and asked question around these topics to them. In the sample there were 10 people living as couples with at least one child living with them. There was an elderly couple that has an adult son that does not live with them. Therefore these 12 people live in 9 of the 17 households. From these interviews, generally, it is possible to observe the role of women for the maintenance of practices around food is more constant than that of the men.

In regard to the responsibility of buying food, for example, 6 of 9 households with people living as couples answered that it is usually the woman that is in charge of this activity. From these 6 couples, 5 have at least one child, and just the elderly couple does not have children living with them anymore. This was the situation mentioned by woman, aged 34, lawyer, married, with a child from her marriage and with a step-son living together. She said that she is responsible for buying food, as she is the only woman living in the household (the rest of the family members are all men, including her husband). She also explains that, the maid that works in their house writes down what they need and she does the shopping afterwards, which highlights the fact that she needs someone assisting her in other household's tasks:

> "The only woman in the house (responsible for buying food). Actually is like this, the lady that works here writes, writes everything what is lacking, it is usually on the weekends that I go and do the food shopping".

In another interview it is possible to observe the same kind of practice related to women and the responsibility for buying food. Now the role of women and men regarding food shopping is more divided, despite the fact that both go together to the supermarket. She is responsible for choosing the food and he is responsible for paying the food in the end.

This was presented by the couple, woman, aged 43, administrative manager, and man, aged 48, engineer, married with children.

> Woman: “The task of buying (food) is mine; the task of paying (the food) is his. Actually we both go to the supermarket, but who chooses (the food) and puts it in the trolley is me”.
>
> Man: “I just pass the card”.

Another interesting point in this last case, is that, both are employed and have a family routine, which brings more tasks to the household than a routine of a couple without children, for example. Even though both do the shopping together, as a social activity of the family, the woman is more active in the decision for which food all the members of the household will eat, while the man is concerned, in this case, in the act of paying for the shopping only. This implication of woman around the responsibility for food is also present in other practices, for example, in the activity of planning meals and cooking, as well around the decisions on when the food is not edible anymore, what I will go through further in this chapter. This woman also mentioned that she experiences lack of time to cook fresh daily due to her working schedule. She leaves home early to work and comes back late, relying much on the possibility of cooking in bulk and leaving food for the children in the fridge, not compromising their meals, and at the same time, managing time constraint due to the practice she carries out with appliances in combination.

In the case of the elderly couple, for example, when I asked who usually does the shopping, woman, aged 68, housewife, married, said that she does. She buys greens and vegetables in the street market closes to home once a week, and says that tasks about the fridge are hers. She explains that her husband buys meat, because he knows more about that, but she is responsible for the weekly vegetable shopping, and this food shopping specifically seems to be the one that is more constant in their household. However, it is interesting to note that it is the man who is picking the meat, which highlights certain gender difference on shopping, and meat is usually one of the most expensive parts of food expenditure.

I asked who is responsible for buying food, and the woman said:

> "It is me, the task of "open market" (to buy greens and vegetables at the open market)… I like to do feira (go to the open market)."

And then the husband agrees indicating that tasks around the fridge are more related to her:

> "Clean the fridge..."

Again, woman said:

> "This task is mine. "Fridge" is me that look (taking care of). The part of meat, like this, it is him that knows the meat. But greens, vegetables, it is me that does it, I do once a week".

In the other 3 cases where there are couples living with their children, the same practice on the woman being responsible for the food shopping is encountered. However, there were 3 other cases where I found differences on the food shopping activity. This was the case of 2 households where the men are retired and are engaging in this activity. The other, it was in the household of a couple living together with two small children, and the man shares the responsibility of buying food with woman in the household. But in tasks such as cooking, for example, the woman is responsible, while in terms of who plans the menu and meals, it is a concern of both the man and woman. In this last household, it seems that the man and woman share some of the responsibility for food, such as buying and planning the menu, which was not present in the others households. Plus, there were 2 exceptions where men engage themselves more in tasks related to food after being retired. These two exceptions bring insights to the analysis in relation to the working status of men, before being retired and after, and the engagement of them with tasks related to food.

8.1.2 What are the exceptions to the cases? The retirement status and the possibility of having more time available

About the exceptions to the cases where there are men responsible for activities related to food, it is possible to have an insight of why this is happening due to their retirement status. In two cases where it is reported that men are responsible for activities related to food, they were both retired men, which brings insights around the possibility of having more time to be responsible for some tasks in the household. Where they are not

actually sharing some of these activities with women (as in the case of the couple with small children).

Man, aged 64, retired, married with an adult child living in the same household says that he is the only one who goes shopping, and undertakes other shopping related to food. In terms of who plans the daily menu and food, he explains that he usually thinks about it, but his wife has recently retired, and she is beginning to assist in the planning. He mentioned that as she was working before, this task was his, but today she suggests dishes, for example. Regarding the cooking he mentioned that both do it:

> "Just me that goes to the market here in our house, just me that goes to the butchers, just me that goes to feira (open market that sells greens, vegetables, fruits). (…) That's me who usually thinks (about menu and food), now, these days, as my wife has recently retired, a month and a half ago, she is thinking a little bit more. Before as she was still working, this task was mine. Today not, she says "we could cook, for example, a fish stew…"."

In the other household the same trend of the man being responsible completely for an activity related to food happens. Despite the fact that it is still the wife who is responsible for cooking and thinking about the family meals, the woman says clearly that her husband is engaging in the food shopping because he is retired and needs some activity to spend his time.

