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The problem of food waste at the consumer level
exploring the social-spatial-temporal conditioning of practices in everyday life

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The Problem of Food Waste at the Consumer level:

Exploring the social-spatial-temporal conditioning of practices in everyday life

By

Jordon Matthew Cruess Lazell

PhD

March 2020

The Problem of Food Waste at the Consumer level:

Exploring the social-spatial-temporal conditioning of practices in everyday life

Jordon Matthew Cruess Lazell

A thesis submitted in partial fulfilment of the University's requirements for the Degree of Doctor of Philosophy

March 2020

Certificate of Ethical Approval

Applicant:

Jordon Lazell

Project Title:

The socio-spatial-temporal conditioning of practices in everyday life: From moments of consumption to conduits of food waste

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

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Abstract

The wastage of food continues to be an abhorrent global problem with households responsible for the majority of food waste in developed countries. The last decade has seen a surge in research exploring the wasteful behaviours of consumers. Yet studies have delivered limited headway due the primarily cognitive basis of work. Inconsistencies between attitudes, motivations and intensions, and the actual actions performed, have offered limited progress in moving towards more sustainable consumption. Meanwhile consumers are failing to respond to behaviour change campaigns that target change through awareness of the food waste issue. As an alternative pathway, a practice turn in consumption studies has highlighted the merits of exploring the mundane, repetitive and everyday aspects of life. This has provided a greater capacity to unlock the visceral and compounded nature of food. However this emerging research arena is yet to provide a sufficient approach to comprehend the complexity of consumer food waste behaviours. Further understanding of why consumers are wasting such considerable amounts of food would benefit from an understanding of the contextual and circumstantial factors that are shaping consumption activities.

Through employing a theories of practice approach, this thesis makes a novel and important empirical and theoretical contribution. As an alternative to methodologically individualistic means of behavioural understanding, this thesis develops a practice conditioning framework, consisting of aspects framed in the social, spatial and temporal domains that bring to light circumstantial and contextual shaping of unsustainable consumption behaviours. Eight conditioning aspects are developed in total to facilitate understanding of what is shaping the performance of consumption practices. Drawing upon this framework, a UK study involving 23 households was undertaken. The methodology designed involved participant generated data collation over the course of a week. Participants took photos of food stored and used, collected receipts, provided food maps of their local area and household, and completed accounts of their weekly and morning routines. These methods were accompanied by in-depth semi-structured interviews. The data presented a full picture of the rhythms of daily and weekly life giving insight into how, when and why food consumption practices were carried out and their direct and indirect links to food waste generation and mitigation.

The findings and adjoining discussion present a number intricacies that configure consumption practices giving new insight into reasons for consumer food waste. Starting with social conditioning aspects, the findings show that food planning is resolved in different ways up until the point of mealtime. The body is shown to be a volatile platform of practice that can redirect and interrupt food performances leading to waste through instances such as

unconventional storage justified via visceral norms. The spatial conditioning aspects illustrate how environmental cues and locational reference of objects within the home influence the dispositions that are part of how food is managed in the home. In contrast with other studies, the presence and visibility of food was not found to be an effective trigger for food waste mitigation actions. For some households wasting food was demonstrated to be part of how the kitchen as a space was understood and constructed. The mobile nature of food consumption is also contended showing how the spatial remit over which food is provisioned is a conditioning factor. In terms of the temporal aspects, existing ideas around how greater organisation is key to preventing food waste were at odds with the ways in which participants' lives featured disorder and disarray. The in-time, experiential nature of consumption revealed how consumers can be derailed from their typical food habits, implicating subsequent variation in food management and food wastage.

Overall, the conditioning framework enabled a critical analysis of how consumers' patterns of living, and the interlinking consumption behaviours, unfold and shape how food comes to be wasted. This theoretical advancement provides a novel mechanism to conduct a practice analysis to provide a greater depth of knowledge on factors that are sustaining unsustainable behavioural traits and the identification of key points of change. Trends in practices and routines, rather than socio-demographic factors, provide a better picture of understanding food waste behaviours. The way in which households are co-ordinated was a key feature of the findings, acting as both a barrier to preventing wastage, as well as planning ahead to manage food more effectively. By providing these insights, studies of food waste at the consumer level must learn to critically engage with the wider contextual aspects that condition the routines, habits and rhythms of life. The thesis offers 11 key implications and puts forward a future research agenda.

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Chapter 1

Tackling the problem of food waste at consumer level

1.1 Introduction: The Problem of food waste

Food waste is a symptom of the unsustainable capitalist food system (Lang, 2015). Modern consumer societies are underpinned by a continuous flow of consumption activity of short use, replaceable materials and goods that have normalised an inherent wastefulness, removing historic values of thrift and resourcefulness (O'Brien, 2007; Scanlan, 2005). Increasingly norms of discarding food that problematise all aspects of the supply chain are being uncovered, revealing the diminishing care that societies and individuals hold for food as another product of mass consumption: a disposable commodity of the mechanised world (Stuart, 2009). Through consuming food we are connected to an extensive global far reaching system of agricultural production, food manufacturing, processing, transportation, packaging, marketing and retailing. Food waste has "emerged as an indictment of past patterns and decisions, posing the theoretical and practical challenges of new juxtapositions of scarcity and excess" (Spring et al. 2020:3).

The current arrangement of the food system is unsustainable. A third of all emissions contributing towards anthropogenic (human induced) climatic changes originate from food related activities (Vermeulen, Campbell and Ingram, 2012). This system supports a paradoxical situation where 795 million people are under nourished whilst others have surpluses of food, which are devalued and disregarded with little consideration of consequences (FAO, 2015; Stuart, 2009). As the demand for food continues to grow, the mono-cultured mass production and consumption of food driven by global food corporations remains, and thus so does food waste as a symptom of this problematic situation.

There are some illuminating facts and figures surrounding the global food waste issue. A third of all food grown for human consumption is wasted or lost, estimated to total 1.38 billion tonnes annually (Gustavsson et al., 2011). If the food waste problem were a country it would be placed as the third largest polluter emitting 4.4 gigatonnes of carbon dioxide behind China and the United States (FAO, 2015). Food production is the largest source of environmental change with the land used to produce food that is wasted representing 30% the global area for agriculture (FAO, 2013; Willett et al., 2019). Food waste that decomposes at landfill generates methane, a greenhouse gas with a warming potential 25 times larger than carbon dioxide (FAO, 2015). Individuals in western developed countries waste up to 150 kilograms more per year than those living in poorer developing areas (FAO, 2012). The overall economic cost of food waste is estimated to be more than $940 billion, a figure that continues to rise (FAO, 2015).

These stark statistics are exacerbated further when considering the embedded environmental impact of when food is wasted rather than being consumed. The later in the supply chain that food is wasted the greater its environmental impact as it is subject to further processes and greater

exertion of energy and resources. The life cycle assessment of an apple for example shows that for every 1.28 kilograms produced, only 1 kilogram is eaten by the consumer (Scherhaufer et al., 2018). If action is not taken the environmental impact of food waste is predicted to rise by 50 to 90%, placing planetary resources such as energy, water and soil health in a crisis state (Spring et al., 2020; Springman et al., 2018; Willett et al., 2019). At the same time a more accessible food system is required to provide healthy and nutritional meals to meet the predicted global population increase of 10 billion by 2050 (Willett et al., 2010). A response to meet the future food needs and avoid the catastrophic effect of climate change, soil degradation, malnutrition and obesity is urgently needed.

In the EU, 88 million tonnes of food is estimated to be thrown away each year (Stenmarck et al., 2016). Whilst each country has developed its own policies in line with EU expectations, food waste is an escalating concern. Food waste represents 15 to 16% of the total environmental impact of the entire food chain in the EU with 53% of all waste coming from households and 70% being inclusive of all end of supply chain activities from households to food services, retail and wholesale (Stenmarck et al., 2016; Scherhaufer et al., 2018). In the UK 10 million tonnes of food is thrown away annually, equivalent to 3% of the UK's greenhouse gas emissions (WRAP, 2019, 2011). The majority of food thrown away in the UK is due to households, being responsible for 7.3 of the 10 million tonnes total (WRAP, 2019). WRAP (Waste and Resources Action Programme) (2019) estimate this to be equivalent to 20 million slices of bread, 4 million potatoes and 3 million glasses of milk thrown away every day. In total the UK retail value of food wasted every year is £12 billion with each household wasting £250 to £400 each year (WRAP, 2013a). UK retailers are estimated to be generating at least 1.6 million tonnes of food waste annually (Mena, Adenso-Diaz and Yurt, 2011). The UK remains one of the most wasteful countries globally displaying similar trends as other western nations with the bulk of waste originating at the consumer level.

An array of definitions have problematised and compartmentalised the food waste problem (Papargyropoulou et al., 2014). Whilst these definitions vary, there is general agreement that food waste signifies food being disposed of that can no longer can be used for it primary purpose of human consumption. However this has not proven a sufficient definition to cover all instances of how food comes to be wasted. Wasting food means the material is no longer of value, it has decreased in both quantity and quality, a process that could happen at any point in the supply chain (FAO, 2019). Stuart (2009) adds that this definition should include edible food that is intentionally fed to animals or is a by-product of processing. Smil (2004) adds that food waste

should include waste resulting from overconsumption, inclusive of the excessive food used over what is required per capita.

A further distinction is made between food waste and food loss. The most recent State of Agriculture and Food report from the Food and Agriculture Organisation (FAO) explain food loss as the reduction of the supply of food (FAO, 2019) whereas food waste is the active deterioration and disposal of food in its edible form. This distinction is mostly conceptual and gives a means of describing what is lost at farm level, before entering the supply chain, and what food is wasted once produce leaves the farm gate (Gusstavsson et al., 2011). This definition however is not used universally with research conducted on losses throughout the supply chain (Lebersorger and Schneider, 2014). With the majority of food being lost at the production stages of the supply chain in the global south, there has been a tendency to associate the global north with issues of food waste and the global south with issues of food loss, however this has been challenged given that it does not consider the rapidly urbanising populations of countries such as Indonesia (Spring et al., 2020; Soma, 2018). This thesis, as a study that focuses on both food consumption and waste, employs the definition used by the FUSIONS (2016) research project:

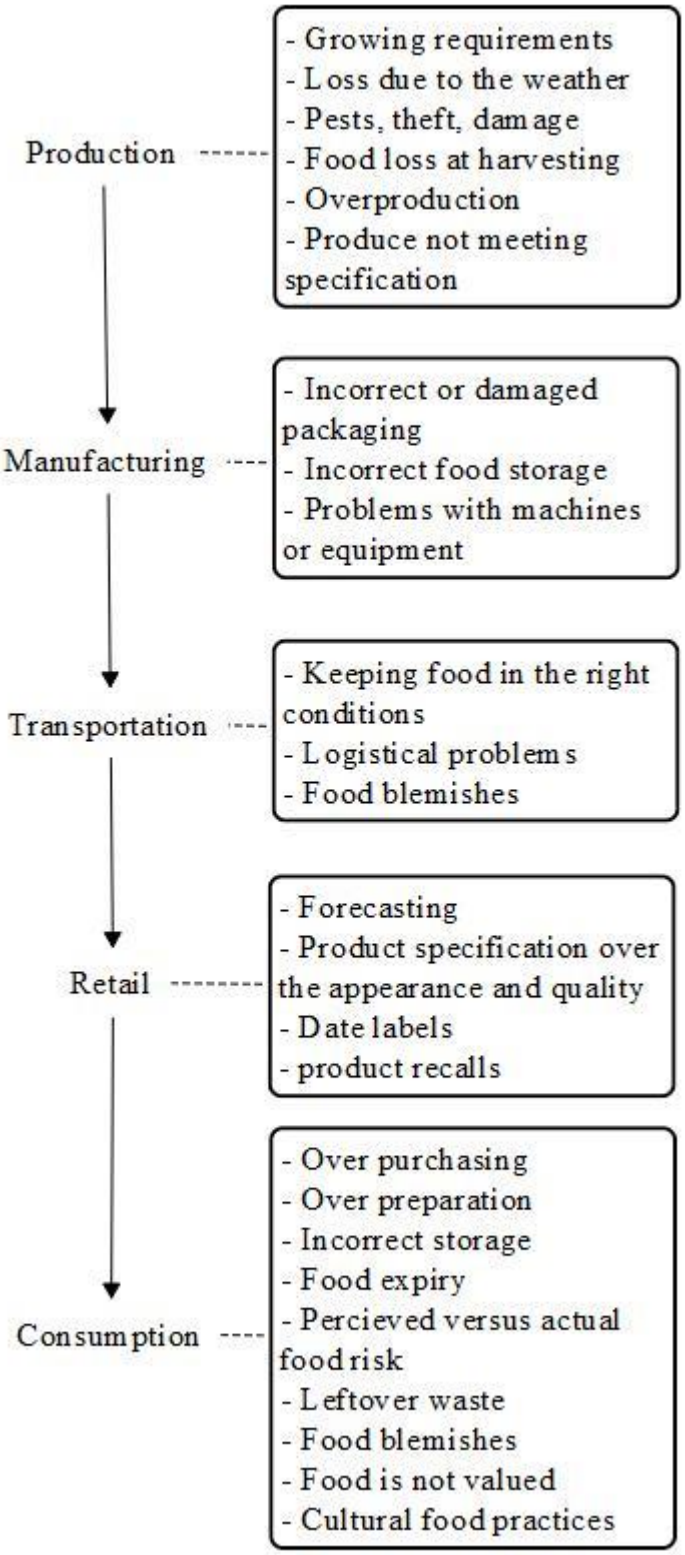
> "Food waste is any food, and inedible parts of food, removed from the food supply chain to be recovered or disposed" (FUSIONS, 2016)

This raises further distinctions between what is inedible and edible, as well as what is considered as avoidable and unavoidable food waste (Nicholes et al., 2019). These terms have proved useful in determining where waste reduction and prevention is possible. Avoidable waste is considered as food that was at one point edible, where edible is what can be consumed by humans according to cultural, social and temporal factors (Hebrok and Boks, 2017). Unavoidable and inedible food waste are food parts like bones and egg shells that cannot be consumed. Lebersorger and Schneider (2017) claim that these terms have been used inconsistently. For example the UN Sustainable Development goal 12.3 to reduce food loss and food waste at the retail and consumer stages of the supply chain by 50% by 2030 apply the definition of food loss as waste occurring from farm gate to retailers.

The wider the definition the greater proportion of waste that can be recorded and the larger scope of what can be measured and prevented. The complexity of definitions reflects the vast nature of the food waste problem with food waste being generated as a result of a number of different actors. This also reflects the difficulties in calculating what exactly is considered as waste, how this came about and in what state. The overall picture is one of significant inconsistencies in food's journey from farm to fork (Parfitt, Barthel and Macnaughton, 2010).

Figure 1.1 below outlines some of the reasons for food waste at different stages of the supply chain.

Figure 1.1 Diagram to show the reasons for food waste at different points in the supply chain



Reasons for wastage in production are losses of food due to adverse environmental conditions, problems with food growing such as overproduction or produce not meeting specification (Beausang, Hall and Toma, 2017). Reasons for food waste during food's manufacture, transportation and retail relate to the management of food by food corporations, driven by meeting demand and profit margins (Ghosh and Eriksson, 2019; Warshawsky, 2016; Mena, Adenso-Diaz, Yurt, 2011). Swaffield, Evans and Welch (2018) explain that for retailers food waste is an issue of resource, brand and financial management. Here food is addressed alongside other globally traded products that generate waste through incorrect or damaged packaging, logistical problems and issues with forecasting (Hird, 2017). Moving to consumption, the principal reason for food waste, relates to consumer actions around improper management and preparation of food (fully explored in the next chapter).

In each of these stages there are different framings of how food waste is understood. Within the field of waste management, food waste is a technological problem solved through finding the most efficient use of the food waste material, efficiency gains in manufacturing processes and innovations towards recycling and re-use (Bernstad Saraiva Schott and Cánovas 2015, Gregson and Crang, 2010). This stance attempts to address the suboptimal use of food, framed as a practical problem of food losses between actors involved in the production and retailing of food products as well as management of post-consumption discards. In contrast the fields of sociology, marketing and geography have paid greater attention to addressing the behaviours that lead to waste as well as the social environment within which these are undertaken. As well as academic framings, food waste has also been framed as a problem according to how potential solutions are appropriated. Canali et al., (2014) provides an overview of these framings represented in figure 1.2.

Figure 1.2 – Table to show the drivers of the food waste problem (Canali et al. 2014:9)

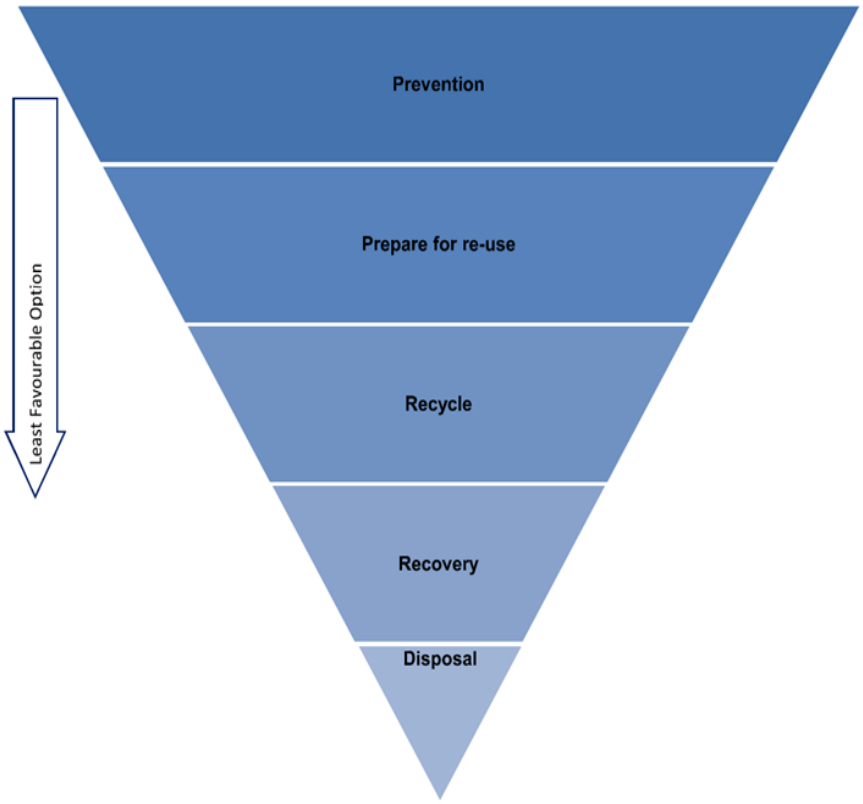
Context categories	*Grouping of identified drivers of current food waste causes*		
Technological	Drivers inherent to characteristics of food, and of its production and consumption, where technologies have become limiting	Drivers related to collateral effects of modern technologies	Drivers related to suboptimal use of, and mistakes in the use of food processing technology and chain management
Institutional (business management)	Drivers not easily addressable by management solutions	Drivers addressable at macro level	Drivers addressable within the business units
Institutional (legislation and policy)	Agricultural policy and quality standards	Food safety, consumer health, and animal welfare policies	Waste policy, tax, and other legislation
Social	Drivers related to social dynamics which are not readily changeable	Drivers related to individual behaviours which are not readily changeable	Drivers related to individual behaviours modifiable through information and increased awareness

Figure 1.2 shows that technology is a driver in how it has facilitated mass production and consumption. On the one hand technology has enabled new ways of consuming food, with technological solutions enabling greater efficiencies in food production and manufacturing processes and lower energy use of consumer appliances (Gram-Hanssen, 2008; Lorek and Fuch, 2013). However on the other hand technology has facilitated affluent, high resource use, high waste consumer lifestyles in developed nations and the adoption such lifestyles in the global south (Alfredsson et al., 2018). Figure 1.2 highlights how a framing for businesses management of food waste is at the macro corporate governance level rather than at the level of individual business units (Canali et al., 2014). This can mean that the impact of company procedures that generate waste can go unseen (Lazell, 2019; Ghosh and Eriksson, 2019).

Figure 1.2 also frames the role of institutions in terms of the role of legislation. For example how food waste may be indirectly generated due to agricultural policy, subsides, quality and safety regulations or rules on best before dates (Göransson, Nilsson and Jevinger, 2018; Filimonau and Gherbin, 2017; Priefer, Jörissen and Bräutigam, 2016). Drivers at the social level frame the problem of food waste to segmenting consumer groups by demographic factors to identify how certain portions of the population maybe more wasteful than others (WRAP, 2014). Consumer aspects are often further explored by looking at the cognition of individuals, investigating their attitudes, choices, motivations and intensions with regards to how food comes to be wasted (Young et al., 2018).

The multitude of framings show how food waste is inter-related with all parts of the food supply chain. This reveals how different sets of knowledge underpins each of the stages of the supply chain with regards to both understanding why food waste comes about and also the potential solutions. Strategies to mitigate food waste in the UK for example have been noted as separating consumption activities from the management of waste material generated (Bulkeley Watson and Hudson, 2007), a distinction that has been found to be enabling damaging levels of overconsumption to continue in western economies (Williams and Millington, 2004). In order to meet targets such as the UN sustainable develop goal 12.3, it is imperative that food waste is not just managed more sustainably as a material that has already been disposed, but is mitigated to ensure food does not become waste. Figure 1.3 displays the food waste hierarchy that identifies the most preferable to least preferable options in terms of environmental outcome with regard to food waste mitigation.

Figure 1.3 – The Food Waste Hierarchy (Papargyropoulou et al. 2014:108)



Whilst there is no single solution to the food waste problem (Gascón, 2018), there is a clear justification for the avoidance and prevention of food ever becoming waste as being the priority strategy (Scherhaufer et al., 2018). Three quarters of all the food wasted in the UK could be

avoided in some way, rising to 80% for food wasted by consumers (WRAP, 2013b). Preparation of food for re-use is the next preferable option. First and foremost food unwanted by one actor, whether a consumer, retailer or company, should be shared with another source for human consumption (Midgley, 2019). Recycling refers to feeding food disposed of to animals to ensure that the nutritious element returns to the food supply chain (Giuseppe, Mario and Cinzia, 2014). Recovery refers to recovering resources from the food waste material, for example the production of methane gas (Cicatiello et al., 2016), or usage of waste material to make peat and compost (Farrell and Jones, 2010), as well as other product innovations such as beer and condiments (Independent, 2017). Mitigating food waste has been identified as being a strategy that has significant potential to help reduce emissions and transition towards a lower carbon world (de Coninck et al., 2018), however ensuring that the most preferable preventative actions are employed is crucial to this, with some academics questioning the usefulness of the food waste hierarchy as just a guideline for action (Papargyropoulou et al., 2014). Overall despite prevention being the optimal point in the waste hierarchy to address food waste there is still some way to go in ensuring that this is the focus of all food waste mitigation actions (Priefer, Jörissen and Bräutigam, 2016).

1.2 The need for greater understanding to mitigate food waste at consumer level

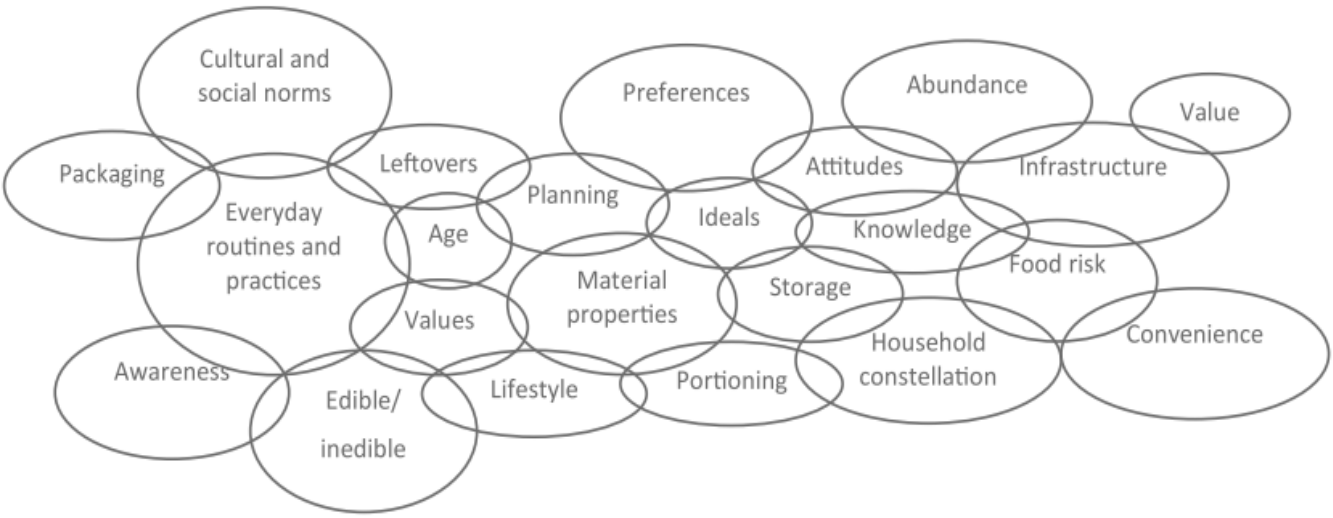
Addressing food waste generated at the household and consumer level presents a significant opportunity to reverse the environmental impact associated with wasting food (Aschemann-Witzel et al., 2017; 2015). In order to prevent food from being wasted at this level, sources of food waste must be understood with this being an interlaced topic of study. Here sources of consumer food waste capture the consumption activities of purchasing, management, storage, handling, preparation, cooking and disposal of food, and actions in-between these (Evans, 2014). Furthermore there is a need to think about what contextualises these activities, how they might vary via socio-demographic, behavioural, environmental and lifestyles factors that dictate how consumers live their lives (Hebrok and Heidenstrøm, 2019).

An important distinction to make is that studying sources of waste at the consumer level has a wide remit. Understanding why consumers waste food draws upon their actions and behaviours, the environments within which they take place, the material nature of the food itself and the packaging it comes in, as well as wider societal structures that govern food. With respect to food, the notion of the consumer is a construct. This means that usage of the term 'consumer' is figuratively accompanied with the dissemination of food cultures, the escalation of moral and ecological concern with food, and the underpinning supermarket model of provision that has diffused globally (Battersby, 2017, Goodman and Sage, 2014; Humphrey, 2007). Presenting a holistic picture of the consumer in this way helps understand the unsustainable impact of the food system, its capital intensive agenda and the need to separate economic growth from environmental degradation, with food waste being one piece of the problem (Dury et al., 2019; Thrall, Bever and Burdon, 2010). This shows how efforts to prevent food waste at the consumer level cannot ignore how it is wrapped up in contextual factors that underpin current arrangements of food consumption, with this thesis holding a specific concern with a UK context given that this was the study's remit.