Woman, aged 68, piano teacher, married with an adult child living at home:

> "My husband (who is responsible for buying food). Before it was more me, but as now he is retired and needs to do something, he buys everything".

The retirement status and the chance of having more time available seem to contribute to the way people carry out practices related to food, especially how in these last examples men engage more in these household activities. These insights are important in order to address that there is something about lack of time due to working schedules and how the division of the house care is shared (or not) by the couples. This was also mentioned in the case of woman, aged 43, administrative manager, where the time constraint she experiences influences the way she carries out food tasks. Another point is that, after men retire, the practice changes and they engage more with household tasks.

8.1.3 Maids and tight working schedules

In other cases of households with couples, it is possible to see that in a different task such as cooking, 8 households of 9 have women being responsible for this practice, including two households where the maids also cook. The maids cooking in these households highlight the fact that there is another person helping the woman to cope with the amount of daily tasks. Paid domestic work in Brazil is the main occupational niche for women, and more than 90% of workers in these activities are females. This kind of job has remained an important source of occupation, practically stable in 2005, absorbing 17% of the workforce, but it has been dropping along the years. In 1970 it was absorbing more than ¼ of female labor. (Bruschini and Lombardi, 2000 cited in Bruschini, 2007, 561).

This situation of having a maid responsible for cooking was mentioned in the interview of woman, aged 53, engineer, married with two children. I asked who is responsible for cooking the meals in the household, and she answered that it is the maid. In this household, it is also the woman who is responsible for buying food and she mostly plans the meals and what kind of food the family needs. Sometimes her daughter and her husband assist in the planning, because they want something particular to eat, but this woman seems more connected to the responsibility of this activity. She explains that the weekly food shopping, she already knows what is necessary to buy, and this brings insights to the idea of doing this every week and having a routine of it. The habit of doing this every week seems to contribute to the fact that, if she is the person in the house who knows the shopping list and the food that is needed for the family, she will be the responsible for doing the shopping. She adds that, in case some of the family members decide to add something different in the menu for the same day, she is also the person in charge of going shopping:

> "I mostly (who thinks about menu). But my daughter and husband (think) too. Everyone help like this…When they want something particular. This will be the shopping done in the supermarket, because the basic weekly shopping I know, more and less what it is. But in case someone decides something for the menu, in that day, I also go shopping. (…) I have a maid. She cooks everyday".

However, this woman presents a different point of view in terms of what brings difficulty to the food shopping routine in a question further in the interview, in a

different context. I asked about consumption and what brings problems to change the way they consume, and she answered:

> "What it was bringing difficulty (to food consumption habits) it was when I was working, and then many times I needed to do a weekly food shopping (only one). In case I did not have time, I could not buy anything more. What we had needed to be enough. If something was lacking, it was lacking. (…) I did not have time to suit a need. Let's suppose that today I will cook a dinner or lunch and there is no table cream, so I go there to buy. (…) I think what it was making (food consumption habits) difficult it was the time (lacking) to buy something that you needed".

On this example of the experience of woman, aged 53, the working schedule and lack of time available to buy food more than once a week is mentioned, the participant explains that affects keeping the routine around food provision. Therefore, her working schedule was making it difficult for her to buy food, squeezing her time available to dedicate to this task, meaning she was buying food just once a week, where the fridge had a role in order to keep this food for the family. It is possible to see in the last chapter where I presented when people change appliances (chapter 7), in her experience which I mentioned there, the size of the freezer influenced the choice of the new purchase. This highlights that the size of the fridge-freezer makes it possible to stock food, avoiding shopping trips, as she also mentioned in her experience talking about the role of the fridge takes in her daily life in the chapter 5 of Time and Space, which makes it possible to reorder practices. There is a comparison with habits when she was working and now that she is not, and she has time to buy something that is lacking in order to complement a dish. Again, the working status and more time available that the person has to carry out practices seem to contribute to the way practices are undertaken. Another point that brings insights on gender differences of tasks related to food seems to be that woman, aged 53 was responsible for buying food even when working and not having time available to do more food shopping.

8.1.4 Lack of cooking knowledge and its implications to gender differences

In regard to the task of planning the menu and food, in 7 of 9 households with couples it is the women who are responsible for this, and in just two cases both men and women plan the menu and food: the case of man, aged 64, retired with an adult child living at

home, and the couple with small children that I mentioned previously in this chapter. Man, aged 64, retired, married with a child presented a view on limitations of undertaking cooking practices, due to a lack of knowledge on different recipes, which brings insights about limits for planning the menu and food in the household:

> "My wife says that I am used to buy almost the same things to eat. What brings difficulty (in order to undertake cooking practices) is not to have the knowledge to do something. For example, fish here in our place we are not specialists. So, if we would know other kinds of dishes, maybe we would use other things (ingredients)".

From my data on gender division of tasks related to food up to here, it is possible to identify that women have a more active role than men, but in this last case of man, aged 64, retired, married with a child, it is possible to note an exception, where he is more responsible for tasks related to food provision than his wife, as he is retired for a longer period of time. On this experience, it is seems that the lack of cooking knowledge brings limitations to his performance of diversifying the menu. The lack of cooking abilities of men, through this example of limitations on cooking knowledge, can be addressed as a factor contributing to the unequal division of tasks related to food in other cases, as women display more "ability" in the kitchen, because they appear to have the cookery know how and know what should be bought.

8.1.5 Women and responsibility for managing food for the family – the food waste problem

I also have found in one interview the topic of food waste, which I considered would be valuable to mention in this chapter, as this can be the last destination of food in the household and it is related to the amount of food that, apparently, women cook for the family. When women are active workers and still are the ones responsible for providing food for the family, they usually experience the dual time burden, which in turn influences how these practices become intense and hurried, such as cooking preparation, contributing to the generation of food waste. The fact that the men do not engage with these practices also contributes to it, and it is difficult for them to help due to the lack of cooking skills. It seems that women also have in the back of their minds that they will prepare food and stretch it over several meals.

Woman, aged 43, administrative manager, married with children, mentioned that she tries to avoid throwing away food and her husband, man, aged 48, engineer, says that more food than what is necessary is cooked by her. This shows how difficult is for the woman to know the amount of food that is going to be consumed by the family. This situation brings insights on the task of measuring the food that needs to be prepared in order to avoid food wastage, and how this is also a task of the woman, who is the one most involved in the cooking practice.

> Woman: "I noticed I was throwing rice away every day, so I reduced (the quantity to be cooked). Another day I said, Oh, they asked for pasta, I cooked a package of it, but I felt pity for throwing the pasta away. Because you (members of family) eat in the moment, and after do not eat it anymore, and it was just one package!"
>
> Man: "But you cooked pasta for three families".

By this example it is possible to note that the food waste problem originates from the practice of cooking that women are engaged in. This indicates that, changing some element in the practice of cooking can influence the amount of waste in the household. However, it is possible to observe that the fact the woman needs to manage food provision and consumption, from the moment that it is bought, cooked and served, which allocates all the responsibility to women and there is almost no involvement of men in this, at the end the food waste problem is also revealed as a woman's responsibility.

In this section was presented that usually women living with partners have more responsibility then men in terms of food tasks in the household, from the task to think about food, plan the food shopping, do the food shopping, to the responsibility of cooking. In cases where there is a maid working in the household, which is the situation in two households, these people are also responsible for some part of the cooking practice, helping women to cope with the amount of tasks daily. Further, I presented a situation on food waste and how woman has the role of managing the food that needs to be cooked in order to avoid throwing it away, which can be understood as a consequence of the way practices are undertaken in the household, where women engage more in these tasks than men, and the responsibility for the amount of the food waste generated in the household is also dependent on the amount of food that is cooked by women every day. Regarding the exceptions to the cases, I found two situations

where retired men engage themselves more in some activity related to food provision, such as the shopping, for both retired men, and also the cooking and the responsibility of thinking about food and menu for the family in the case of man, aged 64, retired, and married with a child. In the next section I will discuss these findings in order to unfold which factors can be influencing the gender division on practices related to food provision and consumption, as well to address problems about the unequal division of food tasks.

8.2 Discussion

In the previous section I have presented findings that reflect the role that women have in relation to food provision in the household. In most cases women are "leading" the responsibility of practices around food, "leading" as well the space of the kitchen, and consequently, it is women who most engage with appliances in order to accomplish these tasks. In one of the cases it was mentioned also the task of keeping track of the amount of food that is cooked and thrown away. In order to discuss this idea of women and their close connection to the kitchen, and practices around food provision, first I bring the perspective of the author Roberto da Matta, an anthropologist in Brazil.

The author Roberto da Matta in the book "What makes brazil, Brazil?" (O que faz o brasil, Brasil?), presents an analysis of the different components of the Brazilian society through the construction of social identities. The book brings a chapter where the title is "About food and woman" (Sobre comidas e mulheres). In this chapter he talks about the identity that a woman has in a Brazilian household, a private space and the contrast of the woman that is out of the household, in a public space. (Da Matta, 1984, 58). For him there is a difference on social identities of women, first the one that dedicates herself to the family, and becomes a wife, and the woman that is in the public sphere, which brings insights of a woman that is not right or proper to marry. He explains a pun which associates the idea of sexuality to the eating act -"Easy woman is not food" ("mulher oferecida não é comida"), where it is also related to an idea of a woman that is not proper- or which also can be understood as having control of her sexuality and her seduction capacity - would not be the "best" for a man (Da Matta, 1984, 58). There is a use of the verb "to eat" in Portuguese that means the same as "to have sex", in a way that sees woman in the same condition as food, as something that is eaten by someone,

which brings insights of objectification of woman in this context. Then the author brings an explanation of a social identity of the woman that is proper to marry, for example, in the Brazilian context.

> "So, the woman that makes available to the group (family) her domestic services, her sexual favors, and her reproductive ability become a source of virtue, that, in the Brazilian society, it defines in pastoral and sanctified ways. It is the virgin, the wife, and the mother who resides in the house and is never eaten or can become food: easy prey of men who define themselves as sexually voracious. Or, better, these women can be eaten, but first they are transformed into brides and wives". (Da Matta, 1984, 58)

With regards to these social identities, there are two kinds of women, the first is the one in the house, which is taking care of the family, becomes a wife and has a virtuous position due to the responsibilities she has in this household. The other, is related to the woman that is outside of the house, or a woman that has control of her own sexuality, and is not related to ideas of how a wife should be. (Da Matta, 1984, 60).

Further, the author explains this approximation between the intercourse and the eating act, in a sense that indicates how Brazilians conceive sexuality and how they see it, not as a meeting between opposites and equals, as man and woman as individuals and self-possessed, but as a way to solve this equality through absorption, symbolically consented in social terms, from each other. Then Da Matta explains that the intercourse in the Brazilian idea, set the difference and the radical heterogeneity, and in sequence differentiates between the eater and the one that is eaten. But there are cases where the woman can be the eater - the woman that is a "woman of the world" ("mulher do mundo") or the woman that is independent or individualized - in these cases the man becomes the one eaten by the woman. However, in the traditional couple's arrangements, with wives or woman that defines them socially like this, for example, is the man who is the eater. (Da Matta, 1984, 60-61).