Despite consumers representing the greatest source of waste in the global north, this does not mean they should hold total blame and responsibility for the food waste they generate (Evans, 2011a), meaning that consumer waste is not wholly attributable to consumeristic reasons (O'Brien, 2011). Consumers have been a scapegoat for practitioners working in the food waste field, blaming consumer ignorance for unsafe domestic food storages (Meah, 2014), and food waste on their inability to plan ahead (WRAP, 2014). Whilst the actions of consumers play a key role, the contextual factors of these actions must also be considered such as the wider structures that make food procurement, preparation and disposal possible. Hebrok and Boks (2017) work has identified how there are wider drivers of consumer food waste and these are shown in Figure

1.4. This features drivers such as packaging, the material properties of food and cultural and social norms that remain outside consumer control.

Figure 1.4 Major food waste drivers at consumer level, taken from Hebrok and Boks, (2017:383)



Moving to how consumer food waste can be prevented, it can be argued that initiatives and interventions have failed to keep track and take into account the range of factors presented in figure 1.4 (Foden et al., 2017). Public behaviour change campaigns, developed through collaboration between governments, food industry and civil society, have been a favoured mitigation approach (Reynolds et al., 2019). The Love Food Hate Waste programme is a well-known example. This campaign provides consumers with information such as recipes and domestic food management advice (Love Food Hate Waste, 2018a). Typically this advice follows the route of making the most of food to ensure it is eaten rather than wasted with less emphasis on tackling overconsumption and over provisioning[1]. Other examples include the Stop Wasting Food movement in Denmark (Stop Wasting Food, 2019) and various projects in the Netherlands (Netherlands Nutrition Centre, 2018) which have followed a similar strategy of communication to raise awareness, encourage participation and promote change (Cox et al., 2010).

These activities have principally taken place in an online space but can also involve local dissemination of door step packs (Bernstad, la Cour Jansen and Aspergen, 2013) and training food

[1] In May 2016 I attended a Love Food Hate Waste trainer support workshop on problem behaviours of household food waste. I was surprised that there was little content on changing shopping habits and other prevention based strategies to tackle overconsumption.

waste champions to exert influence at local level (WRAP, 2013b). Much of the strategy of UK local authority's engagement in consumer food waste concerns the delivery of food waste collections services (WRAP, 2016), with behaviour change activities typically administered centrally and delivered by third sector organisations with some take up in schools (House of Commons, 2017). Prevention activities also feature a strong connection with the food industry, with the Courtauld agreement in the UK pushing forward waste reduction (WRAP, 2020). Consumer relevant actions include changes to packaging sizes and date labelling, the introduction of self-dispensing machines, edible packaging and technological based solutions like apps and fridge technology that help consumers keep track of food (Newsome et al., 2014; Farr-Wharton et al., 2010; Bucci et al., 2010). Here prevention lies in making changes to the food products themselves, their means of sale and providing new ways to manage them.

There is contrasting evidence to whether these prevention strategies are working in the UK. On the one hand results by WRAP (2020:6) reveal a 6% reduction in household food waste from 2015 to 2018. WRAP, a UK charitable body tackling waste across sectors, estimates that food waste prevention activities have saved consumers £3.4 billion since 2007 (Love Food Hate Waste, 2018a), meaning that for every £1 spent on household waste reduction, the consumer benefits between £4.50 and £6.50 (WRAP, 2016).

However on the ground food waste prevention projects present a different picture. The UK supermarket Sainsbury's invested £10 million into the town of Swadlincote to reduce food waste by 50% but failed to reach its target. The project utilised similar consumer based interventions under a technology frame, like the use of apps and fridge thermometers, but only achieved a reduction of 9% (Sainsbury's, 2017; The Guardian, 2018). Reasons for the failure centred on how tackling consumer food waste was deemed to be more complicated than first thought. Even following this experiment, no supermarket is adequately addressing the causes of food waste that can be connected to the supermarket model of food access (Feedback, 2018), for example the marketing tactics of supermarkets that over provision households with food (Aschemann, de Hooge and Normann, 2016). Whilst UK government policy may have presented a case for focusing on the economically rational actions of consumers, improved education and better guidance on portioning as a food waste prevention strategy where the food industry takes a leading role (Government Office for Science, 2017), serious questions remain over how successful this will be in the long term in providing meaningful change (Hebrok and Heidenstrøm, 2019).

There are several reasons to doubt current household food waste mitigation strategies. Firstly there is a failure to understand consumers' capacity to make changes. Underpinning current behaviour change strategies is a citizen-consumer model whereby consumers are able to

incorporate new actions and make better decisions as a result of their increased awareness of the problem of food waste and provision of advice (Närvänen, Mattila and Mesiranta, 2019). This approach however fails to acknowledge whether consumers have the capacity to make such changes. Consumers are not always aware of why they are wasting food (Hebrok and Boks, 2017). Such an approach is a traditional positioning of ecological responsibility as a subject of consumer choice (Barr, Gilg and Shaw, 2011). This has been widely critiqued as an inadequate response to sustainability issues (Shove, 2010; Moloney and Strengers (2014), including food consumption and waste (Paddock, 2015; Evans, 2014).

The second reason is that solutions too often hold the wrong premise. For example of the food wasted in the UK, half of this is believed to be wasted because it is not being used in time (WRAP, 2014). The behaviour change campaigns mention their successes in encouraging consumers to use up as much of this food as possible, to reduce opportunities for disposal. Whilst this is a valid pathway to pursue, a more preventative pathway would be to comprehend why so much food is not being consumed and why consumers are finding themselves in such situations. Practitioners working to mitigate food waste from consumption sources have been found to acknowledge consumers' failure to plan, manage, store and prepare food but explain that little further priority is given to pursuit waste reduction (Aschemman-Witzel et al., 2015). As consumers are not carelessly or purposefully wasting food (Evans, 2011b, 2014), reasons for food waste potentially lie in a wider contextual understanding of how consumption and its organisation unfolds. It is evident that whilst the need to understand the factors influencing the reasons for food waste at consumer level are acknowledged, practitioners have failed to see beyond these actions to offer further explanation.

The third reason is a failure of social theory and consumer understanding that underpins current work on food waste prevention. Similar to work in the area of sustainable consumption, food waste features an over reliance on consumer agency which corresponds with the failure to compute consumers' capacity to change their behaviour. It has been well documented that a tradition of prioritising individual's cognition, such a consumer attitudes, motivations, choices and intentions, has limited understanding and progress towards sustainable consumption (Sanne, 2002, Spaagaren, 2011). Shove (2010) explains that there is a gap between the current employment of behavioural understanding from social theory to solve the ecological crisis, and the potential change that could be achieved. A focus on the individual instigates change through how millions of individuals can make more sustainable decisions through changes to their intentions (Stern, 2000). Consumers however are well evidenced in failing to consistently act in a sustainable way in response to behaviour change strategies that focused on changing attitudes,

despite having sufficient access to the right materials and awareness of their damaging behaviour (Moraes, Carrigan and Szmigin 2012, Shove, 2010).

The fourth reason points directly towards how consumer food waste behaviours are understood. There has been sufficient research from both academic and practitioner sources to identify the key reasons for why consumers waste food (Hebrok and Boks, 2017; Block et al., 2016; WRAP, 2014). However a common critique of such research, particularly where an individualised approach has been employed, is the failure to take into account the lived everyday reality of consumer lives. For example, the people focus work of WRAP (2014) explores the direct and indirect influences upon the causes of consumer food waste. Limited explanations are offered on factors such as time availability, cooking skills and preferences with the report acknowledging that there are further indirect influences that were not measured (WRAP, 2014). These are key behavioural characteristics that are part of the grounded explanation for why food waste is generated.

A body of work has argued for a greater interest in the routine and mundane characteristics of consumption to be taken into account, aspects that are overlooked when instilling behaviour to individual's cognition (Warde, 2014; Shove, Trentmann and Wilk, 2009; Warde, 2005). Warde (2014:4) explains that the "embodied procedures, the material and instrumental aspect of life" are absent. Food and waste are topics that hold embedded and embodied behavioural aspects that play an important role in how consumers organise their lives (Lazell, 2016; Goodman, 2016; Pink, 2012). Such thinking has given light to the need to address the social context of waste (Evans, 2014), drawing upon alternative behavioural understanding to explore this (Evans, Mcmeekin and Southerton, 2012). Theories of practice for example has been employed as a means of re-situating the analysis of consumer behaviours away from the individual (Nicolini, 2013; Warde, 2005), to provide a wider lens of understanding. Such an approach however has seen little recognition in the study of food waste or in food waste prevention strategies (Evans, 2014).

These four factors challenge how societies should go about tackling the problem of food waste at consumer level. Whilst it would not be correct to say that current approaches are failing, serious questions can be posed to policy makers and the food industry to whether the current pathway of prevention is working, and more critically whether the underpinning understanding of why consumers are wasting food is sufficient. Consumers are being placed in untenable positions of tackling their food waste when academic and practitioners are yet to fully understand the context and circumstance of their behaviours. Whilst there is knowledge on some of the reasons for food waste, what is lacking is a broader grasp on the wider environment that is enabling and shaping food and waste actions. As Evans (2014:xv) explains there are "various factors that shape the

prevailing organisation of food consumption" with this thesis investigating how these factors relate to why consumers are wasting so much food. This thesis seeks to further understand the conditions under which consumption and waste unfold, making a theoretical contribution in outlining how a framing of social, spatial and temporal conditioning can capture aspects of context and circumstance of consumer food waste behaviours. A number of different aspects are constructred and exercised within these three demains of conditioning. Each of these are mechanisms through which understandings of food waste behaviour can be furthered. For example in providing an in-depth means to theorise the role of the body, the role of space and place, and the shaping role of how time is experienced. Through providing a theoretical framework to further understand the influence of these factors on how consumption plays out, the reasons for consumer food waste can be unravelled. This directly overcomes the pitfalls of approaches to sustainable consumption research that focus on individual's cognition. A theories of practice based framework with wider applicability to researching unsustainable consumption behaviours is put forward.

1.3 Thesis aims and objectives

The following research aim and objectives are proposed:

Aim: To understanding the contextual and circumstantial factors that condition food waste behaviours at the consumer level

Objectives

1. To review and interrogate what is currently known about consumer food waste behaviours

2. To develop an appropriate theoretical tool to investigate food waste behaviours that takes into account wider contextual and circumstantial factors.

3. To explore the reasons for food waste and food waste mitigation behaviours at consumer level.

4. To identify the implications of the theoretical tool and the findings to advance food waste mitigation.

1.4 The structure of the thesis

Following the introduction, the second chapter of the thesis undertakes a critical review of literature on consumer food waste behaviours. This begins by exploring the work on reasons for household food waste. The review pulls out how behaviour has been approached, contrasting studies that have focused on consumer's cognition with studies that have focused on specific behaviours, such as planning and shopping. Following this a more in-depth review is undertaken of the behavioural foundations of consumer food waste research. Inconsistencies are found with approaches that prioritise the consumer (labelled as 'individualised'), such as the identification of the gap between consumers' attitudes and their actual behaviours. The discussion also highlights the turn towards everyday knowledge being considered as a key component in the field of sustainable consumption. The second chapter continues by introducing theories of practice as an alternative approach, aligning this means of giving explanation to behaviour with a greater ability to provide contextual and circumstantial explanation. A review of where this theoretical approach has been employed in the study of food consumption and waste raises its current limitations. The chapter closes by highlighting both the empirical and theoretical gap, namely the lack of understanding of the wider factors that shape consumer food waste behaviours and the needs for further practice based understanding of how the performance of practices are conditioned.

Chapter three then moves to give an ontological and epistemology overview of both methodological individualism and theories of practice, placing this study's framing for knowledge within social constructivism. The chapter then further discusses a theories of practice approach to research, developing a conditioning framework. This concerns the performative element of practices and the role of dispositions, articulations and bodily appraisals (labelled practice intelligibility). These are positioned as acting in different ways according to the social, spatial and temporal domains within which practices (as a means of understanding behaviour) unfold. Each of these domains are discussed in turn drawing upon relevant literature to develop a number of conditioning aspects. This represents the framework that is subsequently applied to the data collected. The chapter closes by making some clarification of the role of time and space as well as how this theoretical contribution fits alongside other performance based work.

Chapter four then describes the methodology. The mixed qualitative approach is explained giving justification for methods used such as photo-elicitation and participant drawn mapping. Each method employed is outlined in turn with information also given on transcription and the practical and ethical considerations made as well as reflections on the data collection process.

Chapter five details the data analysis procedure. This first reviews current literature with regards to how a theories of practice analysis is undertaken. The work of Nicolini (2012) is then

drawn upon to explain the process employed. This involved zoom in and zooming out of practices to identify a number of different practice characteristics. The chapter closes by making some comments on how the findings are presented.

Chapters six, seven and eight both present the findings and discuss them according to the social, spatial and temporal conditioning aspects developed in chapter three. Chapter six begins by exploring the practice of planning, and then moves to explain the conditioning role of the body and how packaging is an information mediator, with each of these playing a role in food waste behaviours. Chapter seven moves to present and discuss the spatial aspect of the findings. This first looks at how there are different environmental cues in the home and then notes how food waste is central to notions of circularity and capacity in how the kitchen is understood. Chapter seven closes by looking at the wider practice pathway of how food is provisioned. Chapter eight explores the temporal conditioning aspects. This first looks at the temporal sense of performance relative to the consumption and disposal of food. The second part of the chapter then explores the personal rhythms of the participants and how disruptions to these lead to wastage.

The final chapter, chapter nine, brings the thesis to a close. Here the theoretical and empirical contributions are summarised, explicitly stating the new knowledge offered and how this thesis met its aim and objectives. This is followed by a discussion of the implications to food waste mitigation. Eleven implications are given in total. A future pathway of research is then given detailing where further research is needed and where the theoretical framework could be employed.

Chapter 2

What is known about why consumers waste food?

2.1 Introduction

After recognising the problem of food waste at consumer level and the current challenges in solving this problem through prevention, this chapter meets the first objective: To review and interrogate what is currently know about consumer food waste behaviour. To make a valid contribution to this field, a thesis must have a comprehensive awareness of the landscape of current knowledge. Over three sections, this chapter reviews studies that have investigated the reasons why consumers throw away food and also scrutinises their underpinning behavioural foundations.

The chapter opens with a discussion on food waste behaviour literature. The review compared both studies that focus on the attitudes and motivations of consumers as well as those that have looked into specific food waste activities outlining inconsistencies in the conclusions drawn. The chapter then moves to take a closer look at the behavioural foundations that underpin these studies. The draw backs of research that has focused on individual's aspects of agency, such as consumer's choices and decisions, are shown as well as how there has been a turn to understand the everyday context of how food becomes waste. The final part of the chapter introduces theories of practice as an alternative approach. A case is made for how a practice based approach overcomes the draw backs of individualised approaches to understanding behaviour. This section reviews where a practice based approach has been employed in the study of food consumption and waste showing that whilst it has been beneficial in uncovering further intricacies of behaviours, such as the routinised aspect of food waste, there is further potential to research how food waste, and mitigating actions, are shaped by a number of factors.

Overall this chapter makes a key contribution in providing a much needed review to link how research on consumer food waste behaviours is decisively linked to consumption activities. Food waste behaviours are shown to be not just a study of the actions of disposal but require research over a much greater arena of wider behaviours. A knowledge gap is framed in the need for greater understanding of the context and circumstances of practices related to performances of food and waste behaviours. A theoretical gap is also exposed in the need to overcome a concern with the connections of practices and their elements to explore the conditions under which practices are performed.

2.2 A literature review of consumer food waste behaviour

As societies develop and become westernised they are increasingly characterised by waste. Throwing away things has become a behavioural norm that supports and upholds a complex system of mass consumption with the discarding of food at its very centre. Food is a material that has greater opportunity to be discarded than others. It has a naturally decaying materiality as a perishable object managed and consumed on a daily basis. Food waste therefore has been, and continues to be, researched as a behavioural subject. There is a need to understand wastefulness and how society can best reduce and prevent food waste. As the first of three sections in this chapter, this section reviews literature on consumer food waste behaviour. First a brief introduction situates food waste research in wider waste scholarship. This is followed by a focus on behavioural aspects, such as attitudes, motivations and intentions. The section then discusses research exploring specific food waste related activities including planning, shopping and cooking. The section closes by posing three discussion points on the framing of this research field and sets out a knowledge gap of what factors influence behaviours.

No single discipline has come to dominate research on waste (Scanlan, 2005; O'Brien, 2011). Arguably a technological perspective has been prioritised as part of a solution-based agenda where governance and policy principally treat waste as another material to be managed (Ellen MacArthur Foundation, 2018). Waste here is a physical problem that requires a solution. This is supported by the circular theme of material use in how products are created, used and categorised as no longer fit for purpose (Tisserant et al., 2017). The ability to define something as waste is the ability to treat a material in a way that is akin to it being rubbish and no longer contributing any value (Pikner and Jauhiainen, 2014). End of pipe strategies in the UK separate consumption activities from the management of generated waste (Bulkeley et al., 2007). This separates behaviours contributing towards waste from the management of waste itself which has enabled damaging levels of overconsumption to continue in western economies (Williams and Millington, 2004).

In order to properly address waste generation, a focus on prevention is needed. This requires proper engagement of the circulation and usage of commodities, the societal processes within which they are appropriated, and the states materials transverse through in their journey to waste (Appendurai, 1986). Here waste is a cultural concept embedded with relations and classifications defined through societal norms. Moore (2012:781) defines waste as a "parallax object" that upsets norms, is changeable and associated with socio-spatial processes. Reno (2014:22) explains that waste holds a liveliness that is "unavoidably entangled with multiple life forms and forms of life". Such views are a marked turn towards viewing waste as more than a disposed material. Waste has

a materiality that is continually evolving and circulating (Davies, 2012), it is a socially constructed category through which products are used and consumed (Gregson and Crang, 2010). This is a critical point in this thesis as consumption as much as waste unlocks further understanding of food waste behaviours. Overall, social science research in this area supports a move away from end of pipeline solutions to engage in how materials such as food come to be disposed (Bulkeley and Gregson, 2009; Garrone, Malecini and Perego, 2014). This has been labelled as a search for comprehending the 'conduits' through which food comes to be wasted (Evans, 2014).

In considering waste as something beyond the material form, there is a distinct interest in how things come to be classified as waste according to supporting behavioural dynamics (Pikner and Jauhiainen, 2014; Scanlan, 2005). This is a concern with the reasons why consumers are wasteful in terms of the drivers and the factors that influence and shape wasteful behaviours. Here the use of the term 'waste' has been challenged. Hetherington (2004) suggests 'disposal' instead as it better embeds social context. Food waste however is a key research term with disposal referring to more specific actions of throwing away food. Work using the term 'waste regime' has connected macro level regulation of materials to the wasteful behaviours of individuals in considering the social connections and multitude of agents and structures that underpin how waste is dealt with (Gille, 2010; 2012). Studies of waste and discard have come to be marked by capturing the change in value and usage, and the supporting societal context that is the concern of behaviours and how individuals find themselves situated as actors of disposal through the usage of goods.

There has been an increasing academic and practitioner interest in food waste behaviours. The review of papers by Reynolds et al., (2019) on consumption stage food waste interventions shows considerable growth in publications from 2006 with the UK, US, Sweden and Italy the four most studied countries. Studies based in Europe and the US are most applicable to this thesis given its UK context however there is a burgeoning area of food waste research globally. Hebrok and Boks (2017) identify 112 publications between 2000 and 2015. A recent history of food waste points to periods of invisibility and visibility of waste and more recent trends of technology and charitable redistribution (Evans, Campbell and Murcott, 2013; Campbell, Evans and Murcott, 2017). Food waste research from a behaviourial perspective has a wide remit but yet it is a fairly new research area. The review starts by discussing the role of attitudes, motivations and intentions, and then pulls out more specific behavioural characteristics.

Attitudes, motivations and intentions are a starting point as they are a frequent focus in consumer based research (Ajzen, 1991). As a form of investigating behaviour, these three aspects have been used to comment on both the role of individual's cognition as well as demographic

characteristics in the context of food waste. Younger people have been shown to waste more food than older generations (Secondi et al., 2015), as the later have grown up in times of thrift (Quested et al., 2013). Secondi et al.'s (2015) findings suggest that women are more likely to reduce their food waste compared to men due to their proximity to food in households.

Regarding income, Parizeau, von Massow and Martin (2015) suggest that those with a higher disposable income waste more food as they purchase more, but this can change with product category (Stangherlin and de Barcellos, 2018). Evans (2011b) also explains that those with a higher income have a greater ability to eat out, meaning stored groceries are more likely to spoil. Strangherlin and de Barcellos (2018) suggest that households in rural areas produce less waste than urban ones. Larger households have also been found to waste more food (Quested et al., 2013), but waste less food per person (Parizeau, von Massow and Martin, 2015). Households with children are wasteful because of difficulties in food preferences and over purchasing due to parents wanting to be good food providers (Visscher, Wickli and Siegrist, 2016; Graham-Rowe, Jessop and Sparks, 2014; Evans, 2011a). Children demand products but they are not consumed (Dobernig and Schanes, 2019).

Setti et al., (2018) picks out uncertainty in food choices as one characteristic that is linked to intentions surrounding food waste behaviours. Morals and beliefs are factors that align with personal motivations in relation to food waste (Setti et al., 2018). Several authors have discussed the negativity associated with food waste such as feelings of guilt (Evans, 2011b; Watson and Meah, 2013; Parizeau, von Massow and Martin, 2015; Jagau et al., 2017). Consumers express concerns about the food they throw away, with this extending across Europe from the UK (Evans, 2014) to Greece (Abeliotis, Lasaridi and Chroni, 2014), Italy (Principato et al., 2015) and Romania (Stefan et al., 2013). There are region specific factors that determine food waste linked to societal culture and socio-economic characteristics (Chalak et al., 2016).

These findings relate to the standardised norms of mass food retailing that consumers are subjected to and how this links to the economic value of food. Mondejar-Jimenez (2016) explains how this backdrop of marketing and sales techniques has implications for intentions to conserve food. Block et al., (2016) explain how retailer activities at the point of sale that encourage greater consumer spending also contribute towards consumer food waste. Not wanting to waste food because of its economic cost has also been shown (Williams et al., 2012), but Wansink (2018)[2] explains that this is not enough of a deterrent to prevent consumers from wasting food in most

[2] I am aware that Brian Wansink has had 15 papers retracted. According to retractiondatabase.org none of the papers referenced in this thesis have been retracted.

cases. Attitudes and knowledge of food poverty and food injustice also play a role in how consumers construct an appropriate response to the food waste problem (Midgley, 2014).

Certain studies, such Williams et al., (2012) and Barr (2007), claim that consumers are aware of the environmental impact of food waste and have intentions to act upon such knowledge. Visschers, Wickli and Siegrist (2016:76) positions intentions as "the most important predictor of a household's amount of food waste" outlining a relationship between pro-environmental behaviours and intentions mediated through attitudes. This connection has been challenged by other studies. There is debate around how perceived behaviourial control can influence food waste behaviours and whether pro-environmental attitudes can have a long lasting and consistent waste mitigation impact (Principato et al., 2015). Watson and Meah (2012) and Quested et al., (2013) note that environmental awareness of the impact of food waste has little significance as a predictor of behaviour. Secondi et al., (2015:36) explain that "individuals do not appear to be fully aware of the consequences that the uneaten food they throw away may have on the natural and socio-economic environment".

In light of this debate there seems little value in assessing how socioeconomic characteristics relate to consumer's attitudes towards food waste, as undertaken by Melbye, Onozaka and Hansen (2017). Russell et al., (2017) found that despite negative emotions attached to wasting food helping to drive intentions to reduce food waste, consumers actually ended up wasting more food in these guilty situations. Such findings have shown that whilst cognitive patterns around food waste behaviours might be observable, such attitudes, motivations and intentions seem to be slippery elements in understanding what drives food waste. The field is still looking into reasons for this, such as the difficulty in singling out intentions amongst the everyday noise of consumption behaviour (Evans, 2014), and wider aspects of how people live their lives around the usage of food stuffs (Dobernig and Schanes, 2019). These are addressed in the later sections 2.3 and 2.4.

Moving to points around reduction and prevention behaviours, research has repeatedly called for greater food waste awareness (Setti et al., 2015). Studies raise the need to influence determinants of food waste such as purchasing decisions (Williams, et al., 2012; Aschemann-Witzel et al., 2018), and food related decision making and skills (Stancu, Haugaard and Lahteenmaki, 2016; Visschers, Wickli and Siegrist, 2016). Graham-Rowe et al., (2014:200) indicate the need to target the determinants of "attitude, subjective norm, perceived behavioural control, self-identity and anticipated regret" through "persuasive messages". In Reynolds et al.,'s (2019) review of food waste reduction interventions, information campaigns were concluded to have up to 28% reduction impact with other attitudinal programmes failing to have sufficient

evidence. In fact the interventions positioned as holding the greatest potential involved more grounded changes to labelling, portion and plate size, and the redesign of menus. McCarthy and Liu (2017) finds that interventions that receive the most positive responses are those with an economic reward as well as home composting. However Wansink (2018) disagrees that saving money is a strong incentive given the low cost of food for average to high income household budgets.

The review here is starting to draw out issues with current understanding of food waste behaviours. Whilst such research has revealed numerous behavioural characteristics, frequently papers have: Admitted inconsistencies in how intentions are a good predictor of behaviours; raised the shaping roles of attitudes and motivations in an indeterminate fashion; and shown disagreement over how these behavioural aspects should be influenced to best mitigate food waste.

A good example of the latter point is how interventions in the form of education and information programmes aimed at addressing over purchasing and over consumption are frequently proposed (Wansink, 2018; Reynolds et al., 2019; Jagau et al., 2017; Block et al., 2016). Stancu, Haugaard and Lahteenmaki (2016) conclude that moral norms and perceived behaviour control have no impact on intentions to reduce food waste, questioning interventions that motivate positive behaviours given that the environmental impact of food waste is not a driver of action. Consumers have been shown to not be motivated by the exemplary mitigation strategies of others (Setti et al., 2018). Hebrok and Heidenstrøm (2019) highlight the insufficient nature of instigating change through educational campaigns aiming to increase awareness and knowledge on food waste. The European project REFRESH (2020:1) that focused on the reduction of avoidable food waste found that interventions that "exclusively provide information and awareness about the negative impacts of food waste do not seem to have an influence". Research on different demographic characteristics and food waste behaviours has also generated mixed explanations (Koivupuro et al., 2012).