Regarding the contrast between public and private space, and the roles that both man and woman undertake in these spheres, Roberto da Matta (1984, 61) wrote that he is not exaggerating when he says that even with transformation and rapid changes in society, the man is who covers the public sphere most - the space of the street, the market, the work, the politics and the laws; where the woman still covers the private sphere - the

house world, the family, the rules and the costumes related to the dining table and hospitality.

Another point that is important to present regarding this differences on public and private spaces and meanings attached to them, it is that, the public space is many times associated with ideas of having movement, where there is a mass of people around and there is no one you can recognize outside, while in the private place as home, people are called as people, and there is in fact a recognition. The street is related to ideas of “toil” and “battle”, where the expression “the harsh reality of life” makes sense. In the street, time is experienced by people looking to the clock, keeping track of time, and this is a time that “runs, flies and passes”. (Da Matta, 1984, 29).

> "In the street there is no, theoretically, no love, no consideration, nor respect, nor friendship. It is a dangerous place, as it is confirmed by the afflictive and complex ritual we realize when our child goes out alone, for the first time to the movie, to the party or to school. What an insecurity that dominates us when a piece of our blood and our home goes out to meet this ocean of badness and insecurity that is the Brazilian street". (Da Matta, 1984, 30).

In contrast, home is a moral and differentiated space, where in this space, love and the harmony need to prevail - harmony needs to prevail conflicts, competition and mess. (Da Matta, 1984, 27). In this harmonious home, the symbolic idea socially consented for man and woman for who is the person that is in the *position of eater*, brings insights to the discussion of findings on this chapter, that men engage themselves very little in activities related to food and kitchen where they are in a couple arrangement. When there is a woman available to undertake these activities, as wives or maids in the household as I presented in the case of woman, aged 34, lawyer, married, with a son and step-son; woman, aged 43, administrative manager, married with children; and woman, aged 68, housewife, married, men seem to be not in focus and engage very little in tasks related to the space of the kitchen.

On the example of the women, aged 34, lawyer, married with children, she is responsible for buying food for the family. She is an active worker and she counts on the help of her maid to manage the household duties. Her maid writes, for example, the food list during the week and she goes shopping on the weekends. Woman, aged 34 also presented that regarding the cooking task, she shares the task with her maid mainly,

sometimes her step son cooks. In the case of the woman, aged 43, administrative manager, married with children, she is also responsible for buying food and deciding about menu, as well she is the responsible for the cooking in the household, while she is also an active worker. Both these women occupy both the public and private spaces actively, which demonstrates that even having formal work, they are still more responsible for tasks related to the kitchen.

These experiences of couples from different households highlights the point that, if men are mainly in the symbolic position of eaters and they are the ones that are appreciating the food that comes out of the kitchen; and if it is men that have a more active role in the public space, participating very little on tasks related to house care, few opportunities for them to exercise another role in households' tasks seems possible. In the two cases of the active workers women, who are married and have children, they continue to have responsibility for the food shopping and preparation, even with working schedules. In their answers, it is seems naturalized their roles regarding these responsibilities, and they do not express the involvement of men with them, which highlights that men engage very little in these practices. Therefore, it is important to question if a shift in the practice, for example, by more flexible working schedules and having more time available - as it was demonstrated by the case of the retired men that participate more - could influence how people define their roles and think about task sharing.

Thinking about other factors that can be contributing this unequal division of the housework, and going beyond the symbolic identity explanation as man occupying the "eater position", as I early discussed, it is was possible to find in two households the experience of retired men contributing more to tasks related to food provision. The first was the case of the man, aged, 64, retired, married with an adult child as I have presented, he is the only person responsible for buying food, as well he is the most responsible for planning the menu. He presented that as he is retired and his wife was working, he was taking care of these tasks, but as the wife has recently retired, she is engaging more on planning the menu. The same trend of man being responsible for a task related to food was mentioned in the interview of woman, aged 68, piano teacher, married with an adult child living at home, she said that before the task of food shopping was hers, but since her husband retired, he became the responsible for doing

it, and this became his activity to spend time. Therefore, changing practices leads to changing ideas on the symbolic values associated with women and men, as I discussed above. The working status seems to have an influence in the way man and woman share tasks in the household, which indicates that men, engage more on household tasks after retiring and having more time to spend in these activities.

The time constraint aspect related to working schedules seems to have a role as well on how couples share responsibilities in the household. In this last case of the woman, aged 68, piano teacher, married, with an adult child, for her husband the possibility of having more time available to spend on food shopping was possible after he was retired, which brings insights on men participating more on household duties when they have more free time as I have argued, and these tasks are not competing with their working schedule. However, it is possible to visualize a similar trend in the experience of woman, aged 53, as she explained that when she was working, she did not have time to buy food when it was necessary, she did not have time to suit a need and buy something that would be missing to cook, and now that she is not working, she has the possibility of going shopping more times. Both examples brings insights in two ways: first retired men seem to engage more in household duties, as these tasks are not competing with their working schedule; second, tight working schedules seems to bring a constraint on how people manage household practices, especially women. I have demonstrated this constraint through the case of woman, aged 53 that did not have time available to do food shopping when she had a working routine out of home, and at the same time, she was still the responsible for buying food for the family.