It is evident that we do not yet fully understand consumer's capacity to influence their food waste behaviours. The problematic nature of measuring and comprehending behaviours through cognitive aspects is part of a traditional of focus on the individual in consumer studies, explored in greater detail in section 2.3. Food waste is one consumer field amongst many that has begun to question whether taking a narrow focus on the attitudinal aspects of a single behaviour provides a conclusive account of consumption and waste (Quested et al., 2013; Evans, 2014; Moraes et al., 2012). Taking this into account, it seems difficult to see how research based upon consumer intentions can provide a solid basis to fully account for the dynamics of food waste behaviours.

Intentions seems unable to deal with the myriad of individual variables. Evans (2011a; 2014) explains how a focus on cognition has placed blame for the problem of food waste unfairly upon the consumer with wider actors in the supply chain overlooked. Overall despite the flourish of behavioural interest in this field since the 2010's, there is a mixed picture of the attitudes that drive food waste, the motivations of consumers to reduce their impact and the role that intentions play. This section now moves to review studies that draw out findings on specific food waste activities.

For several researchers, shopping and the reprovisioning of food into the home is a critical focus as a conduit of food waste. Gojard and Véron (2018:114) argue that stores accessible in the local area modulate "the constraints and resources of each household". Households that undertake fewer shopping trips per week waste less food (Williams et al., 2012), with shop proximity related to the potential of consumers to generate food waste (Visscher, Wickli and Siegrist, 2016). Consumers differentiate between doing a 'big shop' and smaller 'top up shops' (Everts and Jackson, 2009; Evans, 2011b), with food waste connected to the over-purchasing of food (Dobernig and Schanes, 2019). Food items brought into the home that are surplus to requirements go unused and spoil (Evans, 2014). Food waste can arise from not checking what is stored at home before shopping (Chandon and Wansink, 2006).

Consumers have been found to routinely purchase too much food (Evans, 2012; Maubach et al., 2009). In Stancu, Haugaard and Lahteenmaki's (2016) survey consumers admitted to frequently purchasing unintended items whilst shopping, buying on impulse or in bulk (Koivupuro et al., 2012). Studies have also shown how consumers purchase food with little thought to how it might form a meal (Gustavsson et al., 2011). Halkier (2009) describes how consumers enjoy cooking via improvisation. Consumers that purchase perishable foods are putting themselves at greater risk of food being spoilt if mismanaged (Foden et al., 2017). Consumers are less willing to pay for food that shows signs of imperfection (Yue et al., 2009), which has knock on implications for how food is used at home. Evans (2014) also explains the tensions that accompany household members in how shopping is organised can reinforce these wasteful behaviours.

Shopping can lead to food waste in different ways, principally through over provisioning (Hebroks and Boks, 2017). Lee's (2018) work in South Korea reveals modes of shopping according to the retailer visited and that different shopping patterns have implications for the amount of food wasted. Visits to larger retailers and longer travel times were more frequently associated with avoidable food waste (Lee, 2018). Consumers find it difficult to resist special offers, making financial justification for purchasing more (Dobernig and Schanes, 2019). More

frequent shoppers are attracted to discounted food products which are more likely than normal price items to be wasted (Giordano et al., 2019).

Food purchased from alternative stores with ethical or environmental values such as a farmers market is likely to be treated with greater care to ensure it is used and not wasted (Dobernig and Schanes, 2019). Shopping is often investigated as part of several behaviours and therefore insights are limited. For example it is not conclusive whether smaller more frequent shopping trips, rather than larger less frequent shopping trips, cause greater or lesser food waste. Shopping is clearly part of a chain of activities that can instigate food waste but it is difficult to attribute food waste to a certain behavioural element of shopping. More recent papers have started to probe the links between shopping and other food management activities and food waste at consumer level (Dobernig and Schanes, 2019; Block et al., 2016). However shopping can be considered to be made up of several actions as part of food provisioning (Gojard and Véron, 2018) and there is yet to be a comprehensive study looking at the potential spectrum of conduits through which food waste can arise (Foden et al., 2017).

Moving to literature on planning, the failure to think ahead for consumers to decide what they are preparing as a meal, or how ingredients purchased will be used, is a considerable source of food waste (Porpino et al., 2015). Consumers in the western world frequently find themselves in situations where they have to think about how surplus to requirements foodstuffs can be best combined and used up (Evans, 2014, Cappellini and Parsons, 2012). Planned meals can be missed or plans are not followed. Parizeau, von Massow and Martin (2015:215) explain how households that ate out frequently "still purchased food with the intention of eating it at home and ended up wasting more often than other households". Wansink (2018) argues that food waste comes about here through three different stages; in how food goes unprepared, unserved and uneaten, each of which are interlinked with the managment, storage and preparation of food. A number of studies also show similar findings link pathways of planning and food waste (Brook Lyndhurst, 2007; Evans, 2011b; Stefan et al., 2013; Stancu, Haugaard and Lahteenmaki, 2016; Mondejar-Jimenez et al., 2016; Ponis et al., 2017).

Cooking is often commented on in such research. Cooking can bring about surplus food whereby consumers manage and store greater food than required in an edible condition, labelled as leftovers after food preparation. Surpluses can come about due to over preparation (Wansink, 2018), difficulties in keeping to appropriate portion sizes and following cooking methods (WRAP, 2014). Leftover food is discarded in the home due to consumers not wanting to eat the same meal again (Cappellini, 2009), inappropriate storage conditions (Waitt and Phillips, 2016), association with unfavourable notions of thrift (Evans, Campbell and Murcott, 2013) and

concerns over food safety (Meah, 2014b). Farr-Whaton et al., (2014) explain how consumers find it difficult to know how long leftovers last for. Schmidt and Matthies (2018) identify dairy and bakery products as the most likely to generate surplus and go unused.

Studies have also commented on how changes to cooking can be a food waste mitigation measure. Romani et al., (2018) explain that increasing consumers' ability to plan also has a positive effect on their ability to cook and shop in a way that prevents food waste. Parizeau, von Massow and Martin (2015) make a similar point in that the more organised and accountable consumers can be with food, the greater likelihood that surpluses and waste will not arise. Pre-planning actions, such as using a shopping list or a meal planner, are also suggested (Stefan et al., 2013). Consumers have been segmented into those that plan in advance and are able to improvise, and those that do not (Achermann-Witzel., 2018; Hebrok and Boks, 2018). Romani et al., (2018) express the need to re-skill consumers with food preparation planning behaviours to reduce food waste. Porpino et al., (2015) comment on how households with pets regularly prevent waste by feeding them leftovers. Packaging innovations could also mitigate waste here, such as resealable packs, different sized packaged products and guidelines for serving sizes and cooking instructions for best results (Wansink, 2018).

Despite planning being a prominent topic of food waste behaviour, two debates have emerged to question this body of work. Firstly that the inconsistent nature of food routines has not been taken into account (Parizeau, von Massow and Martin, 2015). Planning is approached in an abstract form with little acknowledgement that it is contingent to a host of contextual factors. Watson and Meah (2010:10) describe how planning is placed within a "mess of practices". Hebrok and Heidenstrøm (2019:1439) note that "what decides how much food goes to waste is not how meticulously purchases and meals are planned, but rather how flexible participants are concerning the use-occasions for particular items and their frequency of shopping". Use occasions are focused upon, rather than planning, in order to encourage situations when food will be used and not go to waste (Hebrok and Heidenstrøm, 2019). This suggests that consumer advice to better plan food overlooks how planning actually happens. This poses questions of campaigns such as Love Food Hate Waste in the UK which, despite providing useful planning tips, storage guidelines and recipes to make the most of surpluses, assumes some underpinning stability in how planning is undertaken.

Secondly, planning has been contested in research as there is little scrutiny of what exactly planning behaviours consist of. This is not an easily definable activity including both cognitive elements of thinking ahead and physical actions such as making a list. This has led to overly simplistic statements such as Romani et al.'s (2018) conclusion that if the ability to plan increases,

so does the ability to shop and cook in less wasteful ways. This may be true if abstracted from wider influences, but is incoherent to what exactly planning consists of and how it interjects with shopping and cooking. Southerton (2012:340) describes planning as a "mental short cut for navigating the complexities of daily life" whereby a practical consciousness is prompted and negotiated in alignment with wider corresponding behaviours. In the area of food waste, planning has been termed as a useful behavioural tool to improve upon, without thinking about how and when it is deployed in shopping, cooking and other consumption activities linked to food waste conduits. Critically there is also an absence of knowledge on what happens when planning fails and what causes planning to be derailed.

Studies have also looked at the role of the fridge and the freezer as appliances embedded into how food and waste are managed in the household. Hand and Shove's (2007) study points out how the freezer has become integral to the way households manage, store, plan and shop. Consumers find the ability to freeze food directly after shopping important to avoid dealing with food expiry and fit food consumption around their routines (Dobernig and Schanes, 2019). Fridges are places where consumers can put off finding a use for leftovers (Evans, 2011a; Blichfeldt, Mikkelson and Gram, 2015).

More cluttered fridges are more likely to generate waste (Hebrok and Heidenstrøm, 2019). These appliances cause food waste because they shield consumers from "food undergoing decay" whereby "items stored in the refrigerator prevents exposing their transformative states" (Waitts and Phillips 2016:368,373). To increase visibility and organisation Farr-Wharton et al., (2012) suggest a colour coding fridge concept to help keep track of food items' expiry. Lower fridge temperatures can also help reduce food waste with better designed fridges and more explicit details in energy labelling schemes potentially aiding consumer's food management (van Holsteijn and Kemma, 2018; Brown et al., 2014).

Date labels and packaging are also devices that contribute towards waste. A lack of awareness of when food is likely to expire leads to increased wastage (Neff et al., 2015). Wansink (2018) notes that the further in the distance a products' date is, the more optimistic consumers are that they will use the food product. Expiry dates can dictate food consumption routines such as when a certain product maybe scheduled to be eaten. Date labels can also prompt consumers to throw away food that is still edible (Evans, 2014), as larger packaging sizes are more likely to cause food surpluses (Williams et al., 2012). Much of the work on dates corresponds with food safety and packaging. Whilst packaging protects the consumer from the potential harm of expired food, it has become a 'mediator technology' embedded with information on nutritional value, cooking instructions, storage and use by guidance (Milne, 2012).

Hawkins (2018) has described plastic packaging as the 'skin of commerce' which is integral to the logistically complex systems of food supply. Evans (2014) explains that through food packaging consumers have become detached from food, with our understandings of food decomposition and food safety allocated to packaging devices rather than our own senses. Hawkins (2018) goes as far as stating that our understanding of freshness, expectations of foods' shelf life and conventions of food provision are reliant on plastic packaging.

Evans (2014) finds that consumers have questioned the edibility of food as a reason to justify its disposal. Nicholes et al., (2019) note a difference between what consumers self-report as edible and what their perceptions are of edibility of borderline foods such as the skins and cores of fruit and vegetables. Blichfeldt, Mikkelsen and Gram (2015) explain consumer's duty to not waste food and disgust against foods' deterioration helps shape what can be and cannot be eaten. The edibility of food is difficult to define and not universal for all consumers with variability in visceral engagement and reliance on packaging information to separate the edible from the inedible.

Watson and Meah (2012) report that waste is generated from consumers diverging from suggested storage and use by guidance, prompting concerns over food safety and increasing the likelihood of food spoilage. Hebrok and Heidenstrøm (2019) explain that our sensory evaluations of food is a further factor of assessing if food is safe. This is formed to some extent by our upbringing in situations when food may have been thriftily conserved or excessively squandered (Urrutia, Dias and Clapp, 2019). Consumers are sensitive to the colour and shape of food products purchased from supermarkets, with a change in expected appearance giving justification for disposal (de Hooge et al., 2017). The senses play a key role in how consumers are able to perform assessments of the edibility of food, however there are few studies that have looked at this assessment process in detail.

Food waste has been labelled as an embodied behaviour, with the body a critical element in consumption activities (Wilhite, 2012; Warde, 2014). Lazell (2016:431) emphasises the need to acknowledge the intimate relationship that food has with the body in food waste research in terms of "aspects of taste, appearance, smell and touch, as well as pleasure". The paper explains how the senses that negotiate edibility can be heightened in situations where the consumer is unsure of the foods' origins or preparation methods (Lazell, 2016). Viscerality is a complex driver of food waste whereby "gut feelings at the individual level … mediate food waste behaviours" (Urrutia, Dias and Clapp, 2019:7). Waitt and Phillip's (2015) work shows consumer anxiety over food contamination and the social barriers around who it is appropriate to share leftovers with. Consumers have been found to procrastinate over dealing with food surpluses and leftovers to

avoid visceral engagement (Blichfeldt, Mikkelsen and Gram, 2015). This work draws upon understandings of the body as an active agent in behaviour and sites of consumption (Probyn, 2000; Carolan, 2011), as well as the role of the materiality of things and the relationships they embed (Bennet, 2010).

In light of the literature review above, this section now frames a number of points of discussion. First, in considering literature that has focused on activities related to the consumption of food, the review has brought out further behavioural factors. This includes the role of objects, such as the fridge and the freezer, and the role of the visceral and the material. These have been shown to provide a greater depth of contextual reasoning. Note that these factors are difficult to integrate into the traditional behavioural notions of attitudes, motivations and intentions because of the placement of more distributed agency. Rather than just the individual holding influence over behaviours, the petrifying nature of food and its bodily reaction is an alternative form of agency as well as the shaping role of objects and materials, such as abiding by and negotiating food use according to packaging or the design of the fridge or freezer.

A second observation is the need to consider where the boundaries lie around what influences food waste behaviours. As this field has developed, further factors have been taken into account but there is yet to be clarity around how far the lens of research should spread. Moreover how the range of factors that are influencing food waste behaviours can be conceptualised. Contributions such as that by Block et al., (2016) that gives a 'squander sequence' of consumer decision making, or Strangherlin and de Barcellos's (2018) work identifying the drivers and barriers of consumer food waste, seem to fall short of any integrity in seeking to capture a holistic account of not just what is happening but what is shaping behaviours and the different actors, objects and settings they encompass.

One author that has attempted to develop a "theory of household food waste" is Evans (2014:90). His work focuses on the 'gap' where food enters a surplus state and is eventually discarded or disposed of after decomposing, with this physical decay helping to "facilitate the "slip" of surplus food into the category of excess" (Evans, 2014:66). This explains why households fail to get round to using up food before expiry. Figure 2.1 below displays Evans (2014) visual representation of urban food waste experiences.

Figure 2.1 The surplus food gap and influential factors taken from Evans (2014:92)

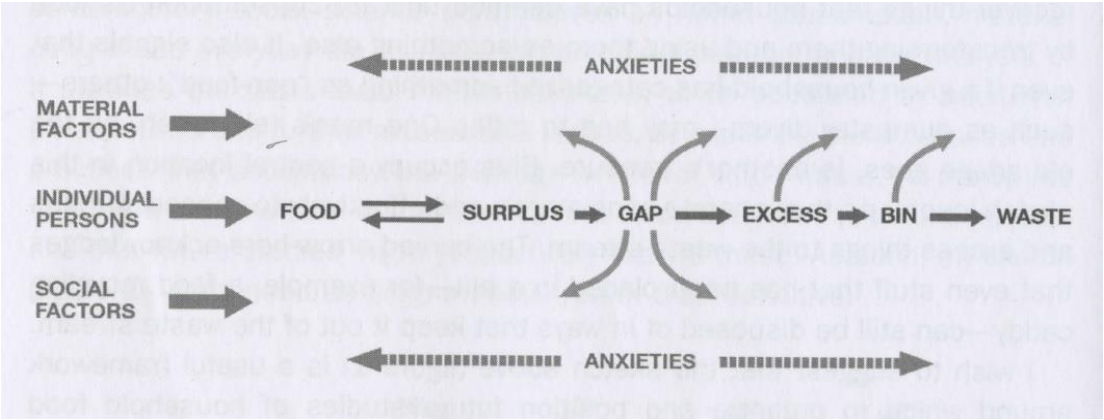


Figure 2.1 is an attempt to conceptualise both the process of food transiting to waste and the wider factors of influence. The process is represented as being nonlinear indicating points where surplus can return to being edible. Social and material factors are described as being influential where the social represents people and their relationships and the material stands for non-human aspects such as the interaction with packaging and appliances. This is accompanied by the anxieties that play out in how food comes to be consumed and wasted through various process of organisation which includes "concerns about food safety, food provenance, healthy eating, eating "properly", and calorific intake" (Evans, 2014:93). Figure 2.1 is not a holistic model to explain all cases of urbanised household food waste. Rather it is a framing of the different stages of how food can be categorised in its journey and the influential factors.

Hebrok and Heidenstrøm's (2019) work has also progressed understanding of how food transitions to waste in identifying a number of "decisive moments" in consumers everyday life to contextualise the food waste problem. Figure 2.2 displays the moments in food handling practices that lead to waste. This is the step in the right direction in identifying the twists and turns of food waste management in the home but yet the conception of context is linked to socially framed influences within the household.

Figure 2.2 Food handling practices and their decisive moments in everyday life taken from Hebrok and Heidenstrøm (2019:1446)

Objective 2 to develop a theoretical tool to investigate food waste behaviours builds upon Evans (2014) and Hebrok and Heidenstrøm's (2019) work. There is considerable scope to expand Evans (2014) conceptual model in figure 2.1 to further domains. There are further intricacies of social and material factors to consider as well as wider contextual and circumstantial considerations. This means expanding the boundaries of what influences behaviours. Whilst figure 2.1 might identify social and material factors, it is not illustrative of the different types of ways these factors could exert influence. Furthermore with the case of Hebrok and Heidenstrøm's (2019) work, the turning points of what influences the moments leading to food waste is based within the individualised realm of decision making. This then is a setback in redirecting research towards problematic aspects of consumer agency.

The third point of discussion is how to categorise and frame what is influential when understanding food waste behaviours. This section has discussed the cognition of consumers, material, visceral and bodily aspects as well as how social relations and anxiety are aspects to be framed as important in understanding why consumers waste food. These featured across different consumption activities. Collectively these can be brought together as contextual and circumstantial understandings and arguably there are further factors at play yet to be explored. All behaviours can be framed in a sense of space in terms of a context of where behaviours are sited. Furthermore there are temporal aspects present here too. Routines are frequently mentioned as a circumstantial background.

A gap can be identified in further developing a framework of what is influential to food waste behaviours with regards to behavioural context and circumstance. Such a framework is important to guide the pathway around which researchers operate in seeking explanation of consumer food waste behaviours, with a focus on not only what is influential but how these factors operate. A thorough integration of the workings of behaviour is required to explore this further which is achieved in chapter 3. In order to further inform a new framework of influence the chapter now interrogates the short-comings of individualised (attitudes, motivations and intentions) approaches to behaviour and reviews literature that has increasingly situated consumption research in notions of everyday life.

2.3 Problematising and refocusing individualised approaches to sustainable consumption

The previous section established how consumer behaviour has become a central concern in moving towards more sustainable consumption to reduce and prevent the wastage of food. This section looks more closely at how consumer behaviours are constructed and theoretically positioned in this field. The purpose of this is to interrogate the pitfalls of individualistic approaches to help direct the foundations of a theoretical contribution. New knowledge on food waste behaviours must start with recognition of debates around pro-environmental and ethical consumption within which individualistic approaches to behaviour have found faults. It is also important to acknowledge wider debates of the best way for businesses and governments to tackle consumption and associated problems such as resource use and climate change, given their connections to the food waste problem. This section draws out three key criticisms of individualistic notions of behaviour in the context of consumption. Each of these are shown to connect to the groundwork upon which consumer food waste behaviours are based. Individualised approaches are shown to uphold the ineffective policy responses to unsustainable consumption. The section draws to a close by stating the need to refocus behavioural understandings around social processes, activities and the practical reality of consumer's actions in everyday life.

The origins of individualistic approaches to consumer behaviour (those that concern the attitudes, motivations and intentions and forms of deliberation) lie most prominently in the theory of reasoned action and the theory of planned behaviour. This theoretical work of Fishbein (1967) and Ajzen (1985) introduced intentions as playing a mediating role in how behaviours are determined. Understanding intention is a means of understand behaviour. For Ajzen and Fishbein (1977) intentions link the targeting and the action of behaviour through the connecting role of attitudes. Consumers are said to act in a reasoned way with intentions examined in terms of beliefs and motivations that distinguish behavioural ability (Ajzen and Fishbein, 2000). The latter of these theories, the theory of planned behaviour, has been widely adopted by consumer behaviour researchers (Ajzen, 2012) to gauge intentions to conduct environmental behaviour (Harland, Staats and Wilke, 1999), such as food waste mitigation (Graham-Rowe, Jessop and Sparks 2015; Stancu, Haugaard and Lahteenmaki, 2016).

The inconsistencies in research on food waste behaviours are just one subject area amongst many that have questioned the workings of attitudes, motivations, intentions and other cognitive elements that prioritise the individual. Collectively these are referred to here as individualised approaches given the individual is placed at the centre of behavioural understanding. This term also captures other theories with a similar focus. Rational choice theory, voluntaristic theories of action and framing of the sovereign consumer all attribute consumption to the choices and

decisions of individuals (Segre, 2012; Hechter and Kanazawa, 1997). A central part of these approaches is the promotion of neo-liberalism, the free market and societal foundations of economic growth (Warde, 2014; Moloney and Strengers, 2014). The introduction pointed out that the concept of consumers operating free choice has been harmful in failing to bring to account unsustainable forms of consumption which food waste is part of. This is expanded below as one of three areas of critique of individualised approaches to consumer behaviour.

The first key criticism lies in how the problem of unsustainable consumption is comprehended. This is because of the narrow focus on individual's cognition based upon the idea that "individuals behave the way that they intend to behave" (Papaoikonomou, Ryan and Ginieis 2011:78). Warde (2014) explains that this assumes consumers have control over their independent decision making through personal deliberation. Antonetti and Maklan (2015:53) detail how "consumers can create their attitudes or adapt their pre-existing attitudes to different stimuli" to frame this decision making. The consumer has been described as sovereign whereby their choices, intentions and associated tastes and preferences hold influence (Norton, Constanza and Bishop, 1998). Whether it be attitudes, motivations, intentions, decisions or choices, a central line of dispute is the failure to fully identify the problem at hand (Shove, 2010).

There has been significant research to show this in the area of ethical and pro-environmental behaviour. Hassan, Shiu and Shaw (2016:233) explain that "researchers should not assume that measuring and explaining variance in intention will offer sufficient understanding of the behaviour context". Consumers behave in different ways according to their circumstance (Papaoikonomou, Ryan and Ginieis, 2011). Social structures, signs, meanings and the role of the body are overlooked as well as reactions between people, things and the wider environment (Bunge, 2000). Missing also is the automated nature of human conduct (Warde, 2014) and the repetitive and often sequenced qualities of consumption activities (Warde and Southerton, 2012). There is an absence of how meaning is appropriated from mass produced products that shapes how and why items are used in a certain way (Evans, 2018). The social and the material is often not fully extended and explored where cognitive workings are prioritised (Warde, 2014; Dolan, 2002).

The inability to consider these factors has caused studies to conclude that individualistic approaches are only valid in an isolated context. Vermeir and Verbeke (2006:173) note that "specific attitudes may suggest a specific behaviour when taken in isolation" but in general behavioural patterns are not consistent with attitudes. Studies have questioned that consumers act in consistently rational ways with no single framing able to characterise pro-environmental behaviour (Kollmuss and Agyeman, 2002). Individualistic approaches to behaviour function

because of their end goal of moderating intentions. This means no active recognition is given to components of societal systems in how they structure behaviour (Bunge, 2000), causing a failure to capture the phenomena being studied (Chatzidakis et al., 2004).

Carrigan (2018:3) raises the need for "researchers to push such ethical consumption developments beyond mere shopping choices to consider the broader cultural, political and economic structures that enable and limit consumption practice". In the case of food waste this means research must engage and challenge the environments within which behaviour is causing waste, rather than only seeking incremental changes to how consumers can behave in less wasteful ways. A good example is Russell et al.,'s (2017) work on the role of habits and emotions in food waste behaviours which, whilst using the theory of planned behaviour, concludes that greater recognition of non-cognitive elements of behaviour is required, a well-known limitation of the theory employed. A focus on the individual does not appreciate or challenge the environments within which behaviour takes place, which arguably is crucial for comprehending the behaviour in the first place.

A second key debate in this behavioural arena is the disconnection between attitudes, behaviours and intentions. A significant number of studies have questioned how intentions accurately connect attitudes and behaviours (Bernardes et al., 2018). An attitude-behaviour or value-action gap exists between the attitudinal expressions of consumers, such as their environmental beliefs, and their physically enacted behaviours (Carrington, Neville and Whitwell, 2010). Studies of ethical consumption have revealed that "although consumers may express a desire to support ethical companies, and punish unethical companies, their actual purchase behaviour often remains unaffected by ethical concerns" (Carrigan and Attalla 2001:575). The positive attitudes of consumers do not always translate into rational consumption choices, which has been predicted to be as low as 3% in some markets (Davies, Lee and Ahonknai, 2012).

Doubt about the connection between attitudes, intentions and behaviours can be traced back to 1969 (Hassan, Shiu and Shaw, 2016). There are a number of different reasons for this weak connection. This includes price, lack of information to inform purchasing decisions, questions over the seller's motives, product quality, brand loyalty and familiarity, perceptions of value, ability to identify with certain movements (an example being fair trade) or failure by consumers to see how their actions are having an impact on the wider problem (Papakoikonomou, Ryan and Ginieis, 2011; Boulstridge and Carrigan, 2000; Carrigan and Atella, 2001). Consumers fail to associate their consumption behaviour with environmental damage (Heath and Chatzidakis, 2011). Carrigan (2018:3) explains that "few consumers are aware of, nor understand the

sometimes negative social and environmental impacts that make food production possible". This helps explain the inconsistencies in the previous section as food choices and any prediction involving intentions is a weak means of measuring food waste behaviour (Setti et al., 2018; Visschers, Wickli and Siegrist, 2016; Schanes, Dobernig and Gözet, 2018). There is significant evidence to show that the pro-environmental and ethical attitudes or motivations of consumers do not translate into action because they are not rationally responded to by consumers (Newholm, 2005). Studies in this area however attempt to elucidate the discrepancy between attitudes and behaviours while still holding individualised approaches at the centre of behavioural understanding.

Studies on the attitude-behaviour gap have started to dismantle the conveniently formulated focus on the individual through questioning whether the individual should remain the primary focus (Caruana, Carrington and Chatzidakis, 2016). Moraes, Carrigan and Szimigin (2012:106) coin the term "coherent inconsistency" to explain that such discrepancies in behaviour are actually an important feature. This makes the case that the weak relationship between attitudes, motivations and intentions is not something that requires a solution, but rather is a characteristic of consumption behaviour when taking the wider context into account. The paper comments that "consumers' inconsistencies may be seen as signs of their meaningful, albeit at times contradictory, interactions" (Moraes, Carrigan and Szimigin 2012:105). The attitude-behaviour gap has been beneficial in rekindling the appreciation of consumers' irrational existence. This has drawn out the problems of consumer rationality as a central component of behaviour, with engagement in more sociologically drawn aspects of social life required to properly account consumers' unpredictability (addressed later in this section and 2.4) (Peñaloza and Venkatesh, 2006).

The third debate refers to how individualised approaches to consumer behaviour have facilitated the failure of both companies and western governments to confront and cease unsustainable forms of consumption (Lorek and Fuch, 2013; Alfredsson et al., 2018). Because of the failure to grasp the problem at hand, and the weak relationships between cognitive aspects, this has led to the proliferation that small collective changes in behaviour is a valid response to environmental problems (Moloney and Strengers, 2011; Shove, 2010). This is the belief that change is possible through millions of individuals making the decisions to reduce their environmental impact (Shove, Pantzer and Watson, 2012). It is the capacity of individuals to bring about their own change (Hargreaves, 2011). Such an idea originated and has been upheld by individualised approaches to behaviour; a focus on change through targeting individual's consciousness, a change to their decisions, choices and motivations to consume in a green way

(Stern, 2000). This however assumes a degree of rationality in how consumers act, suggesting that consumers weigh up all the options and information available to them and any benefits and drawbacks of their choices (Jackson, 2011), which was already shown to not be the case.

The individualised focus of behaviour is attributed to instilling unsustainable consumption. Southerton (2012:336) explains that "changing attitudes and values does not necessarily lead to a change in what people consume or, more importantly with respect to sustainability, the resource-intensity of their consumption". Moloney and Strengers (2011:96) raise that "rather than emphasising reducing consumption, the focus has been on improving the efficiency of products and services consumed". Marketers have used this as an opportunity to sell products with environmental or ethical credentials to fill the void of consumers concerns, which has had little real world impact (Grunert et al., 2014; Horne, 2009). Products play upon consumers' egotistical and altruistic intentions (Schuitema and de Groot, 2015), and are often only available to higher income consumers, excluding certain demographics from participating in greener purchasing decisions (Bryant, Goodman and Radcliff, 2008). Sanne (2002:273) explains that "businesses construct the field of consumption to satisfy their interests". The fact that consumers are not going to consume their way towards mitigating the environmental impact of their actions presents individualised approaches with a paradoxical reality (Jackson, 2016). Not only does a focus on attitudes, motivations and intentions fail to grasp the problem of sustainable consumption at the consumer level, but it actively ingrains the problem further.

This has lead academics to comment on how consumers are 'locked-in' to unsustainable patterns of consumption. Jackson and Papathanasopoulou (2008) explain that structures that lie outside an individual's control influence levels of resource use. For example consumers "have only a limited degree of real choice over where to live, where to work and how to get from home to work", all factors that hold leverage over consuming more sustainably (Jackson and Papathanasopoulou 2008:92). Maréchal (2010) highlights that the habituated nature of behaviour is resilient in resisting change to environmentally damaging forms of consumption, using the example of energy usage. Consumers are stuck in 'work to spend' patterns of material living (Sanne, 2002) which limits capacity for change (Paddock, 2015). Whilst the empowerment of consumers to achieve social change should not be dismissed (Bekin, Carrigan and Szmigin, 2006), and with disposal shown to be a form of empowerment (Cherrier, 2009), consumers are increasingly finding themselves in situations where self-reinforcing barriers for change hamper sustainability progress (Sanne, 2002).

Studies present a political, funding and research arena that upholds a status quo to preserve ideas of free choice where the individualised consumer is used to sustain a model of economic

growth (Moloney and Strengers, 2014; Sanne, 2002; Shove, 2010). Despite increasing criticism and identification of significant drawbacks, studies of attitudes, motivations and intentions continue (Shove, 2010; Sniehotta, Presseau and Araújo-Soares, 2013), including in the area of food waste (Russell et al., 2017; Young et al., 2018). Authors have constructed the argument that a core reason for this is how individualism facilitates the continuation of 'business as usual' arrangements (Prothero et al., 2011; Lorek and Spangenberg, 2014). Shove's (2010:1275) paper addresses how a focus on ABC (Attitude, Behaviour, Choice) models of behaviour mean policy interventions have "no obvious limit to the number of possible determinants" which "leaves policy makers free to focus selectively". This allows behaviour change programmes to avoid challenging any features of the capitalistic system to instead uphold a focus of encouraging pro-environmental behaviours (Moloney and Strengers, 2011).

There is a rich history of governments striving for their citizens to make better pro-environmental choices (Shove, 2010; Dilley 2015). The United National Environmental Programme for example has sought to survey attitudes towards climate change, which Shove (2010) claims deflects attention away from interventions that require institutions to change their structures as a course of action. Spurling et al., (2013) explains how the UK government's DEFRA Food 2030 report focuses on changing behaviour by informing consumer choices suggesting education and information dissemination strategies. Academics have commented on the construction of the 'citizen-consumer' "who translates moral virtues into marketplace activities" as a form of social change (Paddock 2015:123, Närvänen, Mattila and Mesiranta, 2019). WRAP for example ran a campaign in 2019 entitled 'Citizen Food Waste Prevention' aiming to "enable citizens to change their behaviour, and take real action to reduce household food waste" (WRAP, 2019).

For governments to exercise a market led response to environmental issues consumers must be citizens as agents of change in reshaping consumption through their purchasing power (Jackson, 2005; Clarke et al., 2007; Trentmann, 2007). Barr, Gilg and Shaw (2011) point out the limits of this framing, mirroring conclusions drawn in this section around the false sense of power assigned to consumers. Social and economic conflicts emerge when consumers attempt to follow pro-environmental behaviours. A lack of time to engage in less environmentally damaging activities limits ability to change due to time devoted to work and family routines (Paddock, 2015). Whilst consumers might understand what is required of them to act as responsible citizens, they may find it difficult in incorporating sustainable consumption behaviours in the reality of their everyday lives (Evans, 2011b, 2011c).

In summary this third critique emphasises how individualised approaches to behaviour are an integral part of what is sustaining environmentally damaging behaviours such as the wastage of food. Policy responses to food and food waste have also been incorporated in this same remit. Kneafsey (2010:187) speaks of "the neoliberal construction of consumers as primarily price motivated and self-interested" in mainstream food networks. Evans (2014) discusses how discourses of consumer responsibility are employed by the UK government to frame the problem of food waste at consumer level. Whilst responsibilities for food waste have begun to be redistributed, retailers have continued to focus on interventions strategies for household food waste reduction (Welch, Swaffield and Evans, 2018). Given the focus of this thesis, it is not necessary to give a detailed analysis of consumer food waste policy however it is important to emphasis that the rationalisation of the individual in food waste policy is a clear drawback limiting current progress.

This discussion now turns to look at alternatives to individualised approaches to consumer behaviour in the field of sustainable consumption. Technology, and technological innovation is frequently advocated as a solution to resource use. Such approaches promote devices that save consumers' time, reduce their usage of materials and provide new ways of consuming items (Southerton, 2007; Gram-Hanssen, 2008). In the case of food waste this might include storage solutions, apps to aid the organisation of food, and sharing or discounting of food surplus as well as longer life packaging materials (Hebrok and Heidenstrøm, 2019). These ideas however still place the consumer at the centre and skirt around the real drivers of food waste.

Lorek and Fuch (2013) note how such technological fixes in sustainable consumption are nothing more than efficiency gains through technological improvements which embeds the limited role of the consumer as a user of said technology. Spurling et al., (2013:6) argues such an approach "misconstrues the relation between technological and social change". Previous trends tell us that incremental progress in efficiency is not sufficient to both diagnose the problems that consumption is causing (Geels et al., 2015), or construct an appropriate response (Hargreaves, Longhurst and Seyfang, 2013).

There has also been a move to suggest that consumers can be 'nudged' towards more sustainable ways. Sunstein and Thaler's (2008) work manipulates choices to push consumers towards a certain direction. Nudge theory attempts to take into account the decision making context, influencing choices but still maintaining the ideas of freedom of choice (Hansen and Jespersen, 2013). A well referenced example is the plastic bag tax that has reduced consumption of plastic bags and increased usage of reusable bags (House of Lord, 2019). Critics argue that despite its apparent success, consumers are no more aware of how reusing, rather than purchasing

a plastic bag, has a positive effect on the environment (Martinho, Balaia and Pires, 2017; Sharp, Høj and Wheeler, 2010). Ritch, Brennan and Macleod (2009:173) note behaviour change through nudging is underpinned by the same policy principals of access, choice and information which overlooks "more profound but less palatable changes that a substantive move towards a more sustainable economy and patterns of consumption would entail". Nudging has also been found to be unevenly distributed in its impact, as higher income households are less influenced by the plastic bag tax (Rivers, Shenstone-Harris and Young, 2017). There has also been some confusion in the deployment of nudge interventions in how 'choice architecture' can best be moulded to diverse situations (Lehner, Mont and Heiskanen, 2016).

The framing around both these alternatives of technological innovation and nudging theory is still situated in how consumers can make better behavioural decisions and choices. Therefore more extensive review of these will only highlights pitfalls of individualistic approaches already identified just in different fields, the most prominent of which is the inability to consider wider context. To break traditions of focusing on consumer agency, several streams of research emphasise the need to consider context in a way that does not prioritise and centrally frame the consumer. A reoccurring theme brought through in both this section and the previous one is a turn to the social, to consider the daily lives of consumers and their habituated activities.

Critiques to the inconsistencies in individualised approaches have repeatedly highlighted the need for a more situated acknowledgement of a broad range of factors that contextualise consumption. This is a move to consider the trajectories of activities as behaviours, rather than the sustainable obligations of individuals (Shove, 2014). As Shove (2010:1278) explains in the quote below, a pathway of understanding is needed that can grasp how our behaviours encompass all domains of daily life. This is the area where more promising progress lies in tackling unsustainable consumption patterns such as the wastage of food.

> "transitions toward sustainability do not depend on policy makers persuading individuals to make sacrifices, specified with reference to taken-for-granted benchmarks of normal nonsacrifice; or on increasing the efficiency with which current standards are met. Instead, relevant societal innovation is that in which contemporary rules of the game are eroded; in which the status quo is called into question; and in which more sustainable regimes of technologies, routines, forms of know how, conventions, markets, and expectations take hold across all domains of daily life. These are not processes over which any one set of actors has control" (Shove 2010:1278).

The next section introduces theories of practice as an alternative framing of consumer behaviour, its relevance to sustainable consumption and usage in understanding food waste at consumer level.

2.4 Theories of practice, sustainable consumption and the wastage of food

This section introduces theories of practice as a means of situating consumer behaviour. This begins by touching upon its history and then outlines its key features and employment in the field of sustainable consumption. A case is made for why this is a preferred behavioural approach to follow in developing the theoretical contribution of this thesis. Comments are made on how a practice approach has opened up the study of consumption and food, reviewing literature that has employed this approach to study consumer food waste behaviours. The section closes by outlining a knowledge gap in how a practice approach can better understand the contextual and circumstantial aspects shaping the conduits through which food becomes waste.

So far this chapter has established that current research on food waste behaviour fails to fully account context and circumstance as well as theorise the implications of these wider factors. Looking deeper into this failure the chapter has challenged the individualised nature of understandings where the cognition of the consumer is placed at the forefront. A practice approach (labelled theories of practice) is introduced here to provide an alternative that confronts and overcomes many of the inconsistencies that were a feature of such approaches. From the outset it is noted that a practice based lens of behaviour does not supply the same convenient and clear cut model of behaviour than individualised approaches. Rather theories of practice draws together several different versions of a practice based understanding. This has developed into a compelling and progressive tool to comprehend not just the nature of behaviours but their social and material context (Warde, 2005). This aligns with the overall aim of the thesis: To further understand the contextual and circumstantial factors that shape why consumers waste food.

Theories of practice is a marked turn away from the behavioural tradition of focusing on the individual. At its heart is a challenge to the limited autonomy of the consumer (Southerton, Warde and Hand, 2004) questioning why the social world should be explained through the millions of decisions and choices of individuals. Theories of practice is the result of centuries of writing characterised as a philosophical turn towards placing greater trust and accountability in action and activity. To begin a brief background is given on the rise of theories of practice. There is not space here to give a comprehensive history, but the discussion below helps to give some context to the theory's origins.

According to Nicolini (2012), the work of three key theorists fostered ideas that have come to form the basis of what is now known as a theories of practice approach. Firstly the work of Karl Marx (1841, 1867) on the interaction between the state, civil society and religion broke ground on critiquing the modern states' concept of free will (Paul, 2012). This was one of the first challenges (alongside the work of Hegel, 1821) to question social change in dominant capitalist

societies, making reference to problems of inequality. Here Marx challenged the rational and mental foundations under which western traditions had developed. Nicolini (2012) explains that this was a call for better acknowledgement of human action and its social and historic context whereby circumstances shape individuals as much as individuals shape their circumstances.

The work of Heidegger (1962) and the concept of phenomenology (explained in the next chapter) is positioned as the second key theorist (Nicolini, 2012). Heidegger (1962) brought to light the importance of 'being' as a form of understanding. This is an appreciation of how behavioural understanding can be attributed to grounded notions of living in the moment, an everyday reality of 'being in the world'. This helped appreciate the role and usage of objects in our behaviour. As Nicolini (2012:34) explains "in our daily practice we do not experience tools and usable things in isolation (a chair, a screen, a steering wheel) as much as a seamless web of references between objects (a room, an office, a car)". Such ideas were important in developing how individuals have common practical understandings of how things are used. This supported the value of experiential qualities of behaviour.

Finally the work of Wittgenstein (1971, 1972) introduces the idea of intelligence and knowledge existing beyond the confines of human agency. Individuals hold an intelligence of how to go about a certain activity that they deploy in the flow of how a situation may present itself. This intelligibility exists as rules or traditions or customs that individuals conform to and help to maintain in their actions. Wittgenstein (1972) questions what exactly a person knows through the usage of spoken and written language and how meanings are abstracted from this. His work begins to question how individuals "know what we are going to do before we do it" (Wittgenstein 1972:154). This instills the idea that individuals to not deliberate or think before acting but instead act upon their pre-reflective knowledge and shared understandings of how to perform a certain action. Overall these three theorists helped establish how behaviour can exist as a unit, named a practice, which captures the regular ways of acting that can characterise forms of daily living; a form of knowledge that exists outside cognition.

Further key thinkers important in practice theories' development include Weber's (1930) work on how individuals' lives are determined by the routines embedded within the bureaucratic nature of the state (Turner, 1993a). Also Durkheim's (1964) work on morality of society and how individual thinking is connected through 'bonds' to form a collective conscience (Elliot, 2009; Turner, 1993b). The work of Bourdieu (1977, 1990, 1998), Foucault (1972) and Taylor (1985) amongst others can also be counted as contributing towards the multiple strains of work that collectively has come to be known as a theories of practice approach. The plural term 'theories' is used because there is no one unified or definitive procedure of the elements and workings of a

practice approach, rather a set of agreed grounds of what makes theories of practice different. Nicolini (2012) identifies six different forms of a practice approach for example. The fact that there is no one theory of practice has been justified as a strength in that a practice approach can encompass a range of social workings (Reckwitz, 2002), with the discussion below elaborating upon these.

First it is important to clarify what exactly has become known as a modern theories of practice approach. Whilst definitions of a practice vary, similarities point to a practice being a series of actions that is attributed to going about a commonly shared behaviour, typically habitual and routinised in its nature (Schatzki, 2001). When taken on its own the term practice is misleading (Shove, Pantzar and Watson, 2012). However in the context of theories of practice, a practice is positioned as the analytical unit that contains the formula of the behaviour. This means that behaviours do not sit associated with individuals but exist separately as a social phenomenon. One of the most commonly used definitions of practice is by Reckwtiz (2002):

> "A 'practice' (Praktik) is a routinized type of behaviour which consists of several elements, interconnected to one other: 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" (Reckwitz 2002:249)

Here emphasis is placed on how a practice consists of several different socially positioned elements. Schatzki (1996:89) explains that a practice is "a temporally unfolding and spatially dispersed nexus of doings and sayings". Practices therefore represent aspects of societal shared understandings of activities, such as how society has a general consensus of what the practice of driving might look light and what know-how, materials and meanings it incorporates.

A further point of recognition is how practices exist in a constant state of flux. Giddens' (1984) work was influential in introducing the idea of practices being recursive. It is only through the repeated engagement in practices that they continue to exist as socially placed units of behaviour. Practices circulate, are crafted, modified and dissipate through individuals' engagement in them, labelled here as the 'performance' of a practice. Shove, Pantzar and Watson (2012) make the important distinction between practices as performances and practices as entities. Entities refers to practices as the shared understanding of units of behaviour. Whereas a practice as a performance refers to the in-moment acting out of the practice. It is the relationship between these two practice forms that allows practices to exist and be reformulated in their repeated renditions, as Shove, Pantzar and Watson (2012) explain:

> "it is through performance, through the immediacy of doing, that the 'pattern' provided by the practice-as-an-entity is filled out and reproduced. It is only through successive moments of performance that the interdependencies between elements which constitute the practice as entity are sustained over time" (Shove, Pantzar and Watson 2012:7).

The 'theory' part in a theories of practice approach picks up how practices circulate, constitute themselves and form connections. Nicolini (2012:2) explains that:

> "The social world appears as a vast array or assemblage of performances made durable by being inscribed in human bodies and minds, objects and texts, and knotted together in such a way that the results of one performance become the resources for another" (Nicolini 2012:2)

As well as a way of understanding behaviour, practices can be viewed as working blocks of society. Social structures such as institutions only exist to the extent to which they consist of practices that are continually performed that bring them into existence (Giddens, 1984). Shove, Pantzar and Watson (2012:3) explain that "activities are shaped and enabled by structures of rules and meanings, and these structures are, at the same time, reproduced in the flow of human action". According to Giddens (1984:2) understanding of the social world "is neither the experience of the individual actor, nor the existence of any form of social totality, but practices ordered across space and time". The world is presented as a series of relational networks connected through practices that are in a constant state of being re-made and configured in how individuals engage and perform them (Bellotti and Mora, 2014; Schatzki, 2002). Behaviours, whether attributable to food waste or the consumption activities, can be comprehend through practices with the theoretical element allowing social scientists to delve deeper into aspects of context and circumstance by looking into the world through a practice lens (Nicolini, 2012; Evans, McMeekin and Southerton, 2012).

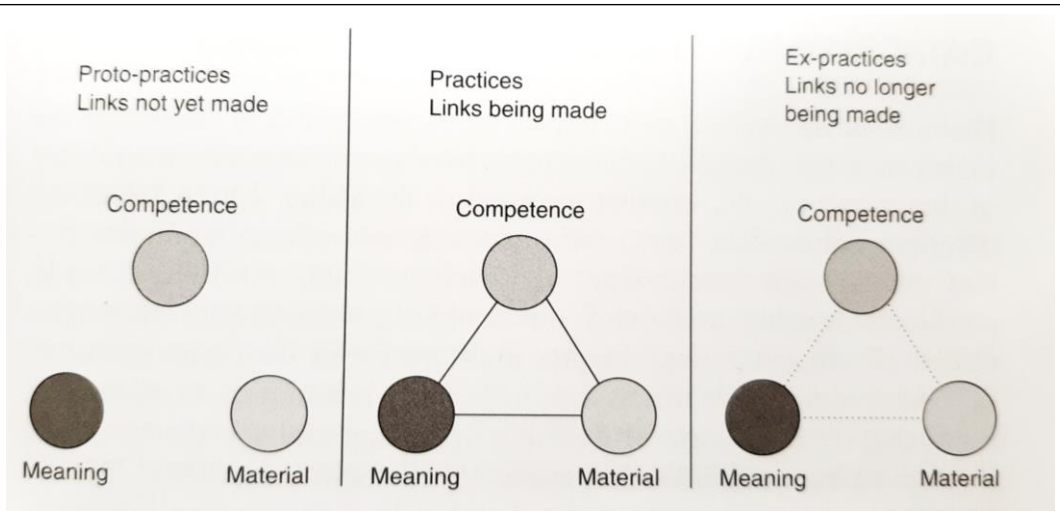
In the area of sustainable consumption, studies that employ a theories of practice approach remain at the fringes (Evans, Meekin and Southerton, 2012). This is despite commentary that elucidates the problems with individualised approaches (as discussed in the previous section 2.3) and the merits of researching consumer behaviours through a practice approach (Halkier, 2009). Southerton, Warde and Hand (2004:47) state that "conceiving consumption as part of practice offers a framework for appreciating how norms and conventions of consumption become established in the routines of daily life". It is this arena of the everyday that practice approaches are able to unravel and explore. Knowledge can be gained of not just behaviours but what is holding them place as part of unsustainable patterns of consumption (Halkier, Katz-Gerro and Martens, 2011; Halkier, 2009).

Welch and Warde (2015:88) put forward three principal reasons for the link between sustainable consumption and theories of practice. Firstly that everyday routines involve the inconspicuous consumption of resources that are intricate but at the same time mundane and therefore fail to be explained through individualised notions of intention. Secondly that theories of practice can take into account ideas of accomplishment, that consumption is located in wider shared understandings of behaviour. For example how the practice of preparing and cooking food is wrapped up in sharing a meal with others and feeding the family. Thirdly the way in which theories of practice offers a remedy for the attitude-behaviour gap (explained in the previous section 2.3). The placement of behaviour within practices does not allow for cognitive contradictions between thinking and doing, they are both part of the flow of consumption practices (Southerton, Warde and Hand, 2004).

In order to securely pin down an understanding of what practices are, this section now turns to address what a theories of practice approach looks like in the field of consumption, the practice turn in studies of food and how this approach has been employed to study food waste behaviours. Three key pieces of work are drawn upon to explain what exactly practices, as a unit of behavioural understanding, consists of in this field.

Firstly Shove, Pantzar and Watson's (2012) book 'The Dynamics of Social Practice: Everyday life and How it Changes' is frequently drawn upon as a base of studies of consumption utilising a practice base approach. This book made an important case for theories of practice's untapped potential for understanding change, providing an approach to explore processes of transformation and stability within practices themselves. The book also strengthens arguments around how practices are not personal attributes of individuals. Practice exist separately as a sociology subject to be studied given the changeable context and circumstance of practices in both entity and performance form (Reckwitz, 2002). The most prominent contribution of Shove, Pantzar and Watson's (2012) work is establishing material, competence and meaning as three elements that feature in every practice. These three elements are integrated when a practice is enacted, they come together and disband in different configurations to be mutually shaping. Figure 2.3 displays Shove, Pantar and Watson's (2012) definition of each of these elements and how they come to link together.

Figure 2.3 example of the elements of practice according to Shove, Pantzar and Watson (2012:14, 25)



Materials – including things, technologies, tangible physical entities and the stuff of which objects are made;

Competences – which encompasses skill, know-how and technique

Meanings – in which we include symbolic meanings, ideas and aspirations

Figure 2.3 illustrates how Shove, Pantzar and Watson's (2012) work introduced the idea of practices being recognisable entities that feature three key elements required for a successful and recognisable performance. The first of these elements, materials, refers to "objects, infrastructures, tools, hardware and the body itself" (Shove, Pantzar and Watson 2012:23). Drawing upon Pickering (1995) and Schatzki's (2002) work, an argument is made that these resources are integral to practices which cannot exist or happen without reference to material entities and its relations to people (Warde, 2005). The second element, competences, refers to the understanding, skills and background knowledge integral to knowing how to carry out and identify a practice as part of a shared understanding of practical consciousness. This represents the practical knowledge of not just knowing how to perform a practice but how to judge the performance of others.

The third element is meaning that stands for "mental activities, emotion and motivational knowledge" as "the social and symbolic significance of participation in any one moment" (Shove, Pantzar and Watston 2012:23). As well as being practical and material, practices hold a sense of meaning in how they exist in a 'timespace' setting that can characterise human activities, such as how a practice might have a historic or personal meaning (Schatzki, 2009). For Shove, Pantzar and Watson (2012:13) the basis of these three elements (material, competence and meaning) are central to the workings of a theories of practice. They explain that practices exist as "moments of doing, when the elements of practice come together, are moments when such elements are potentially reconfigured (or reconfigure each other) in ways that subtly, but sometimes significantly change all subsequent formations" (Shove, Patnzar and Watson 2012:13). This approach has seen significant uptake in studies of consumer sustainability which has taken this base work to explore practices such as commuting amongst other areas (Iyanna et al., 2019).

The second and third pieces of work are Warde's (2005) paper 'Consumption and Theories of Practice' and Warde's (2014) paper 'After taste: Culture, consumption and theories of practice' both published in the Journal of Consumer Culture. In the first of these Warde (2005:132) sets out to revive the interests of theories of practice in the area of consumption given the previous restrictive focus on symbolism and self-identity in sociological consumption studies. To make new ground, Warde (2005:131) introduces theories of practice to reallocate where the individual lies in consumption as "a competent practitioner requires appropriation of the requisite services, possessions of appropriate tools, and devotion of a suitable level of attention to the conduct of the practice".

The paper draws upon the work of Schatzki (1996), Giddens (1984), Bourdieu (1990) and Reckwitz (2002) to explain how consumption is an integral process in the majority of practices,

where consumption does not just represent market exchange but a range of activities through from acquisition, appropriation and appreciation (Warde, 2005) to devalue, divestment and disposal (Evans, 2017). The practice based approach presents common characteristics such as a practice being a routinised type of behaviour with interconnected elements. Reckwitz's (2002:249) work is utilised to explain how the performance of a practice presupposes its existence as an entity whereby "a practice represents a pattern which can be filled out by a multitude of single and often unique actions reproducing the practice".