There is a question that remains unclear in this discussion and it is that: Why are women still the ones more responsible for tasks related to food provision and preparation then men, even when they are working, as previous studies demonstrate? As women engage more with tasks of food and care due to the fact they feel more responsible for leading these tasks or more identified with it, having appliances and maids to cope with the amount of tasks, these practices leads to a certain rigidity, become routinized and difficult to change after a while, as it is anchored in habitus (Bourdieu 1977, 1998 cited in Wilhite, 2012a, 88), which is structuring and organizing these practices. A way of changing this gender division on tasks could be by changing some of the elements of practice. It was demonstrated that is possible to promote change in the case of retired

men, that are responsible for more activities due to more flexible routines, and these changes influenced how men and women altered their ideas and roles.

But what are the problems of having just woman in charge of household duties, while men are more implicated in the public space? First this unequal division of household tasks brings a "dual burden" to women, which struggle to cope with demands from work and home, where they *"face anxiety over their identities in contexts where identity is formed through both workplace, or career progression and traditional roles as mothers and wives".* (Thompson, 1996 cited in Southerton, 2007, 116). Southerton (2007, 116) explains that as time for family become squeezed due to these hurried routines, families compensate their children with consumption, which requires more money, and successful careers, and this cycle keeps repeating.

> "Consumption becomes a form of work (not recuperation) and the daily experiences of working mum's is one of anxiety, of guilt, and of fundamental reliance on domestic technologies to keep the work-spend cycle on track". (Southerton, 2007, 116).

This unequal division of housework in couple arrangements due to the dual burden women experience seems also to have an effect on the way men and woman carry out with these practices, leading to the strategy that women find to cope with household struggles: using more appliances in combination to tackle tasks, demanding more energy; or stocking more food due to lack of time for going shopping; and even cooking more food than what is necessary due to lack of time to plan, increasing food waste, etc.

As I have presented in the chapter 6 about the use of fridge, freezer microwave and the regime of technologies, the involvement of different appliances in order to make tasks more efficient can promote rigid practices, and these rigidity of practices seems to contribute to more energy intensive practices. As women are the most responsible for managing the housework, even when they are working outside, it is important to address what are the implications of this unequal division of house care they experience to the promotion of unsustainable consumption practices, both in terms of increasing energy consumption due of the use of different appliances to tackle these tasks, as well of food waste.

A problematic point as I have demonstrated through the experience of woman, aged 43, administrative manager, she is mainly the person responsible for buying food and measuring the amount of food the family eat, which can influence on how much food is thrown away by the family. She presented the experience of having rice and pasta waste, because she cooked more than necessary and the family did not eat this food afterwards. This example brings to the fore the fact that it is mainly the woman who is more implicated in the responsibility of food tasks; however, she mentioned previously in another part of the interview that she experiences lack of time to cook fresh many times, counting on the fridge to keep food for her children for the next day. Lack of time available due to her routine influences her food practices making them intense and hurried, which in turn affects the amount of food necessary for each meal, contributing to food waste, in which at the end she is also responsible for managing.

Another point which seems to contribute to this unequal division of house care is the lack of knowledge on cooking practices of male partners, which was presented in the experience of man, aged, 64. He presented that his wife complains they eat almost the same things often, then he associates that he is not able to cook differently, because he does not know how to do it. This report on the lack of cooking knowledge presented another important factor to the discussion as, somehow men are not participating more (or even do not participate) in household duties, including cooking practices, due to the lack of knowledge they have of it. At this point, it is worth to question how usually women are introduced to house work over their life time and how men are often not, and how this reinforces ideas that women "know" more about the cooking, recipes, and instructions than men, thus becoming "excellent practitioners", which I suggest is important to understand in order to follow the construction of gender roles, and this can be a topic for subsequent research.

8.3 Conclusion

The analysis of reports under a practice theory approach contributes to understanding the factors that could be promoting the responsibility of food provision to woman. It is striking to see that even in a supposed modern society, where women are occupying more the public space than they were in the past, the role of woman in the house is very attached to traditional identity of how a woman, a wife and a mother should be. Women

are mainly responsible for buying food, planning the menu, for the cooking, and even for the food that is thrown away, both when they are occupying the place of who is taking care of the family, as well when there is a maid that is helping this woman to cope with housework struggles. This accumulation of labor on women seems to promote unsustainable practices, both in the way they engage with appliances to cope with time constraint and the amount of work they do, which can be investigated more in subsequent research; as well on the amount of food that is thrown away, due to routines where it is recognized that time is lacking which makes food provision difficult, where more food than is necessary is cooked resulting in food waste.

Under a tight working schedule, added to housework responsibilities, I have demonstrated a case where a woman, aged 53, presented difficulties to manage food provision due the lack of time promoted by working schedule. Another point that I have presented it was men's lack of cooking knowledge, which could contributes to accumulating food responsibilities on women, as they are not the ones who know how to cook and what to buy, engaging very little on practices related to it. This lack of knowledge seems to be more reinforced by the role that men take in the public space, the ones that should go to the "battle of life", be responsible for providing what is necessary to the household and family members.

However, I have presented two exceptions to the cases where men engaged more in tasks related to housework and food, both happened when they were retired. These exceptions to the cases highlight the consequence of having more time available after being retired and more engagement of men in house work after that: when the practice changed, it changed as well the way man and woman shared some tasks, influencing their roles. The aspect of having more time available seemed to influence as well how woman, aged 53, is carrying out practices of food provision now, having more time to suit a need when necessary. Those factors brought by the experiences of the households with couples, as: the different roles that women and men take in housework due to the construction of social identities; the time constraint of working schedules, which contributes to a dual time burden on women and how practices are carried out; as well the lack of cooking knowledge of men, which seems to contribute to their minor participation with food tasks, seems to have a contribution to the unequal division of tasks related to food as well to house care in general. These factors are important to be

investigated in future research, in order to address what are the possible interventions and ways to promote change on these practices of housework in Brazil. Changing the way practices are carried out at household level seems to be a win-win situation, both for women and for the environment.