Some distinctions are made that are different to Shove, Pantzar and Watson's (2012) version such as separating out how practices are concerned with both practical activity and meanings. Warde (2005:136) explains that practices "comprehend non-instrumental notions of conduct, both observing the role of routine on the one hand and emotion, embodiment and desire on the other". A differentiation is also made between dispersed and integrative practices. The former concerns practices that appear widely in social life such as the ability to give an explanation, it is the capacity of knowing how to do something that Shove, Pantzar and Watson (2012) term competences. The later integrative practices relate to more complex practices such as farming or business practices that might have their own terminology and associated institutions. Overall Warde (2005) summarises practices into three components: Understandings as what to do and say; procedures as rules, principals and instructions; and engagements as projects, tasks, beliefs, emotions and how practices can have a means to an end.

The third piece of work, Warde's (2014) paper, revisits the topic of theories of practice and consumption to raise a number of points to clarify its usage and contribution. Firstly the paper raises how a practice approach has emerged not just as an alternative to studies of individual choice but also as an alternative to focusing on the cultural and symbolic aspects of consumption. Theories of practice is able to better unravel consumption given it is "a notoriously chaotic concept". Warde (2014) uses a number of polars to show this such as how a practice approach signifies "doing over thinking, the material over the symbolic, and the embodied practical competence over expressive virtuosity in the fashioned presentation of the self" (Warde 2014:283, 286). Warde (2014) poses five key questions to consider the future development of the employment of theories of practice in studying consumption, these are summarised in figure 2.4.

Figure 2.4 Summary of five points to consider regarding theories of practice's employment to study consumption from Warde (2014).

1) The problem of distinguishing between practices as performances and practices as entities. Academic study is possible at both levels but how can the workings of behaviour at entity level be linked and considered at the performance level?

2) How can the repetitive conduct of habits be explained through the workings of agency, practical sense and practical conscious. In Warde's (2014:293) words "how do people come to have practical (and temporal) routines or procedures which lead them to repeat activities more or less similarly, or more or less similarly to other people in similar situations?".

3) What is the role of minds and bodies and things? What role does embodiment and experience play in understanding and reporting practices?

4) What exactly does change to consumption (whether emergent, transformational or differential) look like when facilitated through the work of practice theory. Lack of attention to change as new forms of norms, standards and institutions and the practices associated.

5) What is the scope of practice theories? What can and cannot be explained? Whilst theories of practice provides a framework to explain the totality of the social world, undertaking and achieving this task would be extremely difficult, arduous and potentially convoluted.

The five points raised by Warde (2014) in figure 2.4 help illustrate the extent to which current approaches to employing theories of practice to study consumption can meet the aim of this thesis, namely understanding the context and circumstance of food waste behaviours. Firstly Warde (2014) raises the point around how practices, both as performances and entities, can be identified. A critique of a practice approach raised by Turner (1994) is how we know that practices exist. How, as social scientists, can boundaries be placed around activities, that could be randomly conducted, to distinguish one practice from another? The answer lies giving four ways in which practices can be identified (Warde, 2014). 1) Can an instruction manual be written about that practice and; 2) could consumers indicate they spend time doing that practice. 3) Can consumers talk about standards to judge the performance of the practice and; 4) are there materials associated with that practice, such as how a fridge or freezer are associated with the practice of cooking.

Warde's (2014) second point in figure 2.4 raises that whilst agentive elements of practice sense and consciousness have been identified as being present in practices, explanation of their workings remains obscure. The key question is how consumers come to repeat their activities with small differences. How can the performances of practices be studied whilst acknowledging the routinised notion of practices they are associated with? It is a difficult concept to grasp but extensive in moving understanding beyond just the nature and constitution of the elements of a practice to the grounded workings of those practices in their performance. Warde (2014) suggests that dispositions (further explained in chapter 3), the experience of prior activity, exposure to expert advice and observing the behaviour of others play a shaping role in performance of practices.

The third point in figure 2.4 draws out the role of the material and the visceral. Warde (2014) recognises the body as one area that requires further practice theoretical engagement. Bodies are clearly shaped through the performance of practices (Wilhite, 2012) and at the same time are also effective in placing people in social space (Warde, 2014). Objects and material things are also discussed in a similar light with a note of caution that "the power of objects may be overplayed at the expense of practical procedures" (Warde 2014:294). In employing theories of practice the role of the body, materials and objects, as well as the agentive role of the mind are infrequently reported or singled out specifically raising questions for how these practice workings can be collectively incorporated into understanding (Wilhite, 2012).

The fourth point from figure 2.4 refers to how practice theory is able to detail social change. Warde (2014:295) highlights that through a practice lens consumers "much of the time do not have control over the circumstances in which they find themselves" therefore "change in behaviour is likely to occur as often as a result of endogenous change in social circumstances".

Change therefore is located in the new norms, standards and institutions that produce shared understandings in the procedures that make their way into practices. This is a reformulation of how change is understood. Rather than change being captured in quick solutions, changing consumer behaviour is more complex requiring greater engagement with the fabric of social life.

The final point that Warde (2014) raises is the scope of theories of practice. Whilst it is well established that consumption is a wide ranging research area, critical to understanding why food is wasted (Evans, 2014), it is not yet clear theoretically if there is the analytical guidance that can fullly take advantage of the breadth of understanding that theories of practice can deliver. Warde (2014) explains that different areas of study coalesce with the term 'practice bundle' being employed to signify how the competences for several practices may overlap. Warde (2014:296) states that it is "far from obvious how to ramp up such concepts to the level of social systems" meaning how "performances draw upon multiple practices" deserves further interrogation in research.

There is now a convincing case for how theories of practice are able to seize the dynamic range of behaviour in this field (Southerton, Warde and Hand, 2004) with the ability to unravel and unmake consumption critical to both understanding and resolving the impact of unsustainable lifestyles (Sanne, 2002; Devaney and Davies, 2017). While they may be overly theoretical with little grounded explanation, the work of Shove, Pantzar and Watson (2012) as well as Warde (2014, 2005) are the beginnings of commentary on what practice theory looks like in this field. These papers are key in raising points to question what behavioural understanding is on offer. It is clear that on one hand that practice based analysis overcomes the draw backs of individualised approaches, but at the same time the meticulous scale of concepts available and their workings is both daunting and captivating in its potential.

Moving to the topic of food and waste, Domanschi (2012) argues that there has been a practice turn in the study of food, particularly in the areas of sociology and geography. A practice lens has allowed examination of the complexity of food practices, such as how food quality is wrapped up in the connections between agricultural practices at the beginning of the supply chain and gastronomy at the end (Domaneschi, 2012). Devaney and Davies (2017) also highlight practice theories' ability to identify connections. In identifying the linkages between the practice elements of food acquisition, storage, preparation and food waste management, the paper describes an intervention that allows consumers to reconfigure their eating practices.

Several studies show how a practice based approach to food has opened up new ways of studying the intricacies of food activities. Dyen et al., (2018) focus on the dynamics of food routines highlighting the role of social relations and the symbolic nature of mundane actions that

give light to how certain temporal arrangements can characterise households. Crivits and Paredis (2013) also looks at how food is routinised in everyday habits where alternative, more sustainable food practices can enter the everyday frame. Connections, whether between practices or practice elements, again forms a basis of the analysis.

Gojard and Véron (2018) employ Shove, Pantzar and Watson's (2012) element based practice theory framing to look at different pathways to sustainability in the home and their connections with patterns of food practice. The paper connects elements of eating more organic, local and seasonal foods to practices of shopping and cooking (Gojard and Véron, 2018). Fonte (2013) also looks at the intersection between the elements of food practices related to cooperative purchasing to understand how new more sustainable food practices can be scaled up.

Often studies of food that employ a practice framing attempt to look at several different stages involved in the consumption of food. Shopping and cooking feature frequently (Gojard and Véron, 2018; Halkier, 2009; Crivits and Paredis, 2013; Evans, 2014). Studies follow the linear pathway of how consumers come to provision themselves with food, store and manage food, its preparation and cooking and how it is then disposed, paying attention to the configuration of practices in each stage (Evans, 2014; Schanes, Dobernig and Gözet, 2018). Halkier and Jensen (2011:105) explain that there is a certain "complexity of practically performed food provisioning, cooking and eating" that can be described by paying attention to practices.

Paddock (2017a) illustrates that understanding these food practices gives light to not just their connections to other practices and their elements, but how they are connected to the wider organisation of consumption and daily living. This reins over the routinised nature of food, embedding practices as habits locked into our patterns of living. Kristensen and Holm (2006) for example explain how consumers find it hard to incorporate their ideal meal pattern into their lives. This has not only been identified via a practice lens as being unsustainable in a socio-economic-environment sense, but also in terms of health. Theories of practice have been employed to show the need to reframe health outcomes of current eating patterns and habits (Maller, 2018; Delormeier, Frohlich and Potvin, 2009).

Similar to how theories of practice encompass a broad range of ideas, studies of food practice also comment on several different practice based aspects. As well as the routinised, habituated nature of practices, studies have also looked at the material side. Twine's (2018) study of veganism emphasises the role of materiality in terms of how food is substituted, new foods are tried, and how consumers are being creative and transitioning towards new tastes. Evans (2014) also writes on the material trajectories of food. Dubuission-Quellier and Gojard (2016) pick up on aspects of identity in eco-friendly food practices. Plessz et al., (2016) looks at how meanings

develop and are attached to foods by experts which are then adhered to by consumers. There are several examples of how different elements of a practice or parts of the practice theoretical tool kit have been drawn upon to take a look at different food activities (Halkier et al., 2011; Wahlen, 2011; Hagberg, 2015; Martens and Scott, 2017)

On the topic of food waste, the majority of the studies that have utilised a practice approach have already been mentioned in section 2.2. Evans (2014:19) food waste work for example critiques the responsibilization of the individual consumer, introducing the practice turn in social theory to provide "a wealth of resources for exploring and better explaining the dynamics of what people do". Foden et al., (2017) shows how food waste comes about through the everyday routinised sequence of action, such as the different stages of food provisioning. Food practices can set the rhythms around which the household is organised, having implications for how waste comes about also (Paddock, 2015). Mattila et al.,'s (2019) study looking at the timing of food practices shows how one reason for this is scheduling. Food fails to be realised into a meal as consumers must "match their past, present and future practices" to food deterioration (Mattila et al. 2019:1638). Revilla and Salet (2018) explain how the meaning aspect of practice can provide further explanation. Consumer's meanings of food waste relate to the skills held with household's differentiated socio-culturally.

The material aspects of food waste are well recognised as playing a role in food management and recycling practices (Evans, 2014). A focus on materiality has given greater detail on the tacit ways in which food comes to be used (Hebrok and Heidenstrøm, 2019), such as how the freezer can pause the decay of food (Hand and Shove, 2007). Food waste can originate from how consumers are unwilling to engage in appraising foods that maybe close to their best before date but still edible, which coupled with a lack of appreciation of how food is grown, causes food waste through lack of material understanding (Dobernig and Schanes, 2019). Meah (2014b) points out that often the food safety element of household food practices falls sort of guidelines and can be a reason for wastage. The materiality of the bin has also been a focus raising the important point of the need for understanding of how the 'ickiness' of food is dealt with within kitchen environments (Metcalfe et al., 2012).

Few studies have looked at the environments or context within which consumer food waste behaviours unfold. Foden et al., (2017) claims that better kitchen design and domestic technologies would bring about a change to routines and thus influence food wastage. Better design has been shown to help integrate food practices, such as how a fridge camera could help prevent over purchasing (Ganglbauer, Fitzpatrick and Comber, 2013). The kitchen space evolves with the storage capacity and requirements of the food purchased (Dobernig and Schanes, 2019;

Kendall et al., 2016). Waitts and Phillips (2016) explain how the placement and ordering of food in the home can be linked to waste. Refrigeration and disposal practices relate to how food moves from being present to being forgotten which is relative to how practices play out in environments.

Attention to aspects of meaning and competence of food consumption practices have been less significant in understanding waste. Wasting food is tied up with anxiety and guilt throughout food provisioning and food preparation alongside caring for others (Watson and Meah, 2013; Waitts and Phillips, 2016). This is relative to conventions of eating convivially and gifting others food in order to avoid disposal (Evans, 2011b, 2014). Cappellini (2009) and Cappellini and Parsons (2012) highlight the role of the competence element of household food practices in preventing food waste. There are certain ways of doing activities involved in food management such as food shopping, storage and preparation that can be undertaken in a 'proper' way to avoid waste (Dobernig and Schanes, 2018), potentially linked to dispositional ways of acting between consumers, their food and infrastructures of provision (Sahakian and Wilhite, 2014). Very little has been written about the role of the body with Waitts and Phillips (2016) elaborating on the emotions of shame and disgust of food waste by showing how our assessments of foods' edibility unfolds relative to the body's visceral responses.

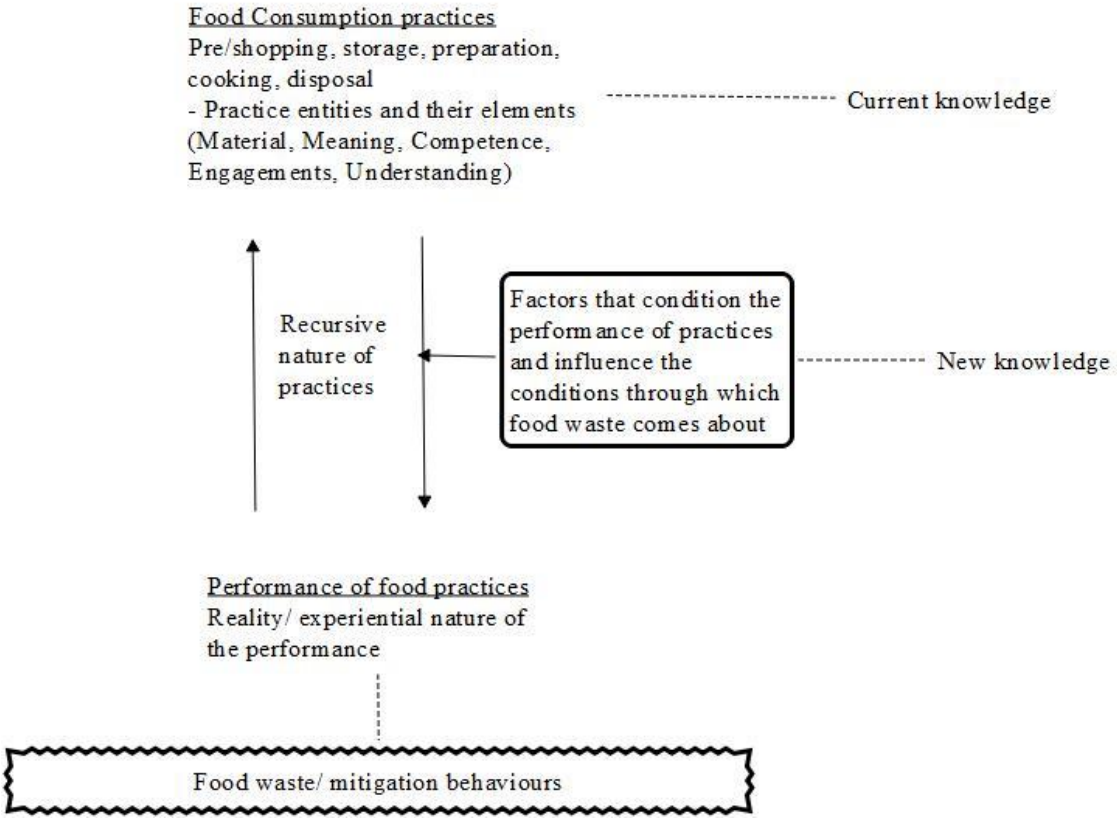
The majority of the studies above are from the early 2010's onward showing how this is a recently developing field. Whilst several interesting insights have been achieved, there is still insignificant knowledge to fully account for the context and circumstance of food waste behaviours, with further developments over the application of theories of practice to draw out the totality of the factors required to achieve this. The majority of practice based studies that research consumer food waste are narrow in focusing on specific practices. Even for studies that account for the full range of consumption practices from food provision through to disposal, the remit of analysis is still focused on food exclusively. As Dobernig and Schanes (2019:488) explain studies "so far largely focus on the potential of technology and design to encourage practices that might result in less food waste. Much less explored is the link between different types of food provisioning systems and food waste generation". Whilst studies recognise, via a practice lens, that consumer food waste is the result of "the prevailing organization of everyday practices" and how what goes on in the kitchen is shaped by wider systems (Evans, 2014:xv), there is currently inadequate work both theoretically and empirically to realise this (Foden et al., 2017).

In stating there needs to be greater research on the context of consumer food waste behaviours this signifies a need to understand the unfolding background of practices. We still do not fully understand the complex nature how waste comes about and this can be seen as a direct consequence of food waste not being a practice itself. Academic work has established that food

waste comes about through a host of food consumption practices. Whilst many of these are documented as entities and their elements understood, there is a failure of joined up thinking to understand what influences, or shapes how these practices happen. Warde (2005) explains that practices will always be conditional to time, space and social context. Yet these terms feature little in studies. Rather than focus on the elements of practices, it seems more fruitful to look at the conditions under which the performance of practices unfold. This will give great knowledge of the potential spectrum over which food waste can arise. There is a clear rationale for additional practice theorising to look at such conditioning aspects, ensuring that these aspects are tailored to further understanding of consumer food waste behaviours. Specifically such conditioning aspects must access the current gap of the connection between how consumers' lives unfolds and how this is implicated in the conduits through which food waste comes about. This should cover how people, places and temporal situations contextualise understandings of food waste behaviours.

The call for greater understanding being grounded in performances is echoed in the circumstance of food waste behaviours also. With advice to consumers assuming a certain degree of stability and consistency in their life in order to implement food waste mitigation strategies, there is a crucial need to research the lived reality of routines and the circumstances under which practices happen. Whilst this chapter established that current life and work patterns are a self-reinforcing barrier to change that hampers the progress of sustainability, we do not know enough about why this is due not just because the repetitive nature of practices but also because of situations where behaviour is inconsistent, interrupted and disrupted. This knowledge lies in greater understanding of the experiential nature of how practices are performed. For example it seems imprecise to say that certain consumers improvise and other consumers are better at planning. Instead the explanation may lie in understanding the circumstances under which food consumption practices are undertaken which subsequently will aid the comprehension of the conditions under which food waste comes about. Figure 2.5 gives a diagram to show the location of the knowledge gap identified by this thesis.

Figure 2.5 Diagram to show the location of the knowledge gap as the factors that condition the performance of practice



In figure 2.5 the space of the knowledge gap is situated as the factors that are influencing how performances are conditioned, with the explanation above justifying how this gives insight into the context and circumstance of food waste behaviours. At the top of the diagram is food consumption practices which is where knowledge currently lies. Here studies have investigated the nature of food consumption practices and their elements and how they tie to the wastage of food across the activities of shopping through to disposal. Under this is the performance of practices with the arrows showing the recursive nature of how these inform and maintain practices as entities. The knowledge gap exists in the influential aspects that are said to condition this process of how entities are translated into performances in lived realities of everyday life. This is proposed as a gap to provide new knowledge of why consumers are wasting food but also as a contribution to the employment of practice theory in the area of consumption. As a theoretical gap, the following chapter gives further explanation in constructing a 'conditioning framework'. The chapter now concludes.

2.5 Conclusion of the literature review chapter

In conclusion this chapter gave an in-depth account of what is currently known about consumer food waste behaviour, reviewing the literature that underpins its behavioural foundations and detailing the practice turn in food and food waste studies to situate this as a promising future research pathway.

First the chapter provided a critical view of literature in the area of consumer food waste studies. Beginning with a brief framing of waste research, the need for studies to look at behaviours was justified to explore the social processes (termed conduits) through which food comes to be wasted. Waste was shown to be a valuable topic of social science enquiry. To understand how things come to be wasted we must understand how they are used, consumed and appropriated with meanings. Moving to studies of food waste, this section began by navigating work that focused on attitudes, motivations and intentions. Whilst these studies have been successful in recognising and documenting attitudinal patterns and demographic characteristics, this area was shown to feature inconsistencies. Pro-environmental motivations and the attributing value of intentions is presently unclear. Studies identified a gap between the cognitive features ascribed to consumers and their actual behaviours. Questions were raised over whether these inconsistencies could be related to the abstracted nature of studies, where these behavioural features, such as morals and beliefs, are singled out with little contextual or circumstantial consideration.

This section then moved to review studies that focused on food consumption activities and their links to waste. Shopping, planning and cooking all bring about food waste in different ways. The review challenged some of the underpinning assumptions, such as the lack of details of what is considered as planning, and some oversimplification of consumers' routines. The visceral nature of food, materiality and the role of the fridge and freezer are also shown to be influential in the passage of food into waste. In investigating these further consumption activities linked to food waste, the review raises questions around what should be considered when researching what influences food waste behaviours. Evans' (2014) work shows the value in conceptualising the factors at play. It is clear that there is space to expand the domain of current research with a gap in knowledge around wider contextual and circumstantial aspects.

The second part of the chapter constructively reviewed literature that problematised an individualised approach to sustainable behaviour. This enriched a narrative of exploring the groundwork upon which current understandings of consumer food waste behaviours are based and carried through to the design of interventions. Firstly this section explained how the attention to attitudes, behaviours and intentions is a feature of not just studies of food waste behaviours but

a feature across research into pro-environmental and ethical consumption. The section pointed out the failure to coherently grasp the problem at hand through such an approach. A focus on decision making and choices in studies of consumption misses out the social and material context of behaviour as well as bodily and habitual aspects of human conduct. Without these considerations the behavioural context of social systems and wider structure is absent meaning the conclusions drawn are only valued in an isolated context. Questions are raised around the value that individualised approaches bring to studies of food waste reduction and prevention in terms of their relevance and usefulness.

Section 2.3 of the chapter then moved to critique the functions at the centre of the attitude, behaviour, intention relationship that forms the implied basis of behaviour. Literature on the attitude-behaviour gap has come to represent a thorn in the heart of theorising the consumer as a rational actor. This has challenged the premise of research seeking to move towards more consistent employment of pro-environmental behaviours. Instead studies have emphasised the need to account and not solve the unpredictability of consumers. This has helped explain the weak connection between consumers that hold green values and knowledge of the food waste problem, and their wasteful actions.

The final part of section 2.3 took a step back to scrutinise the perseverance of individualised approaches by business and government as a means of environmental change. A rich narrative exists of accounts for how individualised approaches enable policy makers and corporations to manipulate responses within the bounded responsibility of the consumer to prevent wider consideration of how behaviours can be accountable to institutional structures. Whether positioned as consumers or citizens, individualising behaviour has been shown to ingrain market led change which has frequently been shown to only skirt around the edges of environmentally damaging consumer behaviours. The placement of food waste within such debates has only recently started to be acknowledged in order to question narratives of blaming the consumer. Household consumption must decline in order to meet the emission reductions required to avoid catastrophic climate change and current individualised approaches to consumer behaviour are not facilitating this. There is substantial need to reformat and reshape how consumer behaviour is approached. This must properly take into account the wider range of factors that are implicated in delivering a behavioural understanding that can more critically contribute more transformative food waste mitigation interventions.

In thinking about where else to turn as a basis for how behaviour should be approached in studies of consumption, two other routes, a focus on the technological solutions and nudge theory, were presented. These two pathways are shown to be underpinned by similar individualised logic

and therefore there is little value in pursuing these further. The reoccurring themes of the need for behaviour to consider both context and circumstance to properly account why food goes to waste is touched upon. This means research must command and situate consumers within the everyday reality of their social life and how the practicality of the ways in which they live is a form of organisation through which to construct behavioural understanding.

The final part of the chapter introduced theories of practice as an alternative to individualised approaches to researching consumer behaviour. Beginning with a brief history, this theoretical approach was explained whereby the role of the individual is demoted and instead action and activities are placed as the key vehicles of locating behaviour. Practices are explained as being the central unit of analysis that captures the routinised nature of behaviour. A practice theories' approach is explained as consisting of several streams of practice workings, such as the recursive relationship between practices as entities and performances. This section then moved to explain theories of practice use in the area of consumption, highlighting its strengths in investigating consumption as a complex behavioural arena as well as current thinking of how it has been employed through an element framework.

Using the work of Warde (2014) five key questions were highlighted in its potential further use followed by a review of a practice turn in food and food waste studies. The need for further theorising of practice theory was shown to be aligned with the concern for greater knowledge on the context and circumstance of food waste behaviours. Current practice based studies of food waste behaviour were shown to have little engagement with this, being narrow in focus and considering few factors beyond food consumption. The section closes by explaining the knowledge gap that guides the aim and objectives of the thesis. This is the need to understand the factors that influence or condition the performance of food consumption practices. The next chapter explores the ontological and epistemological foundations of both an individualised and a practice based approach further and constructs a socio-spatial-temporal conditioning tool.

Chapter 3

Theories of practice as a research approach:

The social-spatial-temporal conditioning of consumption performances

3.1 Introduction

In any piece of qualitative research, philosophical assumptions underpin the approach taken by the researcher. Discussions in this chapter outline the perspective held by the author on the nature of reality and how knowledge is constructed (with the term paradigm used to mean different ontological standpoints). This has implications for the methodological tools used (discussed in Chapter 4) and gives justification for how participants are interacted with to obtain data. Such discussions are important to clarify what comes first, the 'methodological cart' or the 'philosophical horse' (Yeung, 1997).

This chapter details the research approach. This begins by first looking at the ontological and epistemological setting of social science within which this study lies. This is followed by an account of methodological individualism, expanding the previous discussion to its research philosophy in order to further clarify the position of theories of practice. The theoretical foundations of practice based research are then examined and the approach to knowledge set out. A social constructivist account of a practice paradigm is established to show how knowledge is produced and located within the structures and workings of practices.

The chapter then offers an original theoretical contribution by detailing three different means through which the performance of practices can be conditioned. This is taken forward as a useful tool in researching consumption practices via social, spatial and temporal domains. Unique aspects of conditioning are then explained for each of these domains. This meets the second objective of this thesis.

3.2 The ontology and epistemology of constructing the social in research

As research has evolved, ontological paradigms have emerged to signify the reality of what can be considered as knowledge. Different readings of philosophy have generated different paradigms to situate the epistemologies or forms of how this knowledge can be known (Wellington and Szczerbinski, 2007). Through looking into different paradigms this section discusses different approaches to how knowledge of the social world is constructed in research. A paradigm consists of a set of beliefs to be actioned during research which hold influence over methodological and analytical procedure. There is a rich history of how paradigms have developed through discussions and debates (Gage, 1989), with approaches to knowledge seeking to apply a framing or structure to the social world to give explanation. This term refers to how concepts that explain social interactions are key to how society takes place, whether this be between people or objects. Overall the discussion of social constructivism in this section is a beginning point of a narrative of the research approached employed in this thesis.

Typically research in the social sciences is positioned from a standpoint bounded from the social, embracing what can be known as things that can be interpreted by the senses rather than abstract ideas of what the universe 'could' be like (Graham, 2005). The cultural (Barnett, 1998; Kirsch, 2013) and material (Tolia-Kelly, 2010; Kirsch, 2013) turn in the 1980's and 1990's (Curry, 1991) emphasised the positioning of knowledge in societal relations, challenging ideas of a grand theory or meta-narrative (Ley, 2003). This shifted the nature of reality from a previously holistic dominant view to a pluralistic notion of knowledge based upon a subjective reality of people's experiences, without preferential treatment of a specific perspective, actor or approach (Culler, 1983). Others have described this as a worldview that consists of multiple realities to give recognition to the complexities of participants' lived experience (Creswell, 2007).

Research reviewed in this thesis so far is typically associated with paradigms that mould knowledge to socially constructed terms, such as the role of culture, consumption and disposal. Whilst considering social, cultural and material factors, such research employs a pre-conceived framework of theory to help make sense of knowledge. This can take into account a number of means through which knowledge can be known. Examples might include the social setting and viewpoint of the participant. The social is therefore constructed by the researcher in the research process, such as when interpreting the data during coding (Corbin and Strauss, 1990). There are differences between socially constructed approaches to knowledge. Compare for example the procedures involved in the theory of planned behaviour to examine behavioural attributes (Ajzen, 1991), and Evans (2014) work on a sociology of household waste. The first is very prescriptive in outlining attitudes, behaviours and intentions as a critical focus. Whereas in the second

knowledge lies in wide spread socio-technical regimes and is less constrained in form (Campbell, Evans and Murcott, 2017).

Such procedures must take into account the subjective nature of participant's expressions. The researcher holds control of the conditions of the social world within which the research occurs. As a comparison, phenomenological approaches denounce the need for a means of structuring knowledge and relies on the phenomena of study revealing itself, detached from any preconceived understandings. This reflects Heidegger's (1962) ideas of attributing knowledge to 'being in the world'. Moustakas (1994) argues that this approach leads to more emergent and inductive knowledge formation that does not prioritise the researcher's expertise but instead the reality of the study setting (Askegaard and Linnet, 2011).

Here knowledge is appropriated from lived experiences, framed with the basis of a shared reality between the researcher and the participant "free from theoretical, prejudicial and suppositional intoxications" as put by van Manen (2007:12). Whilst this approach would not fit with the adoption of theories of practice in this thesis, it illustrates a way in which knowledge can be constructed and how the workings of the social are considered. There is a spectrum of how prescriptive knowledge can be and how the social world is fashioned within it. This can be seen for example in the previous chapter in how individualised approaches to behaviour and theories of practice offer different reasons for food waste, as two different forms of social constructivism in action.

Social constructivism represents a broad range of ideas utilised across fields but it is useful to engage with to differentiate what it means to apply a theory or framework to make sense of the social world. Problems exist around how the researcher places boundaries around what is and is not of concern to a study. This thesis acknowledges that the researcher plays a role over how the tool to construct knowledge is employed. Whilst phenomenology is compelling as it does away with any limitations, the literature review shows how theories of practice have been crucial in unravelling consumption (Warde, 2005, 2014), and waste (Hawkins, 2006).

Take for example materiality as a factor to attribute knowledge (Preston, 2000). Theories of practice have situated materiality within the routines, habits and 'doings' of social action, with knowledge located within materiality as one element the practice framework (Shove, Pantzar and Watson, 2012). Others have argued that a study of materiality itself can be a basis of knowledge (van Dyke, 2015), through generating knowledge on the function and forms of things. This may involve looking beyond the object and its function to how it came to be used, how it might be appropriated and appreciated in its use. Materials change usage and transition between states in a

socially constructed material flow (Ingold, 2012). Knowledge for example might lie in waste characterisation through interpretation of materiality (Gregson and Crang, 2010).

An opposing social science epistemology, critical realism, puts forward a criticism that in constructing the social, theories are deterministic and overly interpretative (Bhaskar, 1998). Instead this standpoint advocates "the existence of reality independent of human consciousness" (Yeung 1997:52). This idea is labelled as naturalism; that the reality of the world exists independently and may still concern performances and actions of people but dictates a truth of knowledge that exists independently than any imposed framework or structure (Archer, 2000). This is an attempt to link the abstract and concrete paradigms of naturalism and voluntarism.

Two ways in which knowledge can be constructed are evident here, one being a constructivist agenda and the other affirming more deterministic elements of an 'ultimate truth' (Carolan, 2005). These present conflicts when thinking about the context and circumstance of practices. For example critical realism would argue that the knowledge embedded in performances is separate from the practitioner whereby there is an independent reality. This seems somewhat limiting given the key goal of this thesis is to gain further understanding of food waste and mitigation behaviours with a practice lens being key to this. The literature reviewed for example showed how waste is socially constructed and this differentiated between consumers, a view that could not be accounted for in critical realism.

Instead, what knowledge 'can be' should be directed around human existence and the reality placed within the ways in which people know and understanding things (Pratt, 1995). There is a significance of 'making sense of the world' via a socially constructive paradigm such as theories of practice. Halkier and Jensen (2011) position practice theories within a social constructivist paradigm noting the way in which practices are socially produced, locating reality within the interpretative eyes of the researcher. The paper explains that the social world can be known by using a practice theoretical lens where interpretations are made about the nature of practices from real world observations (Halkier and Jensen, 2011). The lack of a proper account and an accepted process of how practices are interpreted, constructed and acknowledged has placed ontological and epistemological uncertainties upon the theory.

In order to explore this further the chapter first turns to explore the ontology and epistemology of methodologically individualistic research approaches. In positioning theories of practices against this, as a response to individualised approaches, it is important to understand how knowledge is being framed.

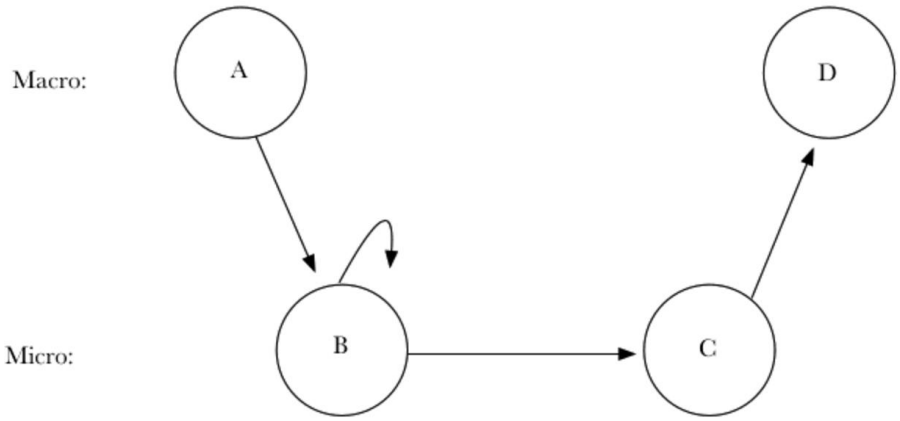
3.3 Methodological individualism

Methodological individualism is a research approach that describes how the social world can be understood by focusing on the actions of individuals determined by their cognitive attributes. The basis of this ontological position is that macro level phenomena can be explained using micro level foundations (Alexander, 1987), removed from any political or ideological influence. Similar to theories of practice, the origins of methodological individualism ideas lie in the writings of 20th century philosophers (with the roots of these ideas tracing back to the 19th century, Udehn 2002). Most notable of these is Max Weber (1930) who discussed how religion influenced individual level actions causing a collective change in personal goals and placing great importance on economic activities as part of individuals' lives (Holton and Turner, 1989). Weber (1930) argues an interpretation of individual actions provides an understanding of social phenomena by focusing on the agents that actively cause such phenomena to materialise. Here reality and subsequent knowledge is situated from an individualistic 'sovereign' perspective based upon informed choices and intentions (Norton, Costanza and Bishop, 1998).

Figure 3.1, taken from Hedström's (2009) work, illustrates a knowledge formation process of individual level rationality, presented as a way to bring together both micro and macro level explanations of behaviour. This is used to justify a purposeful epistemology around which to base research using individualistic approaches. Hedström (2009) notes that this is possible only by the absence of any valid analysis of structure unless based upon tools such as those pictured in figure 3.1. Individual level analysis here is seen as the only way of overcoming any observed difficulties that arise from the complexities of behavioural understanding and its interpretation into macro level knowledge, as Hedström (2009) explains:

> "the social processes linking micro and macro are usually so complex that they are virtually incomprehensible without the aid of some formal analytical tools … Without such tools it is difficult to recognize, and even more difficult to convince others, that the large-scale phenomena that are observed may simply be due to many uncommon combination of common events and circumstances, or to small and seemingly unimportant changes at the micro level … the structure of theoretical knowledge is better understood as a theoretical toolbox than a deductively organized axiomatic system" (Hedström 2009:341)

Figure 3.1 Hedström's (2009:341) model for micro-macro explanations



A: Actions of others or other relevant environmental conditions

B: Individual beliefs, desires, opportunities, etc.

C: Individual action

D: Emergent social outcomes, e.g., extent of action, inequalities, and networks.

As a research approach, the model depicted in figure 3.1 is an 'action-theoretical' explanation across macro-micro-macro levels. The ontological position that figure 3.1 portrays forms much of the basis and default position of methodological individualism reflecting rational choice theory (Jepperson and Meyer, 2011). The progression of methodologically individualistic ontologies within the work of Parsons (1949) and Habermas (1984) helped unify theoretical developments. Rational Choice Theory was one outcome from this phase, drawing upon ideas of how "we can understand social processes and outcomes in terms of people's preferences and choices" (Udehn 2001:289). The theory is an attempt to describe the logic by which these preferences and choices can be explained to provide a model to investigate behaviour and action across social phenomena.

Today Rational Choice Theory is wide spread and integrated directly into the fabric of society. Max Weber's (1930) work was influential in pushing forward the role of rational choice as a central unit of analytics in economics (Holton and Turner, 1989). James Coleman's (1994) work widened the application of the theory. Notably how a focus on the rationalily of individuals could predict systems of social behaviour to give an all-encompassing explanation of reality, explained and positioned at an agentive, individualistic level (Jepperson and Meyer, 2011). Despite the inclusion of the term action, it was the exercise of agency that provided the micro-macro connection upon which this epistemology is framed

The work of Coleman (1994) and other such as Hedström (2009) provided a rational underpinning of both the ontology and epistemology of this individualised world view. This theory now forms part of the prediction models at the heart of the economic system such as those used by banks to make credit decisions and the monitoring of market trends by providing information on how individuals are expected to act upon their wants and desires to determine market trends (Curtis, 2016). The implications of this are that knowledge on why and how people act has become much more associated with how agency is exercised.

Arguably however this 'rational choice' interpretation is a reshaped and perhaps corrupted version of Weber's (1930) original work. Central to Weber's (1930) original ideas was that an individualised focus should not be prioritised over any explanations of collective behaviour (Stanford Encyclopedia of Philospohy, 2016). Work on rational choice theory overlooked the "use of social institutions and social structure" (Udehn, 2001:289). Grafstein (1991:266) explains that the draw of deriving knowledge from individuals has caused academics to "pack all the institutional details, the regularities of behaviour, variously caused norms, or rules, into the heads of participants". A distinction therefore can be made between the original ideas from Max Weber (1930) and how modern academic work has constructed and implemented methodological individualism in such forms as rational choice theory and the theory of planned behaviour.

Jepperson and Meyer (2011) outline a number of limitations of methodological individualism at the ontological and epistemological level; these are listed in table 3.1. The term social situation here is used to indicate a scenario of multiple levels involving a series of actors, structures and institutions, such as the problem of why individuals throw away food. Table 3.1 highlights the explanatory limits when focusing solely on the individual level, constraining what can be known about both the contextual social situation and also the connections between behaviours and wider societal structures.

Table 3.1 Limitations of methodological individualism (adapted from Jepperson and Meyer, 2011:56)

Limitation	**Implications for ontology and epistemology**
Focusing on the analysis of lower level actors of a social situation does not guarantee a sufficient explanation of the social situation.	Questions the idea that the reality of the social world can be acknowledged by constructing arguments based upon analysis, explanation and subsequent knowledge deriving from the individual level only.
In certain cases, high level, macro explanations of a social situation are preferential to lower level explanations.	Questions the basis of knowledge always being derived from lower level analysis.
Behaviour and action of individuals maybe too complex to reach any understanding at the lower level and instead requires some collective or organisational focus to realise.	Questions the ability of tools and mechanisms to reach sufficient explanations by focusing on the individual only.
Individual level analysis can never be the principal and only means of attributing understanding to a social situation.	Poses the question of what knowledge is missing from individual level explanations.
A solely individual level analysis can bring about irrelevant research findings.	Questions the accountability of tools and mechanism to reach accurate and useful explanations by focusing on the individual.
An investigation into cognitive, psychological factors are not always a relevant path to follow in certain social situations.	Questions the internal cognitive factors of individuals as a relevant source of data to pursue as a means of generating knowledge.
Structural understandings do not always require a specific model, mechanism or theory at the individual level	Suggests that a number of different theoretical interpretations of how individual level explanations relate to macro level explanations. Shows that a basis of starting knowledge creation from the lower level is important in order to give justification to the ontology of methodological individualism.
In certain cases lower level analysis is "an outright waste of time"	Again this questions the accountability and usefulness of having a solely individualised focus as a research approach

Jepperson and Meyer (2011) question the lack of a substantial explanation for macro level 'causal pathways' and how they relate to the micro level. Hedström's (2009) model in figure 3.1 shows how macro level observations direct knowledge through micro level investigations which is then inferred back into macro level knowledge. According to Jepperson and Meyer (2011) there is a lack of an adequate explanation for how individualistic knowledge is 'up scaled' to the macro level.

The value of undertaking any macro structural or institution level analysis has been overlooked in accordance with the ideas in Weber's (1930) original work (Holton and Turner,

1989). Instead macro level explanations are assumed to be temporary, only to be replaced by micro level explanations once available. This means that the macro-micro-macro arrangement in figure 3.1 is providing context at the macro level only by being continually performed as a continuous process of interpreting and deducing structure. Not only is such a mechanism insufficient to give an accountable explanation at the macro level (and leads to issues such as the attitude-behaviour gap), this fails to separate macro level social structures and institutions which play differing roles in social situations (Jepperson and Meyer, 2011).

The exclusivity that methodological individualism applies to the individual level has had a detrimental impact and portrayed structural level analysis in a negative light. These limitations have supplemented strong arguments to moving away from this research approach and towards the need to derive behaviour knowledge that takes into account contextual and circumstantial aspects. The chapter now discusses the ontology and epistemology of a theories of practice approach.

3.4 Theories of practice as a research approach

Section 2.4 introduced theories of practice as an alternative to individualistic approaches to consumer behaviour reviewing studies of consumption. The discussion here moves to interrogate theories of practice with respect to its ontology and epistemology. This is part of the ground work of building a practice theoretical framework better targeted to consider the factors that shape food waste behaviours.

A theories of practice approach means that social practices form the basis unit of analysis, where a practice represents a series of actions as a way of attributing understanding to the doings and sayings of everyday life (Schatzki, 2001a). A critical distinction can be made from methodological individualism in that "individuals are not the autonomous architects of their own actions but are carriers of practice – practitioners - who routinely enact actions in accordance with shared understandings of normality" (Evans, Mcmeekin and Southerton, 2012:116). The ontological position here has the basis that the world can be known through understanding the concurrent habitual and routine actions performed daily by millions of people (Warde, 2015). From understanding the performances of these similar actions by looking at how they are practiced, continue to be practiced, change and dissipate, knowledge can be built. Thus an accountable and justifiable knowledge base using a theories of practice approach is built from typically qualitative (and quantitative in some cases, such as Yates and Warde (2012) historic study of eating practices) research via a study of practices themselves and their context.

Research that uses a theories of practice approach must take into account the subjectivity of knowledge brought by qualitative based work with a contextual framing. Evans, Mcmeekin and Southerton (2012:116) note that "subjective interpretation of the required forms of appropriate conduct [is] necessary to perform any practice satisfactory". This emphasises that theories of practice is a research approach positioned in the social constructive paradigm. Furthermore individuals enact their own subjectivity when performing a practice, linking a practice approach to interpretivisim (Evans, Mcmeekin and Southerton, 2012). The theory element of a practice-based approach is the constructivist aspect in that it provides a means of ordering knowledge, defining what a practice consists of (such as Shove, Pantzar and Watson's (2012) meanings, materials and competences) and the rules and processes that govern practices (i.e how they are start, continue to be performed and dissipate).

This position between allowing a degree of subjective interpretivisim, but at the same time using a theoretical frame to construct knowledge is complex and contradictory. Knowledge is produced through deterministic rules and procedures in the form of the practice theory construct. The practice based lens through which behaviour is approached is a form of structuring

knowledge. Behaviours are situated into the unit of practice with their enactment defined according to a number of practice workings. Whilst on the one hand the fact that there is no single prescriptive means of going about a practice approach allows the researcher to determine a knowledge pathway they feel is most appropriate. On the other hand to apply a practice approach is applying a form of knowledge construct, it is a preconceived idea of how the social should be constructed and understood.

The epistemological limitations of theories of practices however are not unique to this approach to research specifically, unlike rational choice theory and methodological individualism which have been called out for distorting and under-addressing problems associated with behaviour change (Bunge, 2000). Considering that the constructivist aspect of theories of practice is a lens of how to understand behaviour through practices where agency is not prioritised over structure (Giddens, 1984), the critiques of social constructivist approaches to research arguably do not apply in the same way. This is because there are no behavioural boundaries of what can and cannot be a practice. Rather practice theory would be better approached as an "ontological project" that provides "a new vocabulary to describe the world and to populate the world with specific 'units of analysis'; that is, practices" (Nicolini 2012:9). It is in its exercising as an approach to research that theories of practice is compared with other social science epistemologies that complications occur, with the following going some way to address these.

So when positioning theories of practice in a social constructivist approach, what does this mean for the construction of knowledge? To answer this, three key points are made below. Firstly, an alternative account of the epistemological positioning of theories of practice is discussed in order to bring clarity to the placement of the social in a constructivist research approach. Following this the theoretical development of practices as entities and as performances is expanded; and thirdly the discussion moves to explain how practice based knowledge refutes the scale based notions of the micro, macro and meso.

Firstly, whilst most social science based work that employs a theories of practice approach uses a social constructivist approach, there have been attempts to challenge this. Gronow (2008) introduces the realist work of Archer (2002, 2000) who questions the interpretive nature of how theories of practice have been 'practiced'. As a critical realist, Archer (2000) constructs an argument against the weaknesses of a reality of knowledge based upon interpretation. Gronow (2008:247) posits that a universal sense of the self exists outside social constructions "already in place before any social identities can be appropriated" (Gronow 2008:247). A difference therefore lies in the placement of personal attributes when a practice takes place, with a critical realist

version arguing they already exist and can be separated from actions. This is explained by Gronow (2008:247) below:

> "Social identity in the form of social expectations is appropriated by actors, but for this to happen there already has to be a sense of self that can recognize these expectations and act accordingly (Archer 2000: 256).

This explanation shows how Archer (2000, 2002) challenges the idea that the social world is worked out in practices and instead knowledge of what can be known exists separately as a fully formed truth. Practices are then just a form of understanding these fully formed truths, rather than processes through which practices operate and circulate being the source of knowledge. Take a critical realists reading of social identity for example. This is assumed to be already formed in society where personal identity "regulates the subject's relations within reality as a whole" (Archer 2002:257). This means that social identity is already in place and is not subjectively constructed from the experiences of individuals. Knowledge of people's experiences already exists, it is already in place. All of this is in line with a stratified conception of reality where reality is divided into different readily formed realms (personal, social, etc). The key difference is that following critical realism means knowledge lies in a ready form truthful realm and a practice approach is used to access it. Whereas social constructivism involves working out knowledge through practices and their performances, whereby knowledge is accessed and unearthed through following a theories of practice approach.

This move towards realist versions of socially constructed research is perhaps related to calls from critics such as Thrift (2007) who argues that social research has become too occupied by theory and needs to re-consider the role of representations, advocating a more grounded approach. This corresponds with Sovacool and Hess's (2017:713) comments that "social practices often disconnect themselves from the actors that produce them" whereby "social arrangements have no overall author", critiquing the flexible nature of practices. For Archer (2002, 2000) the basis of a notion of self and the associated personal attributes rests on the idea of a 'stratified' reality where the social can be separated from the personal. This means that rather than allowing an appropriation of knowledge via the subjective multiple realities of individuals, these realities are already pre-set via internally situated attitudes, values and pre-existing structures.

Despite theories of practice's move away from individualistic notions of behaviour, agency is still considered as an important element of practices in taking into account the expressions and competence of individuals in the construction of knowledge (Gronow, 2008) . This comes back to the idea that there are multiples realities of the world which can be known through a practice

lens. The self is one part a constructed reality and aspects of the self, such as morals, are constructed through experiences and competences that ultimately are or were once performed and learnt via practices. To act as 'one's self' has previously been noted as a social construct rather than anything pre-existing or pre-defined (Hacking, 1999). A level of interpretivisim is therefore important in a theories of practice approach given the value and accountability that socially constructed knowledge offers.

Secondly knowledge in practice form can exist in two ways, firstly as an entity and secondly as a performance. Practices as entities are fully formed and have taken place. They hold knowledge of the nature of practice in terms of the actions involved, the regularity of the practice and configuration of elements. For a practice to be an entity it must be distinguishable from others and understandable as a recognisable form a behaviour that can be learnt (Evans, Mcmeekin and Southerton, 2012). As an entity a practice can be known by piecing together information about practices across references, using analytical processes to make wider linkages. Examples of this include Watson and Meah's (2012) work on negotiating food safety through food consumption which brings into discussion wider connections when breaking down practices to analyse their meaning.

Whereas practices as performances are practice in action. Performances are the 'doing' of actions and become entities through being repeated (Warde, 2005; Shove, Pantzar and Watson, 2012). Practices therefore are known through accounts of individuals doing practices (as carriers of practice) whereby knowledge is grounded in observation of everyday actions and the physicality of what is being performed. Understanding of practices in terms of their performances is inherently wrapped up in the body as "when we learn a practice, we learn to be bodies in a certain way" (Reckwitz 2002:251). This aspect of performance is further explained in section 3.6 of this chapter, but it is critical here to note epistemological differences in what can be knowledge. As entities, practices are representative of fully formed patterns of actions that are made up of elements such as competence, meaning and materials. Whereas as performances, knowledge is much more directly related to practices happening and the transformative side of practices. Knowledge exists in a flow of routinely re-enacted and re-configured practices first as performances and subsequently as entities.

Thirdly, theories of practice "rejects the idea that the world comes nicely divided into levels and factors, or that there is a fundamental distinction between micro and macro" (Nicolini, 2012:8). Differentiating entities and performances is not a distinction of how practices are theorised according to scale. Rather these are intricacies of practice theory to comprehend the terrain of the social world. Practice theory can directly account for the behaviour of the consumer,

through their performances and the practices they engage in, as well as using this knowledge to: build a picture of how sets or bundles of practices form a social context; and understand how practices in different areas of life are inter-related. For example how routines of work and leisure have implications for how food is organised and vice versa. Later in this chapter the term ‘project’ is introduced to refer to ongoing and linked performances between different moments. This shows how one performance of a practice may cross reference to another but these are not figured in any hierarchical structure. This takes place over a flat plane whereby the relations between people, institutions and objects tie practices together (Shove and Walker, 2010).

These three points form the basis of epistemological operations of theories of practice used in the majority of consumption based research. Further practice theoretical intricacies, such as teleoaffective structures, are addressed in figure 3.6 of this chapter as they are linked to the theoretical contribution this thesis offers. Table 3.2 outlines the philosophical assumptions underpinning the research approach of this thesis.

3.5 The approach taken

A practice based approach is taken forward in this thesis. Considering the ontological and epistemological narrative developed in this chapter, this section spells out the approach taken in table 3.2. Each philosophical assumption is explained alongside a comment on context and practical implications.

Table 3.2: Philosophical assumption for the approach taken, structure adapted from Creswell (2007)

Assumption	**Question**	**Context in this thesis**	**Practical implications**
Ontological	What is the nature of reality? i.e What can be known?	Reality is socially situated. What can be known is what can be experienced, performed or has some real world reference to human consciousness. What can be known is a socially constructed human experience with no ultimate truth and instead a pluralistic notion of reality(ies).	Grounded approach to research via a practice theoretical lens. Active effort to undertake methods and place findings within a shared reality with participants.
Epistemological	What is the relationship between the researcher and that being researched? i.e how can 'it' be known?	Shared reality between the researcher and the participants. Places the researcher within the study setting. Knowledge is perceived in social action form and related agentive and structural aspects. A practice lens is used to make sense of knowledge.	The researcher should seek close engagement with participants in order to gain in-depth insight into their lives. This is critical in order to understand their 'everyday' in terms of the routines and habits that signify their behaviour. Application of a social constructivist practice approach.
Axiological	What is the role of values?	Values are situated and can be known through performances, interpreted as practices.	Distancing from cognitive values unless they have real world significance. Values and practices held by the researcher important to understand in producing socially constructed knowledge.
Rhetorical	What is the language of research?	Social science language, rhetoric used relates to sustainable consumption	Use of correct rhetoric to frame discussions.

		research, consumer behaviour, geography, sociology and theories of practice.	
Methodological	What is the process of research? How will knowledge be unearthed?	Knowledge lies in the accounts of people's everyday lives. Seeking accounts of how participants perform actions related to food and waste. Mixed methods to draw upon discursive accounts, visual images and drawings, materials and observational notes (fully explained in chapter 4).	Several methods will be utilised to gain an understanding of the participants' lived experience. Research conducted with a degree of flexibility. For example the use of semi-structured interviews.