9 Conclusion

In this thesis I have examined how food consumption and provisioning practices have been shaped with the fridge and other supporting appliances in the middle class in São Paulo. In this research, which is focused on middle classes households, the daily life was investigated through the practice theory approach. I attempted to understand how these practices are formed, carried out and can change. Therefore, I investigated how people engage with the fridge, freezer and microwave every day; how they engage with them in combination; how often they buy food; who is responsible for tasks related to food, from the moment that is bought, cooked, to served and discarded. All these aspects were important to be addressed and investigated in order to understand the elements that are shaping practices of food consumption and provisioning. Some specific kind of food such as dairy products and red meat were present in practices related to cooling, warming, freezing and defrosting, and as I have presented, the consumption of these products cause great environmental impact. The fridge is seen and used as a convenience appliance, as I presented in the first chapter, both to interviewees that have practices with frozen food often, as well for people that have slow cooking practices and have the fridge as a "mini market" in their homes. It was shown through the largest part of the sample that the convenience aspect due to the usage of these appliances promotes the habit of avoiding to include food shopping so often in the schedule: 9 of the 17, which is more than half of the households buy food weekly, 3 buy food more than once a week, 2 buy daily, 1 buys food every fifteen days, 1 buys food monthly, and 1 did not answer the question. For the most part of the sample, the frost-free technology was present in their fridges, and just 4 of them did not have the automatic defrosting system. I draw in some cases showing how the frost free technology is convenient in terms of saving time and labor. Then I discuss the ideas of time and space and the practices involving these appliances, showing how life in a big city such as São Paulo is experienced by people as hurried, and they rely on the appliances to handle food provisioning and consumption, buying meat in bulk and freezing it, avoiding going to the butcher shop many times, optimizing time in the city. The practice of freezing meat and not going shopping often is important for the elderly couple, which I presented throughout the thesis, as their fridge-freezer usage is related to economic reasons, as buying meat in bulk is cheaper, and also as a way of not being

outside in danger, as they have concerns with violence. Therefore, the freezer works prolonging the durability of food, being on hand and making it possible for people to buy food, freeze and defrost, reordering practices in the kitchen. The possibility of ordering and reordering practices with the fridge, freezer and microwave brings the opportunity to women not to be dedicated to food preparation all the time, which promotes the practice of cooking in bulk, creating other ways of providing food for the family.

Then, the elements of practices involving different appliances (such as the fridge-freezer and microwave) in sequence are investigated. The embodied knowledge of the householders, plus the material, which are the technologies, and the social world are making this a mutually reinforcing regime, and I argue throughout the thesis that as practices are becoming energy intensive, which makes it important to understand how elements of these practices engage with each other in order to promote more sustainable practices. The sample relies much on the combination of these appliances to accomplish their tasks: warming milk that was kept in the fridge in the microwave, defrosting meat, beans, keeping and preparing frozen-food, and keeping as well other kinds of dairy products. 14 of the 17 households presented practices involving these different appliances in combination, however, this daily usage of technologies are seen as taken for granted, as there is little reflection on how they actually engage with appliances to accomplish a task. I could observe how these usages are naturalized and little noticed by the sample, and this has implications on electricity consumption and environmental impacts that are not associated with household's practices. In a different direction of just considering life as hurried and seeing that technology comes to people's lives in order to make tasks efficient, which helps in order to cope with the compression/lack of time and amount of tasks, I presented the idea that "practices make time", demonstrating how practices create their own demand of tempo, and also demands a sequence, which carries a temporality in order to be accomplished. This idea of how practices create their temporalities, and demand sequences is part of what is shaping how people experience time in their daily lives - as they keep reproducing these practices which come with a certain demand of tempo and due to the rigidity of the practice, it is difficult for people to avoid these temporalities, which contributes to their experience of feeling hurried.

With regards to the practice of purchasing a new fridge, it is worth noting that this does not happen often, but it was important to look at this decision making in the purchase of a new appliance in order to understand what is decisive to people when buying a new fridge. Households presented different reasons for purchasing a new fridge, ranging from malfunctioning; the need for a better appliance; and very importantly, 3 households decided to purchase a new fridge due to long usage of the appliance, combined with dissatisfaction with the size and malfunctioning related to the long lasting. These three purchases highlight that the appliance can be long lasting indeed, and be considered obsolete by people when its life expectancy is almost at the end. However, I found on 3 other households the experiences of replacing the fridges that were working well due to technology change, life cycle and social identities. Moving to a new place and having a child contributed to the families decision to buy new appliances, and there is room for reflection on what kind of appliances the family needs. In the cases that presented these situations, the ideas of purchasing a new fridge were related to having a larger size, and a better appliance both in the situation of moving to a new place and having a child.