A strength of the philosophical assumptions outlined in table 3.2 is how the approach put forward places the knowledge formation process in everyday performances and practices. This is important in order to meet the second objective of developing a theoretical tool that is appropriate in considering contextual and circumstantial factors. The next section elaborates how such a focus on performances is critical to researching these factors. Pink (2012) describes the everyday as a mediated research context that can be explored through a number of different domains. Here the social, spatial and temporal are positioned as three areas through which contextual and circumstantial factors can be explored. These all have their own ramifications for knowledge production which is addressed through the framework of a practice approach.

3.6 A theoretical contribution through exploring the social, spatial and temporal conditioning of practices

With theories of practice recognised but somewhat under exploited as an alternative to methodologically individualistic approaches in studies of sustainable consumption, this section gives an in-depth explanation of the mechanism of practice 'conditioning' in order to make a theoretical contribution. The purpose of this section is to bring together disparate literature across theories of practices, sustainable consumption and studies of space and time to give an additional tool (the practice conditioning aspects) that is utilised in this thesis to unearth the everyday practical realities of the problem of food waste at consumer level. Emphasis here is placed on extending the practice lens to understand the processes that shape and configure performances of consumption. Through developing this tool an original and innovative means is offered to generate knowledge to understand what shapes and conditions the performances of practices, meeting the second thesis objective.

This theoretical tool is situated within understandings of the everyday context of behaviours. Nicolini (2012:2) notes how through a practice lens "the social world appears as a vast array of assemblages of performances" with "the result of one performance becom[ing] the resource for another". The contribution developed here adds to a further dynamic to ways in which the performance of practices can generate useful knowledge on the nature of behaviours and what shapes them. Practices coalesce and overlap, they can never be reduced to just routine actions, and their performances (which presuppose practices as entities) are variable and irregular in the amalgamation of elements.

The social-spatial-temporal conditioning concept offered here is an 'analytical framework' via a practice lens that makes sense of the practice configuring process relevant to studies of consumption. This meets the second objective of this study: To develop an appropriate theoretical tool to investigate food waste behaviours that takes into account wider contextual and circumstantial factors. This provides the framing and means to meet the third objective: To explore the reasons for food waste and food waste mitigation behaviours at consumer level. The following begins by outlining the academic arena within which this theoretical contribution can be placed. This is because the domain of the social, spatial and temporal taken at face value represent a vast field of multiple disciplines. The social, spatial and temporal are approached here in light of what is relevant to the workings of consumption practices and the subject of food waste. Following this further explanation is given of what is meant by the term 'practice conditioning' and subsequent sections continue by making a distinction between social, spatial and temporal aspects.

First, it is important to outline the practice theoretical 'space' within which this contribution is being made. Conditioning is not an attempt to revise or re-conceptualise any of the current work in the area of consumption, rather it is a means of providing a framework for further insight into the performances of practices. Work situated in this area focuses on the need to address 'performativity[3]'. Goffman's (1969) work was critical to establishing the importance of the performing body as a basis for understanding the social world. Gregson and Rose (2000) elaborate on this to explain, by using Butler's (1990, 1993) work, that performativity is more than just identifying bodily characteristics, rather performances embody forms of knowledge that are subtly repeated. Here performances are approached as "contextual, situated, grounded nature of subversive and reinscriptive acts" (Gregson and Rose 2000:435).

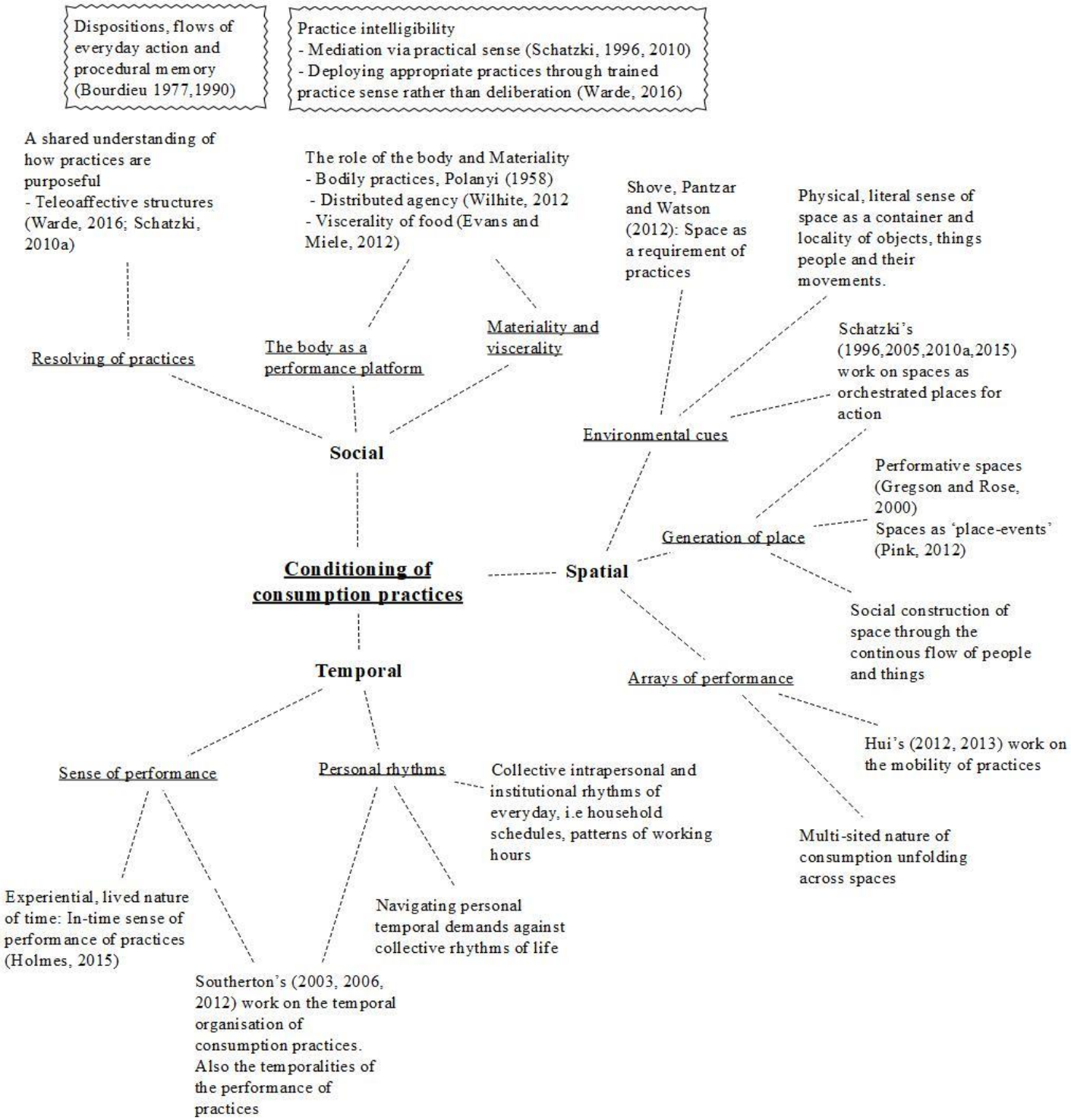
Theories of practice have theorised 'the performance' as the level within which practices happen and unfold (Schatzki, 2010a; Warde, 2016) which always predetermines any framing of practice as an entity. In some ways this has placed limitations on theoretical endeavours in how empirical knowledge is typically adopted and formed at the entity level. Whilst this has clear reasoning in establishing practice-based empirical research, it leaves behind a practical reality of the in-time, in-place performance.

For example current studies of food practices reviewed in section 2.4 typically involved data collection by researching the performance of practices with this knowledge then translated into elements that inform practices in entity form, to comment on the nature of food practices, their constituting elements and their connections. The contribution made in this section argues that an aspect of the reality of the performance is left behind in this process and puts forward the notion of conditioning as a framework to exercise a practice lens at the performance level. The knowledge prescribed from understanding the performances of practices therefore is not just revealing "ways of knowing shared with others" but the performative nature of the ways of knowing (Nicolini, 2012:5), and the social context, as well as the spatial and temporal framing of such performances. It is in affect a task to get at the performative aspects of how ways of knowing exist and can shape, order and configure practices as a unit of analysis of the social world. This is referred to as 'conditioning' with the term to shape, to influence and to configure used interchangeably.

[3]This term is used to signify the performance of a practice, where performance refers to the in-time, in-moment lived reality of the physical actioning of a practice. The term performativity is not used in the thesis to correspond with the volume of work by Annemarie Mol and others who offer a much more expansive definition (Mol and Law, 2002).

Figure 3.2 outlines the domains of the social, spatial and temporal and the different conditioning factors that characterise them. It is critical to first outline the ways in which the social, spatial and temporal are approached, defined and understood here to clarify the workings of the theoretical contribution. The way in which studies that utilise a practice-based approach operate mean that certain aspects of the social, spatial and the temporal are more meaningful and valuable than others. This however does not detract from the ability for both theories of practice and the conditioning framework to provide critical insight into problems of sustainable consumption such as the wastage of food. Rather, for such a theoretical endeavour to be efficient and practicable, clear boundaries must be placed to note what is and is not of concern for the everyday performances of practices and their conditioning. An overview of the developments made in this chapter are given in figure 3.2.

Figure 3.2 Diagram to show the social, spatial and temporal conditioning of consumption aspects drawn upon in the development of the theoretical contribution



The workings of the social, spatial and temporal displayed in figure 3.2 are fully explained with respect to their role in the formulation of practices and the workings of conditions in sections 3.6.1, 3.6.2 and 3.6.3. This includes explanation of dispositions and practice intelligibility that sit as wider reaching workings of practice performances active across each of the domains and their consisting aspects. Theories of practice are heterogeneous in their very constitution and vast in their application and it is therefore inevitable that the aspects captured in figure 3.2 may leave out workings that certain theorists and authors feel are fundamental for analysis of the social, spatial or temporal. The theoretical contribution presented here takes its positioning from how Warde (2005, 2014) presents and frames practice epistemology in the area of consumption. The problem of food waste makes a suitable canvas to develop and apply the conditioning framework given that it is a multi-dimensional, cross cutting issue that is the result of an array of practices, and is interlinked with the wider organisation of everyday life. Figure 3.2 therefore is not an attempt to constrain the conditioning concept, it is a means of sharpening the focus of the contribution towards theories of practice's application to the study of consumption, specifically the lived realities of performances and the dynamics at play.

The term to 'condition' a practice can be placed within a small area of work that has sought understanding of what orders, shapes and configures performances and how they are arranged across a both time and space. To clarify here, conditioning is not an attempt to give another way of making sense of practices as unit or form of behaviour or experience, rather it is placed in the arena of making sense of the context of a practice's performance. Warde, Welch and Paddock (2017:29) note that practices are conditioned in accordance with 'general understandings' via "discursive formations that possess their own forms of organization exogenous to those practices". Southerton (2012) also notes that practices hold temporal demands that condition their performances.

Conditioning therefore is defined here as a way in which a performance of a practice is configured that effectively shapes how practices happen. Practices hold demands over the social, spatial and temporal domains, but at the same time, they can shape these arenas. For example practices require space to take place within but at the same time their performances constitute the places where action happens. This is a unique contribution of bringing together these three domains to explore and develop a framework of conditioning to directly engage and uncover the conditioning process.

It is important to stress that practices as entities are stable through their recognisable repetition, but as performances practices are volatile and unpredictable to a certain degree. As practices are being performed they are continually being negotiated, shaped, configured and

changed which holds influence over their constitution and organisation as mutually produced understandings of activities (Warde, 2016). A process of practical intelligibility is drawn upon at this level in how carriers of practice 'make sense' and carry out behaviours that are the most appropriate without any deliberation (Schatzki, 1996). Carriers of practice attune their performances to this context, with conditioning here proposed as a way of conceptualising and making sense of this configuring and ordering process.

The proposed understanding of conditioning of practices still accepts that the social world is made up of practices, but focuses on the idea of practices at the level of performance as a critical area of enquiry to further research on sustainability at consumer level. This concept is also an attempt to address one of the critiques of theories of practice, notably the lack of nuance between the workings of practices, their social organisation and the "systemic conditions of existence of those practices" (Warde 2014:298). This is achieved by distancing this contribution as another means to focus on the micro level, but instead placing conditioning as a holistic look at the reach of practices in their unfolding performance across the multiple dimensions through which daily life can be comprehended. This draws directly upon Schatzki's (2011) non-scalar versions of theories of practice to join up his work on large socio-technical regimes with lower level practice intricacies. A sense of scale here is generated by the multiform social, spatial and temporal reach of practices rather than any pre-formulated concept.

Literature on how practices are configured has sought to delve deeper into the nature of the variability of the mundane performances of practices. Consumption based work utilising a practice lens may have conceptualised (Shove, 2014) and commented on (John, Jaeger-Erben and Rückert-John, 2016; Goel and Sivam, 2015) more sustainable ways of going about mundane, unsustainable tasks but it has overlooked the variability in the everyday performances of practices. Myland and Southerton (2017:3) describe this as a situation of "practice homogeneity at the (macro) societal level and heterogeneity at the (micro) personal and household level". Whilst not wanting to adopt a scale based version of theories of practice, this has proved an important development in how a practice-based approach provides critical recommendations for policy intervention and change. Examples include Southerton's (2012:340) framework of temporal configuring to clarify the "specific cues" of change in routinised action. Mylan and Southerton (2017) also outline how everyday performances of object use are socially ordered, using the example of how different forms of coordination condition laundry practices.

Understanding the configuring, shaping and ordering (collectively termed 'conditioning' here) of performances has been aligned with how a practice approach can move forward with fostering more sustainable forms of consumption. Evans, Mcmeekin and Southerton (2012:124)

argue that policies should be "programmatic" in "exploiting the interdependencies between connected practices". Conditioning is a way of seeking understanding of the inner workings of practices, because, as Southerton (2012:339) argues, it is the "tensions and dynamics between the reproduction (stability) of practices and adaption (innovation) in the performance of practices that generate social change". In the case of food waste, seeking an understanding of the interdependencies of practices, their connection and dynamic nature can help find solutions to food wasted across different pathways, such as the need to mitigate food disposal in the home and how wider actions can lead to a disposal situation.

Work on the coordination and configuring of practices and their performances is also positioned from the need to overcome the overly descriptive, micro level accounts of practice approaches (Jackson, 2005). Myland and Southerton (2017) note how repeated initiatives have attempted to tackle the unsustainable, energy rich norms of laundry and claimed success, yet the problematic impact of consumer actions still persist. A similar situation is present with the problem of consumer food waste. Multiple claims led by industry representatives and government appointed bodies have noted incremental changes but yet food wastage by households is still rife, despite some repositioning of responsibility (Welch, Swaffield and Evans, 2018). Hebrok and Heidenstrøm (2019:1435) explain that "policy makers have struggled to find measures that can effectively reduce the large amount of food waste coming from households" aligning this with how knowledge and awareness of the problem is limited in its impact.

Any new piece of practice-based policy or intervention must consider current socio-material infrastructures (Spaargaren, 2011). Warde (2016:134) notes that understanding the interconnected and dynamic nature of practices is critical "for effective triggers for change that may often be found in relatively distant practices". The conditioning of practices therefore is an important development in practice theoretical analysis of consumption in order to help understand how practices circulate and exist at an everyday, lived level and in identifying areas of failure, resistance and conflict in current food waste mitigation strategy implementation. The theoretical contribution developed here is a means to explore the performed realities of practices interlinked with food wastage through their shaping, ordering, configuring and coordination.

The three conditioning domains of the social, spatial and temporal were chosen because of three reasons. First that each of these are arenas within which practices manifest. For example practices require people to be performed; space for the performance to take place within; and time in order to happen, essentially they are practice requirements. Secondly practices and their workings as everyday routine actions have been understood principally using terms of social organisation, time and space (Schatzki, 2010a). The conditions under which social life exists can

be structured and extrapolated from the social, spatial and temporal as three themes running through theoretical writings. Thirdly theory development is never a linear process and the data collection and analysis process helped inform both what and how practices are ordered. Social, spatial and temporal aspects of practices were prominent from the data collection which reflected the choice and implementation of the methods. A further rationale is given in each of the following sections of chapter three to explain the reasoning behind why each of the different aspects within the social, spatial and temporal domains were chosen and employed. This is important to explain as the conditioning aspects outlined in figure 3.2 are by no means an exhaustive list. Rather they are the most relevant to the study context of this thesis and are good examples of the contribution of conditioning with regards to the data collected and the analysis process.

The study most comparative in approach to the theoretical contribution of this PhD thesis is Myland and Southerton's (2017) exploration of the conditioning of laundry practices, which utilises similar conditioning aspects. This paper is underpinned by the idea that practices are coordinated in how they are mutually negotiated which can be known through understanding material and temporal flows, competences, the role of the body, interpersonal relationships and the spatial and temporal requirements of practices. For Mylan and Southerton (2017) their analysis frames three different types of co-ordination (activity, inter-personal and material) over three levels (personal, household and society) which operate across four ordering mechanisms (social relations, cultural conventions, materialities and temporal rhythms). Whilst comprehensive, their approach seems overly complicated and inconsistent in how the role of space and time are considered. Their argument rests upon how practices are interconnected and mutually dependent to justify the premise of coordination attributed to "activities, objects and cultural understandings" (Mylan and Southerton 2017:4). Arguably this fails to take into account the full range of processes that underpin the positioning of practices in social theory, specifically the full workings of the social (which includes the embodied nature of practices), spatial and temporal. Notably the spatial is taken into account but only at a placement level of the location of objects in physical space as a static appropriation. The framework developed in this chapter gives two further modes of the spatial conditioning. The following devotes a section each to these three conditioning domains and the workings by defining a series of aspects beginning with the social.

3.6.1 Social conditioning of consumption practices

Practices, at their centre are social, often utilising the prefix of social in their labelling. In bringing together different fields of thought to establish a practice-based approach, Reckwitz (2002:250) notes how practices are inherently social in the sense that a practice 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". The formation of practices draws upon knowledge that exists and is distributed between people, things and structures (Sahakian and Wilhite, 2013) and takes its dynamics from how people and bodies live and experience the world, how people combine and group to know what to do and what actions to take. The workings of the social therefore is the domain within which practices are created, are performed and change, intersect and amalgamate and cease to exist (Shove, Pantzar and Watson, 2012).

Across this process the social manifests itself through different mediums; through the body as a variable and reactive site; through the body's interaction and appraisals of materials; and subsequent visceral responses in the case of food. These aspects provide the boundary around which the social is considered here given their critical relevance to the performances of consumption (Warde, 2014). Social conditioning is defined as the processes located in the social domain that shape, coordinate and order the performance of practices and their constituting elements relevant to consumption. The following section discusses: practice intelligibility; dispositions; how practices are resolved, the role of the body as a platform for practices; and conditioning via materiality and viscerality.

First, in order to shed further light on the social, practice intelligibility and dispositions must be explained. Work by Bourdieu (1977, 1990) established a notion of how people deal with the automated, mundane actions of everyday life without the need to consciously consider their actions. His work established the concept of 'habitus' whereby norms and conventions are shown to figure in the bodily action. Further work by Schatzki (1996; 2010a) theorised practice as a site where understandings of the world are mediated through a 'practical' sense. Given the routinised nature of practices, practitioners develop an 'intelligibility', a sense of what actions are appropriate to a certain practice as a sense of a trained practice instinct (Warde, 2016). People rarely sit back and think about what they do next, instead the body (of the carrier of practice) instigates appropriate actions without deliberation. People do not 'think fast' or weigh up all the possible responses and 'choose' the best course of action. Rather it is an 'in situ' command of everyday life (Warde, 2016). This knowledge is drawn from a personal history of performances linked to specific circumstances, such as the conditioning of the body or environmental cues. This can be described as a 'procedural memory' of how the most appropriate action is taken and can

influence how the performance of one instance of a practice may shape another given how previous performances maybe taken into account.

A disposition refers to how practice intelligibility is actioned out (not to be confused with any references to dispossession of items), a tendency for an action to be taken in light of learnt procedures. Dispositions refer to where practice intelligibility translates into a performance. Although dispositions are never identical in their performance and involve a degree of improvisation (Warde, 2016), they play an important part in how others recognise the performance of a practice. They also give distinction between practices as performances and practices as entities in that dispositions are both reactionary, due to the conditioning of the body, and transformative with respect to the materials, objects and environmental cues, procedural memory and changing social and cultural meaning relative to how practices are continually negotiated and redefined in their performance.

To give an example, Kuruoğlu and Ger (2015) discuss how objects hold emotional dispositions in how their circulation can embody emotion which changes in intensity depending upon its temporal and spatial position. Dispositions therefore are the actioned part of knowing how to do something, "a capacity which presupposes a shared and collective practice involved performance in appropriate contexts" (Warde 2016:40). To give an example closer to the subject of food, people with a high level of competence, such as chefs, are trained through repeated rehearsal of actions so that the required embodied procedures are always at hand. These skills continue to develop even after learnt and can even be recalled after not being utilised for long periods, showing how dispositions are embodied as much as they are embedded in action (Spinosa, 2001).

A consumption nexus of practices might include dispositions associated with cooking, as already noted; ways of shopping, such as actions taken when a product is not available; and storing practices, such as how the body might appraise an ingredient to be better suited to be kept refrigerated. Our constant relationship with food and its organisation in our lives leads to the development of dispositions that can have severe consequences for society. Cronin et al. (2014) for example argue that the problem of obesity is linked with 'transposable dispositions' that are developed over the course of an individual's life. Food waste and the underpinning consumption practices that are interrelated require further exploration with respect with dispositions. The workings of practice intelligibility and the associated dispositions in performances hold a coordinating role over how practices unfold. It must be noted however that, as explained by Warde (2016), the role this practice sense plays in performances and the flow of everyday action is 'nuanced' with no two performances identical. Dispositions and practice intelligibility underpin

the three conditioning aspects of the social, with the first of these, the resolving of practices, discussed next.

One of the key underpinning assumptions of a practice epistemology is the idea that all practices are purposeful. The way in which practice intelligibility is exercised means that a practice always has an end purpose, or end result as part of its structure (Warde, 2016), whether this be directly related to itself or an outside inconsequential meaning (Warde, Welch and Paddock, 2017). The way in which we learn and understand our engagement in practices mean our performances are purposeful in a sense that we know what the end result should be. To give an example, when cooking the combination of oil and chopped onions and heat in a frying pan should have the end result of translucent, fried onions. Our performances negotiate the materials involved, the pan, the onion, the oil, as well as the use of the cooker as a device to provide heat, to reach the end result. Practitioners therefore hold common, shared knowledge of what exactly the performance of a practice should achieve. A further condition of the performance of practices therefore is the framing by which practitioners understand and 'resolve' practices through the "repertoire of procedures" that make up their performance (Warde 2016:126).

Schatzki (2010a) draws upon study of 'teleology' (the idea that everything has a means to an end) to construct the purposefulness of practices. For Schatzki (2010a) teleology is a basic feature of life that governs human activity and is brought into the workings of practice in how 'teleoaffective structures' are a framework around which the purposefulness of practices can be understood. For example people recognise practices and through this recognition have some idea of how to go about replicating it. Part of this process acknowledges that a practice has a basis of seeking an achievement or a result for which the practice is able to warrant. Schatzki (2010a:114) explains how practices can be achieved through both physical actions and "mental proceedings" that are part of the overlapping nature of the flow of action. This means that what it makes sense for people to do and how they understand the purposefulness of their actions is interjected with mental processes that can be defined as part of the performance of practices. The word 'resolve' is put forward here to signify this performative process whereby the purpose of a practice is negotiated against how it actually plays out.

There is little work to draw upon to exemplify how practices are resolved, with teleoaffective structures only recently being explored with respect to consumption research (Welch, 2017). Examining the practices adopted and exercised by groups of people, Plessz and Gojard (2015) explore how teleoaffective structures correspond with class distinction of vegetable consumption. Of particular interest is the work by Heisserer and Rau (2015:9) who explain that despite being difficult to measure, teleoaffective structures include "rules that are explicit formulations,

principals and instructions that direct and guide people to perform certain actions but not others". Heisserer and Rau's (2015) research on commuting practices established teleoaffective structures in how participants describe the most appropriate ways of going about commuting, such a preferring the safety of the car, which was often interwoven with other everyday practices.

When thinking about the purposefulness of practices, both in terms of how it is constructed and resolved, it is important to recognise that people do not have control over the fate of practices, rather a degree of elaboration to discontinue and re-employ what is appropriate to specific pathways (Spinosa, 2001). This negotiation and navigation however occurs in the flow of action of everyday life and therefore unravels and is interwoven in the social domain. Practices may possess their own teleoaffective structures but, as the performances of practices are exercised, their end goals and achievements can be derailed and realigned to cope with everyday life.

Practices are conditioned by their ability to achieve their purpose, for example in the case of food waste this might be the success of efficient organisation of food in the home to mitigate food waste. How practices are resolved is a condition of the social whereby the way in which practices are enacted holds an influence over the results of those practices. For example this may help to explain the idea of a practice-reality gap, in how practitioners exhibit the doings and sayings associated with practising waste mitigation strategies yet these actions do not (always) fulfil their purpose of preventing or reducing food waste. In relation to food waste, the rationale for this conditioning aspect was to allow a greater depth of knowledge in following practices implicated in how food comes to be wasted. Such practices might not be hold obvious, direct links to waste but relate to the context and circumstances through which consumption, and subsequent food waste behaviours, play out. Following how such practices unfold and are negotiated will provide further understanding of the shaping forces at play here.

The next social conditioning aspect is the role of the body as a platform of practice. Placing the body in theories of practice draws upon ideas of how knowledge can be embodied, for example how people, actions and things involved in those actions can be understood through "corporal schemas" in how the body and its senses act dispositionally and without deliberation (Nicolini 2012:56). This has been explored through several different means in the practice lens, with two means explored here. Firstly notions of affect has been utilised to explain how emotion can play a role. Thrift (2007:175) explains that "individuals are generally understood as effects of the events to which their body parts (broadly understood) respond and in which they participate". It is not relevant here to offer a full discussion but to recognise that affect is a useful, pre-cognitive way to understand the body's immersion in the world relative to its emotions and mentally constructed states and how this can act as a force on ways of knowing and ways of doing

(Seigworth and Gregg, 2010). Secondly Latour (2004) develops an account of how the body can be said to make articulations in line with sensory inputs by exploring how the body can become trained and conditioned to learn to be affected by taste. Both affect and articulation show how the body is a reactive platform upon which practices are shaped and influenced by the ongoing reality of engagement in the everyday.