Gender differences on practices related to food, from the moment that is bought, cooked, to served and discarded, were characteristic of the households. Women are the ones responsible for these tasks and rely on the appliances in order to accomplish them, engaging with appliances to manage the amount of tasks, cooking in bulk, buying in bulk and avoiding frequent shopping trips. Part of the women in the sample experience the double time burden, when they have to juggle paid employment with household tasks, the coping strategy they find to accomplish tasks is related to their usage of appliances, which can alleviate the demands of so many tasks, however, usage of these appliances promotes the demand of more energy consumption. I also presented a case where the woman experienced food waste due to the fact that she is the responsible for the whole cycle of food consumption in her household, but she experiences lack of time and a tight working schedule, which can contributes to her experience of feeling hurried and has an impact on how she engages with cooking practices, contributing to food waste. The exception to the cases where men engage more in cooking and food practices were when they reported being retired and having more time available. When the practice changed, it influenced the way men and women shared tasks, making them more flexible after men retired. Therefore, men engage more with housework when

their working schedules are not competing with household responsibilities. Women engage themselves more as they are “good practitioners”, the ones who know how to cook, what to buy, etc. As well they feel more implicated in these tasks due to social identity of what a woman with family and children should do or be. I have presented that lack of cooking knowledge of men can contribute to this unequal sharing of food practices, which makes it important to understand how women and men are introduced to housework and the space of the kitchen over a life time, and how this contributes to the construction of gender roles and identities. This can be a topic for further research in Brazil, as it is interesting to find that even in a society where women are occupying day after day more the public space, there is a great difference on how men and women engage with household tasks, including tasks related to food consumption and provisioning.

In terms of considering a food provision path that does not necessarily involve a fridge, it seems difficult for people to find other ways to keep food and carry out practices without this appliance, as after the introduction of this product to the market, they learned the benefits of it and consider this an indispensable appliance to facilitate their lives. However, there are other ways to keep food, such as vegetables and fruit that do not necessarily need refrigeration. There is a kind of lock to the refrigerated society due to what is has contributed to household tasks, organization and management of daily life, also due to the kind of food that is originally made to be refrigerated. These aspects bring little chance to people to change their food consumption and provisioning practices due to the food markets structure, the demand of keeping this food refrigerated and the technology. As I have discussed in this thesis, practices are becoming more energy intensive and daily life engaging with technologies is seen and experienced as taken for granted, which demonstrates that the everyday life aspect is urgently needed to be addressed in future research and environmental policies. It is important to focus on emerging economies, especially in Brazil due to the recent increase of the middle class and how this social group identify themselves through their consumption practices, the consumption of red meat and dairy products, the purchasing of appliances when the current one is still functioning, all of which impact on the environment and are not tackled or slightly considered.

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Appendix

Interview 1: Woman (34)

Woman, aged 34 is a lawyer working with IT. She is married and lives in the Morumbi neighborhood with her child, step-son and husband. They live in an apartment of 117m2. The family owns two fridges, one is to keep mainly drinks and the other to keep food. Woman aged 34 and her husband bought their fridges before marrying, when they were single, and after getting married the couple decided to keep both fridges. She has a maid that helps her with household tasks, including cooking, but she herself is mainly responsible for the weekly food shopping and planning meals.

Interview 2: Woman (39)

Woman, aged 39 is a dentist, single, living alone in an apartment in the Campo Belo neighborhood. She lives in an apartment with 130m2. She does not cook much at home and has most of her meals out, or brings food already prepared to eat at home. She does the food shopping more than once per week.

Interview 3: Woman (58) and woman (27)

Woman, aged 58 is a hairdresser living with her husband and their daughter, physical educational teacher, aged 27, in the Jardim dos Lagos neighborhood. They live in a house of 100m2. Woman, aged 58 is responsible for buying food, cooking and planning meals. She does the food shopping which goes inside the fridge weekly.

Interview 4: Woman (68) and man (74)

Woman, 68, and man, 74 are married and live in a house with 105m2 in the Jardim dos Lagos neighborhood. She is a housewife and he is retired. They have experienced many problems with their current fridge three years old, when it was just three months old, they needed to repair it. They presented their whole cycle of fridge purchases during their marriage, having bought three fridges in total. The woman does the vegetables and fruit shopping weekly, which is the one more constant in the house.

Interview 5: Woman (52)

Woman, aged 52 is an industrial pharmacist, married living with her daughter in the Vila Mariana neighborhood. They live in an apartment of 70m2. For her the possibility of having a fridge is much related to the refrigeration of products that require it, such as meat and dairy products. She buys food daily.

Interview 6: Man (63)

Man, aged 63 is an administrator, widow, living in the Vila Mariana neighborhood. He lives alone in an apartment of 50m2. He buys frozen food and keeps the freezer stocked, as he does not have the habit of cooking from scratch. He also has help of family members and friends cooking for him. He buys food weekly.

Interview 7: Man (64)

Man, aged 64, is retired, married, living with his wife and an adult son in the Jardim Ernestina neighborhood. They live in a house of 125m2. Man, aged 64 is mainly the one responsible for buying food, planning the meals and cooking in the household. He buys food more than once per week.

Interview 8: Woman (63)

Woman, aged 63 is retired, widow and lives alone in a house in the Jardim Ipanema neighborhood. She cooks for herself and prefers the taste of her own food, than to dine out. She buys food weekly.

Interview 9: Man (25)

Man, aged 25 is an engineer, single, and lives with a colleague in an apartment around 60m2 in the Vila Olímpia neighborhood. He buys frozen food and does not have the practice of cooking from scratch at home, otherwise he dines out. He does the food shopping weekly.

Interview 10: Woman (53)

Woman, aged 53, is an engineer, married, living with her husband and two children in the Jardim Paulista neighborhood. They live in an apartment of 130m2. She is mainly

responsible for the weekly food shopping and planning meals. She counts on the help of a maid to cook for the family.

Interview 11: Woman (70), woman (21), woman (48)

Women 70, 21 and 48 are maid and widow, university student and single, school monitor and divorced, respectively. They are the grandmother, granddaughter and daughter living in the same house in the Jardim dos Lagos neigborhood. Their fridge's usage is calm during the week and it is used more on the weekends, as they are at home and usually have someone visiting them. They buy food daily.

Interview 12: Woman (21)

Woman, aged 21, single is an administrative assistant living alone in a house in the Jardim dos Lagos neighborhood. She just had began to live alone as her parents have moved out of this accommodation. She doesn't spend much time on cooking practices, and buys frozen food often or ingredients for preparing an easy meal. It is not clear how many times she does the food shopping.

Interview 13: Woman (49), daughter (27) and son (22)

Woman, aged 49, maid and married lives with her husband and their children, daughter (27), auxiliary of personnel department, single, and son (22), unemployed, in a house in the Jardim dos Lagos neighborhood. The mother is mainly the responsible for buying food for the family monthly, planning meals and who most engages with cooking practices.

Interview 14: Man (34), mother (68) and dad (62)

Man, aged 34, engineer and single lives with his mother aged 68, piano teacher, and his father aged 62, retired and married in a house of 200m2 in the Jardim Satélite neighborhood. His mother engages more with cooking practices and food planning, and his father engages more with the food shopping as he is retired and has more time available. Man, aged 62 is responsible for buying food for the family more than once per week.

Interview 15: Man (40)

Man, aged 40, advertisement manager, single with children lives in an apartment of 84m2 in Mooca neighborhood. He buys frozen food as well as red meat in bulk in order to freeze it and reduce continued food shopping trips. He buys food every 15 days.

Interview 16: Woman (not provided)

Woman, age not provided, nurse, single lives together with her partner and two small children in the Jardim Ipanema neighborhood. Their house plus the terrain is 350m2 in total. She engages with the fridge throughout the day to prepare meals for the family. Her partner contributes to tasks as buying food and planning meals, however, she is mainly the one responsible for carrying out the cooking tasks. They buy food in bulk monthly, but there is a weekly food shopping to complement what is lacking, which is more constant.

Interview 17: Woman (43) and man (48)

Woman, aged 43, administrative manager, is married with husband, aged 48, engineer. They live in an apartment of 52m2 with their two children in the Vila Emir neighborhood. The couple is actively employed, and woman, aged 43 is the one responsible for providing food for the family and engaging constantly with food practices. They shop weekly, which is more constant.

Interview guide

My name is Nina Maria Figueiredo and I am a master's student of Culture, Environment and Sustainability at the University of Oslo, in Norway. This interview will be used as material for my master thesis.

The thesis is about energy consumption in middle-classes households in São Paulo. I am interested in habits and practices that people have with the refrigerator. The type of consumption that I am interested it has to do with the acquisition, the use, maintenance and final destination of the refrigerator when it's not functioning anymore.

I would like your permission to record this interview, with the aim of listening to the answers accurately afterwards.

I would like to inform you that your identity will be preserved. The interview will be used only as data for this work. The interview will be kept only with me and it will be discarded on finishing the research.

Names:

Total number living in the household:

Woman: Age:

Man: Age:

Civil status:

Size of the kitchen:

Type of household:

Practice:

In general, how do you use the refrigerator on a daily basis? Describe one day or situations during the week that involve the refrigerator's use.

How do you organize your food shopping? Is it per week, month or per day? Who is responsible for this chore? Do you need a car to go shopping? Are the markets that you go to close to your place? Who plans the menu and food? Who cooks? Do you keep some food that doesn't need refrigeration in the fridge? If yes, which one and why?

What is the importance of the refrigerator today in the household? Of the appliances you have in the home, is the refrigerator particularly important? Do you have freezer? Do you have microwave? Do you use these appliances together? How?

Can I see your refrigerator? Tell me a little bit about the location of the fridge, the type of machine, efficiency class. When did you buy it? Why did you choose this fridge?

Was it something discussed between the family members? Does this fridge satisfy your expectations?

Is energy something that you think about when you are using the fridge? In what situation do you usually think about this appliance?

Has this refrigerator required any maintenance? If yes, how was it? What happened? How did you solve the problem?

Do you think is it necessary to clean the refrigerator? Why? How is this chore undertaken?

When do you consider it is time to buy a new refrigerator? When it was necessary to change the refrigerator from previous to the current, what happened to the old one?

Do you remember the first refrigerator that you bought together? How was it? Do you notice any differences between the refrigerators that you had over time?

Do you remember how the introduction of this product into the market was? Do you remember using the refrigerator during your childhood and youth? How was it? Do you know how your parents kept food in the past? And your grandparents?

Would you live without the fridge?

Information about questions related to energy consumption and Climate Change. –

Today we live in a global reality where we have been witnessing Climate Change. Energy consumption contributes to CO2 emissions and global warming.

Have you heard about that? Is it related to your life to some extent? How?

How do you deal with climate change predictions? Do you engage yourselves in some way? How?

Do you make some effort in order to reduce the consumption of goods, water and energy? How?

What do you think is complicated in changing the way you consume? What could lead to a change in your habits? What would make you think more about these issues related to the environment?

Who has the responsibility to promote change in relation to energy and Climate Change?

Are you aware that the appliances consume electricity and how much? Do you think that it's important to save electricity in Brazil or is it only a responsibility of the developed countries?

Can I see your refrigerator? Can I take a picture of it? (opened and closed).

São Paulo, picture by Nina Maria.