Such embodied knowledge has also been described as 'tacit' in how bodily knowledge is 'in hand' and internalised in the automated flow of actions. Nicolini (2012) explains how the body plays a critical role in ways of knowing by drawing upon work by Bourdieu (1990), Merleau-Ponty (1962) and Polanyi (1958) to position the body with an intelligibility of practice. The quote that Nicolini (2012) utilises from Polanyi's (1958:55) work sums up the body's placement as a central but personalised and dynamic platform of practice:

> "when we use a hammer to drive in a nail, we attend to both the nail and the hammer, but in a different way. We watch the effect of our strokes on the nail and try to wield the hammer so as to hit the nail most effectively. When we bring down the hammer we do not feel that its handle has struck our palm but that its head has struck the nail" (Polanyi 1958:55)

The quote shows that the body, its actions and its sensory feedback are structured by practices but at the same time are configured and shaped by how practices are performed.

Thinking about the role of materials and their tacit incorporation into bodily actions has posed questions of the role of materiality and its interaction with the body in practices. Schatzki (2010b) explains how practices are inherently material. Polanyi (1958) established how objects and tools, as practice materials, are integrated into tacit knowledge, with Sahakian and Wilhite (2014) arguing that a reciprocal disposition exists between bodies and such materials in the performances of practice. Objects are directly involved in the physical and mental actions that constitute practices and should not be theorised differently (Nicolini, 2012). Myland and Southerton (2017) explain how sensory procedures that involve the body and materials are embedded in performances, giving the example of the 'search and sniff' action involved in searching for clothes to load into a washing machine. The writings of Latour (2005) have also shown how objects and technologies can 'script' human action, arguing that materials and materialities should be placed at centre stage in social analysis. Note that the contribution here recognises the placement of agency in objects and things by such authors, but circumvents this by providing an alternative material conditioning explanation by focusing on the role of the body.

This relationship between the body and the appropriation and usage of 'things' is therefore central to consumption practices and a conditioning aspect. In accounting for the role of materials

in relation to the body, work of particular merit is by Sarah Pink (2012) who highlights how objects and their use hold aesthetic qualities that influence how they are engaged with in practices (Pink and Morgan, 2014). Using the example of laundry, she gives definition to the "sensory home" as "an ecology of inter-related practices discourses, materiality and energies through which homes and self-identities are continually co-constituted as part of the home" (Pink 2012:70). Through sensory feedback the body forms its own materiality with food as eating is a deeply material affair involving the mixing of bodies and foods. Engagement with food forms a 'viscerality', defined as sensations attributed to the materiality of food, drawn from food and how "we all taste and ingest foods, we incorporate them into our bodies, they sustain us and provide us with pleasure" (Evans and Miele 2012:300). The subject of the visceral therefore exists somewhere between the bodies of those who carry out practices and the material nature of food stuffs. Evans and Miele (2012) coined the term 'foodsensing' to explain the visceral realities that emerge between embodied performances of food practices (such as preparing and eating food) and the materialities involved, the foodstuff and the body itself. Visceralities are an important subject in researching consumer food waste. Our visceral responses initiate actions of disposal through negative responses, such as the 'yuk' factor of delineating food as no longer fit for eating (Evans, 2014).

Our encounters with objects and their aesthetic properties therefore extend beyond just the enactment of practices (Rinkinen, Jalas and Shove, 2015). This positions the body as a critical platform upon which to understand the transition of food into waste. Previous research has concluded that consumers who thought they were more competent in their skills of cooking and household management skills also believed they wasted less food (Graham-Rowe, Jessop and Sparks, 2014). Furthermore the teaching and education of cooking skills has been promoted as a way to mitigate food waste. Such accounts however overlook how "bodies are constitutive of practices" (Wallenborn and Wilhite 2014: 57) and can therefore lead to variance in how practices are performed. Valtonen and Närvänen (2016:4) outline the importance of moving beyond solely discursive accounts of the body to instead prioritise the "sensory aspects of everyday intimate practices". The body in affect acts as a mediator that is confronting and making itself practical through dispositions and can be seen to condition practices through how "we elaborate our practices according to whatever new sensitivities appear" (Spinosa 2000:210). Visceral responses therefore can interrupt and divert and change actions (Müller, 2001), such as a person having an unpleasant, 'icky' response to an ingredient that was intended to be eaten. These responses are a form of conditioning through emotional affects and articulations. Materiality and viscerality are taken together here to form the third social conditioning aspect.

Several authors suggest that the body holds a degree of agency via bodily interpretation and enactment of practices (Sahakian and Wilhite, 2014; Wallenbourne and Wilhite, 2014; Wilhite, 2012). Wilhite (2012) for example argues that bodies hold a 'distributed agency' in habit formation showing that the body is not 'static' when consumers carry practices. This is not agency in terms of an individual's free agency over action but rather agency directly accountable to bodily sense and reaction that exists below the level of discourse to be attributed to the individual. Sahakien and Wilhite (2014) align the idea of distributed agency in practices to how practices are stubborn causing people to continue to do things that maybe conceived as unsustainable or wrong as they are ingrained in bodily movements.

This notion of the bodily and embodied knowledge is somewhat underplayed in theories of practice and food waste research (Sahakien and Wilhite, 2014). The body here is positioned as a social conditioning tool that holds a 'vibrant and dynamic' nature of visceral and material interaction (Maller, 2018). This framing can shed further light on the relationship between bodies, objects, materiality, viscerality and sensory feedback. Through the passage of food into waste bodies confront, endure and grapple food which can be critically explored in placing the body as a platform that shapes and configures the performances of practices. The rationale for the condition aspects of both the role of the body as well as materiality is that whilst the body has been acknowledged in playing a role in influencing food consumption, its relation to food waste remains under theorised. As the literature review highlighted, there is a significant gap in knowledge in how performative interactions with food can be a conduit through which it comes to end up in wasteful situations, even through the employment of food waste mitigation actions.

Table 3.3 gives a summary of the three social conditioning aspects and their relevance to studying food waste via a practice lens.

Table 3.3 Social conditioning aspects, their workings, how they condition consumption and their relevance to food waste

Name of social conditioning aspect	Resolving of practice	The body as a platform of practice	Materials and materiality
Explanation	All practices are purposeful with practitioners negotiating how this purpose is achieved through their mundane performances.	The body as a reactive site through which practices are performed.	The body responds in certain ways to the material properties of objects, in particular foodstuffs.
What social processes are present?	Practices hold teleoaffective structures of their purpose which are socially negotiated.	Affect as a pre-cognitive way that the body plays a role in the performance of practices. Dispositions are made as automated responses. Articulations as trained responses to sensory inputs.	Tacit knowledge between bodies and objects plays a role in performances. Objects and technologies script human actions.
What conditions consumption performances?	Performances are conditioned through how the purpose of practice is negotiated in everyday life in relation to whether and how its achievements are met.	Performances are conditioned by the body in how it holds a degree of agency to direct performance via visceral feedback.	Performances are conditioned through the role of objects and things in practice, their materiality and their role as a mediator in consumption.
Relevance to food waste?	Food waste can come about through how consumption practices are resolved.	The body as a key vehicle for food practices meaning the body has a role in shaping both disposal and prevention actions.	Viscerality as a material response to food and packaging can prompt wasteful actions.

There are of course further intricacies that could be mentioned regarding the contribution put forward here, as well as conceptual challenges in their explanation and application. There is not sufficient space here for example to outline how performances are conditioned through interpersonal relationships and household responsibilities which are mentioned briefly in the findings chapters such as where food waste arises in points of conflict in household organisation. Also the social conditioning aspects here are by no means an exhaustive list of the workings of

practices in consumption and all the potential means by which conditioning can be theorised in the social domain. Nevertheless these theoretical workings do capture several important aspects in the everyday reality of how people go about executing consumption. The range of conditioning offered gives a somewhat encompassing approach to how practices work in different ways at the social level. Moreover there is a clear rationale for how each of the conditioning aspects furthers understanding of consumer food waste behaviour. Certain forms of dietary consumption may fall outside what has been set out here, such as how vegetarianism and other dietary contexts are played out at the performance level (these could be considered as wider projects for example), as well as the role of consumer identity and how this is expressed through food. Whilst their role in consumption is acknowledged, the conditioning aspects above were judged to be much more promising in helping explain how the performances of practices are configured relative to the problem of food waste at consumer level. The next conditioning domain to be explored is the spatial.

3.6.2 Spatial conditioning of consumption practices

Much the same as the concept of the social, space is at the very centre of theoretical endeavours of making sense of the social world. Fields of geographical and sociological thought have contended with the value derived from spatial understanding, with the contribution here specifically interested in aspects of spatial organisation and configuring of daily consumption. In differentiating the spatial from the social, Martina's Löw's (2016) work exploring the sociology of space makes a critical distinction between the 'social analysis of space' and the 'spatial analysis of the social'. The former is well developed and well explored in the area of consumption. Goodman, Goodman and Redclift (2010) for example explain the long standing work on the consuming of spaces, whereas the latter is relatively under researched, with space in general under theorised via a practice lens.

To establish the spatial conditioning of practice, a spatial lens of the social is described. This draws upon the idea of time-place compression (Harvey, 1989) whereby daily life has become more spatially complex. The paths between spaces and the plurality of place reflect how critical it is to understand how the social increasingly unfolds across the spatial. An understanding of the objects, people and the practices they enact can be conceived from the point of the spatial and its workings. The spatial conditioning of practices therefore is defined here as the different ways in which space can manifest and operate through the performance of practices and its role in shaping or attributing how a performance maybe conditioned. This is a critical contribution towards practice orientated knowledge. In order to explain this, space and its workings are differentiated into three forms: As a static placement of things and materials; as the formation of places through the flow of people and things; and as the mobility of practices across arrays of places. This section begins by giving a brief overview of theoretical writings on space in the area of consumption, followed by practice theoretical writings on space and then moves to construct and examine each of the three spatial conditioning aspects.

Firstly, there is not sufficient room here or the need to give an in-depth overview on writings of space however it is important that key theoretical developments relevant to consumption are outlined. The prominent work of Henri Lefebvre (1991, 2004) is frequently drawn upon as providing an influential 'theory of space' in bringing attention to space, place, time and everyday life to show how spaces are socially produced. In seeking to comprehend the modernity of space and urbanisation, Lefebvre (1991) establishes how spaces can be homogenised and differentiated in abstract forms (Stanek, 2008) whereby space is a boundless container for lived experiences defined according to temporal qualities (Kipfer et al., 2008).

Space has developed into much more of a relational concept that is understood through how it is continually made and remade by the people and things that inhabit it (Malpas, 2012). Space is defined according to how it is 'lived' taking into account "how people perceive, conceive, and experience space may influence their actions" (Vicdan and Hong 2018:171). Space is constituted as a "a performative act" (Löw 2016:vii) showing how its workings are critically significant to the lived performances of behaviour (Dewsbury, 2003). One of the everyday properties of living is consuming spatial properties of experiences, whether this be enjoying a holiday in a new place or engaging in an alternative food network (Goodman, Goodman and Redcliff, 2010).

Bell and Valentine (1997) established how food and its everyday consumption geographies are packed with meaning and contention. Modern food trends have redrawn spatial interactions with food in everyday life, with people's complex pathways of living requiring food consumption to be envisaged across spaces (Warde, 1999). The consumption of food at consumer level therefore can be taken as one of several economically dispersed geographies representative of "regular sets of activities undertaken and used by individuals, households and communities to try to sustain livelihoods" (Smith and Stenning, 2006). Food consumption is representative of "how spaces, places and materialities weave in and out of commodity cultures, circuits, networks and chains" (Goodman, Goodman and Redcliff 2010:16). Here the concern is principally with the spatial aspects of the end consumer and the processes whereby consumption is a configurative force in constructing the 'ordinary'.

The consumption of food is inherently spatial also because of its role upon the body. Goodman, Goodman and Redcliff (2010:19) describe this is a reciprocal arrangement by noting that "space and place mark and make out bodies at the very same time we make them by being in them and by being them, consuming in them and by consuming them". Space here in the sense of consumption practices is defined as the workings of processes that gives rise to forms of boundaries around which consumption can be situated, however indeterminate and transformational, in line with Löw's (2016:xi) definition of space as a "relational arrangement of living beings and social goods" that consists of "diverse formations". These boundaries are always under construction and are pluralistic with indefinite possibility from which "distant trajectories" can emerge (Massey 2005:9). This has led some to call out space as an elusive concept (Massey, 2005), that is often overlooked without critical engagement (Malpas, 2012). Space (and place) in this theoretical contribution are therefore not taken for granted.

Place often follows along with discussions of space. Place here is not viewed in the same transformative light as space, rather place and places "are a presupposition and result of space related action" (Löw 2016:x). Place has been interpreted via different means. Cresswell (2004)

marks out how places can be seen in three ways as: Descriptive and static, representative of a particular locality; socially constructed and representative of social process and interactions; as well as via a phenomenological understanding of 'in-place' that concerns human existence, interlinking the body, its senses and place (Chatzidakis, McEachern and Warnaby, 2017). Place can also be comprehended in a fourth way in terms of imagined 'third spaces' of hyper reality used to pull out mutually understood ideals of place and its representation (Soja, 2014).

Each these means of comprehending place can be drawn upon in constructing the spatial conditioning theoretical contribution, however underpinning these is the principal that places come to fruition through performative means. Places represent the settings within which the presence and entanglement of practices are enacted but being reciprocal in that a setting and its environmental cues are part of the performance. Space in its workings therefore generates place; settings or sites that are representative of material arrangements and properties to provide a constitutive positioning and layout of people, their movements and usage of things (Nicolini, 2012). Dewsbury and Bissell (2015:23) capture this "emergent and developmental" sense of place in noting that "places emerge in habit, through the repetition of practices and performances, itineraries and routines" whereby "each rendition is accretive, building on the last and orientated to the next".

Both space and place are therefore treated here as more than just a background for consumption but rather as dynamic concepts that hold embedded and embodied workings of flows of behaviour. As every body and physical thing can be integrated into space, and thus the generation of place, the workings of spatial dimensions play a role in the formation of the social, and thus an understanding of the social through a practice lens. To provide some clarification of the space and place terms; place is taken as a production or result of the workings of space. Spatial conditioning does not offer knowledge on how consumption practices can be situated in a place, rather what is put forward is that space (and place) are active in the workings of practices at the performance level and therefore can be considered as a means through which practices are conditioned. This discussion continues by examining practice based writings that cover space and place.

Accounts of the role of space in practices exist in parts, particularly in comments explaining the social spaces within which practices can be located, however few accounts have clarified the role of the spatial dimensions in theories of practice. For example Shove, Pantzar and Watson (2012) recognise space as a resource of a practice and comment on its representational characteristics. The amount of "viable practitioner space" and how practices may compete for space is contended highlighting how practices and space are co-constituted as practices travel to

new sites (Shove, Pantzar and Watson 2012:131). Shove, Pantzar and Watson's (2012) work only hints that space can be approached both in a literal sense of the area required for practices, and in a sense of how practices make places. This theorisation is disappointing, missing explanation of how space corresponds with several practice aspects, such as the meaning, material and competence elements.

Accounts of consumption practices and space have become fragmented from their theoretical foundations. Curry (2000:110) discusses how in Wittgenstein's (1971, 1972) work spaces "are created and maintained through the everyday actions of everyday life". Giddens (1984:2) notes that "social practices [are] ordered across space and time" and Bourdieu (1985) also outlined the workings of 'social space'. Sovacool and Hess (2017) state practice theories inability to deal with spatial structure and differentiation as one of its drawbacks. There is potential for a configurative understanding of spatial workings in practice and the following turns to the work by Theodore Schatzki to provide further elaboration.

Schatzki's (1996; 2001a; 2001b; 2002; 2005; 2009; 2010a; 2010b; 2015) writings on theories of practice hold at their centre that practices and their formations as nexus's of doings and sayings are inherently a spatial phenomenon and are spatially dispersed (as well as being a temporal phenomenon discussed in the next section). For Schatzki (2015) space is present in the arrangement bundles through which people engage in practices. This is explained in an objective or literal spatial sense in how "people perform the doings and sayings that compose a practice, together with the material entities that form arrangements bundled with that practice, form an objective spatial configuration" (Schatzki 2015:2). His work also recognises how practices construct place through the materiality of things that in turn can interlink places via paths and arrays.

How spaces are orchestrated places for action is central to the nature of the practice, but at the same time objects and things can connect the places within which activities take place. Schatzki (2010a; 2015) explains the workings of space much in the same way of a concept without boundaries or form, but adds that space is shaped according to the materials and their attached doings and sayings. The language of 'responsibility' is used to describe how practices and their arrangement bundles play an active role in shaping their own spatial context and that of other practices. It must be noted that much of Schatzki's (2005; 2015) ideas around space and practice are targeted at the level of large social phenomena (Schatzki, 2011), such as that of organisations. Nevertheless his appropriation of practices holding their own space and producing space is useful, particularly the way it which things and their materiality are considered important.

Schatzki's (2010a) work reveals a significant gap in writings of theories of practice in the role of space at the performance level. In relation to the problem of food waste, studies of consumption have revealed the nature of the spaces within which people consume, such as the domestic nature of space as a setting for food waste and social dynamics that contribute towards its generation (Watson and Meah, 2013; Meah, 2014). However this is principally a social rather than a spatial analysis. There is a considerable gap in terms of thinking about the spatial processes present and how space is configuring everyday living, such as how the performative nature of practices can generate (with a degree of negotiation) notions of space and place (Hamera, 2006). Space therefore can be approached in a similar conditioning manner as the social, whereby literal spaces and the things in them, and the process of how places are formed through performances, can be seen to configure, shape and change how behaviour happens. Given the merits and importance of what can be gained by looking at practices at the performance level (such as the intricacies of the social described in the previous section), this section now turns to outline three ways in which the performances of consumption practices can be spatially conditioned and their relevance to researching food waste.

The first way that space conditions the performance of practices takes space as a literal, physical area as a container for practices and is labelled as 'environmental cues'. Here a space is seen as a resource of a practice, where space is taken as the location and placement of objects, things and bodies as a setting that shapes bodily practices by their social and material environments and past experiences (Niewohner and Beck, 2017). Here the performance of practices are conditioned via environmental cues. Warde (2016:138) explains that "people deploy what they have learned not primarily by consulting a stock of knowledge and deliberating, but rather through automatic implementation of sequences and previously rehearsed responses to clues made available to them in familiar settings".

The sites within which practices take place contain signposts and steering mechanisms that hold influence over the performance of practices in a dispositional way, however the responses to these triggers are not always fixed (Warde, 2016). This includes "artifacts, symbols and signs" as well as the observation of the actions of others (Warde, 2016:135). In relation to food, environmental cues can also hold cultural representation that set out ways of going about preparing food according to culturally specific means. Environmental cues are also interrelated with the body in how the body may condition performances (see previous section). Pink (2007:164) describes the home as "a site of sensory consumption" and it is through capturing our sensory understanding that lived performances can be better understood. This spatial conditioning aspect puts forward the idea that environmental cues condition practices via how the things (their

placement and location), people and observed actions within them act as a trigger for dispositional performances.

In relation to food waste, such a spatial conditioning aspect can critically address questions around how the arrangement and layout of domestic settings can trigger actions that may lead to food waste. Furthermore, in line with Shove, Pantzar and Watson's (2012) spatial reasoning, comments can be made around how the amount of space in domestic settings influences the performances of food based practices in the home and how this may contribute towards the passage of food into waste. Mylan and Southerton (2017:14) identify that "the spatial layout of the home conditioned the ways in which laundry activities were coordinated and performed" as well as how items involved in doing laundry, such as the basket, radiators and door frames were intricately involved in the performance of laundry practices. This shows that although space maybe just a static container here, it provides critical knowledge of how the organisation and placement of things can be directly attributed to performances. The rationale for this conditioning aspect therefore is how it provides a basis through which to understand how triggers framed within a place play a role in the performance of food practices in the kitchen as potential indirect causes of food waste. The next spatial conditioning aspect to be described is the 'generation of place'.

The second way in which space can be seen to condition the performance of practices takes space via a generative means in how space works to generate place. In contrast to the previous aspect where space was a resource of practice, here the performance of practice is inventive in giving light to place in a dynamic sense, whereby place is brought into being through performance (Gregson and Rose, 2000). Place is dynamic because of the way in which places form due to the continuous flow of people and things of which they are made up (Edensor, 2010). The performance of practices therefore can be conditioned by this place formation process. Pink's (2012) concept of a 'place-event' is particularly useful. A place-event is defined as how the flow of people and things can make and remake places, giving the example of how the kitchen can only be conceived as a site of practice because of its performative nature (Pink, 2012).

Sites of practice here are not static but constantly shifting because of the "entanglement of things that move, at different rates, creating intensities through their mutual presences and co-engagements" (Pink 2012:61). What is of concern here is the flow of things and people as performative arenas of action (Schtazki, 2005) where practices overlap through 'meshwork' of material flows (Ingold, 2007, 2012). This spatial conditioning aspect puts forward the idea of how the performance of practices are conditioned by a process of place making whereby the site of practice comes to represent a flow of people and things that are intrinsically linked to their own performance.

The ‘generation of place’ is a version the spatial workings of practices that holds a much more fluid notion space and is a more humanised version of place also. This is not because of the sense of being and bodily movements, but because of its accountability of how people flow and perform actions in everyday life. The performative nature of places has been commented on previously with respect to domestic consumption such as in Meah’s (2016) work discussing the emotional topography of the kitchen and how performances embody the fabric and arrangement of domestic spaces. Shove et al.’s (2007) work also looks into how material agency and imagination constitutes the kitchen. The purpose here however is to bring to the forefront the spatial in place-making to reveal the role of performances in how places are understood. Critical questions remain over the spatial implications of the wastage of food. Also how wider practices that involve the kitchen may shape consumption practices. The important aspect here is to move away from seeing places as static localities but performative arenas of everyday action that are defined by doings and sayings and the traces left behind by people and objects (Anderson and Jones, 2009). Conditioning here is evident in how performances of consumption actions constitute sites of practices. The rationale for this aspects’ inclusion is to provide a lens on how performances relating to generating, dealing and mitigating food waste are part of understandings of the kitchen as a household space. The next and final spatial conditioning aspect is ‘arrays of performance’.

The third way space can condition the performance of consumption practices takes a more collective look at how performances are mobile and multi-sited, with reference to Warde’s (2005, 2015) positioning of consumption as multiple moments across practices. Hui’s (2012; 2013) work on the spatial nature of everyday consumption performances has offered a critical discussion of the multi-sited nature of practices and their performance. Consumption occurs across diverse settings and thus in-performance elements of practices come together to be reproduced in different ways. Hui (2013) argues that practices hold mobility characteristics in how performances are structured and sustained across spaces, with her work on travel finding that “being on the move is itself a complex social enactment” (Hui 2013:889).

Shove, Pantzar and Watson (2012) state that practices themselves do not travel, rather their elements do in how they are re-created in slightly different ways in different settings. According to Schatzki (2009:36) a practice holds a degree of spatiality in that it “encompasses the arrays and places and paths anchored in material realities”. This is representative of how practices hold ‘pathways’ that take people through different places, therefore suggesting that the spatial remit of a practice involves multiple places. The nexus of practices that represent a person’s life can “revolve around a handful of dominant projects”’ which are interwoven and interlinked between spaces (Shove, Pantzar and Watson, 2012:78). This draws upon the view that what is unfolding

in one setting is linked to what is happening in another setting via the paths of practitioners. The performance of a practice therefore can be said to differ according to the 'array' of settings in which it is practised, with an 'array' here used to represent multi-spatial characteristics.

There is a significant lack of academic work to draw upon that has examined the multi-sited nature of consumption practices. Similar to other practices, food consumption is multi-sited however little is known about how this is interlinked with the problem of food waste. Twine (2015:1281) hints that "no one site is bounded off from the broader dynamics of social practice". Hui (2013) makes a key observation in that much of the work on consumption via a practice lens has been limited to looking at a practice in a single site. Practices take place and demand actions across different sites, and therefore it is only through knowing the performances across these sites that practices can be really understood.

Although food waste might not be an obvious target for an investigation of the mobile nature of performances, actually the causality of food waste encompasses a wide range of spaces linked to consumption. A good example would be the practice of shopping. The provisioning of food arguably starts at home with actions such as putting together a list and checking the cupboards. This then continues to other spaces such as the car, the supermarket and then returning home. The performance of consumption practices therefore can be conditioned by how performances come together and vary between place, as well as the nature of the different places involved. Key questions include the nature of the arrays of performances over which food consumption takes place, the implications for factors causing food waste and how certain arrangements or ordering of performance may lead to waste. For example the multi-sited nature of work and leisure routines and how their pathways intersect with practices such as shopping that in turn can be interconnected with food waste causes. The rationale for this conditioning aspect therefore lies in providing a means to understand the way in which the shaping role of practices, undertaken across a wide spatial remit, hold influence over how and why food comes to be wasted in the household. Table 3.4 gives an overview of the spatial conditioning aspects put forward in this section as well as the corresponding understandings of space and place.

Table 3.4 Spatial conditioning aspects, their workings, how they condition consumption and their relevance to food waste

Name of spatial conditioning aspect	Environmental cues	Generation of place	Arrays of performance
Explanation	Space as a resource of practice. Based on the locality, placement and arrangement of things.	Space as an inventive process whereby places come to light through the performance of actions and things and people involved.	Performance of practices occurs across multiple spaces. There are characteristics of the performances and spaces involved.
How is space and place understood?	Space as a container of things and action. Place as a defined arena within which things and bodies are located.	Space as a performative and boundless concept. Place produced as a site of practice via people and things present.	Multi-sited nature of space. The spatial footprint of a practice features, and has input into, the formation of several places.
What conditions consumption performances?	Objects, things and observing others and bodily movements are triggers for dispositional behaviours.	The place making process whereby the production of space conditions the performance of practices.	The nature of spaces involved and the way in which performances vary across sites.
Relevance to food waste?	Lack of understanding of how the placement and locality of things contributes towards the performances of actions that shape the passage of food into waste.	Lack of understanding of how actions related to the organisation of food at home and the disposal of food are interlinked with the performed nature of places such as the kitchen.	Lack of understanding of the sites over which consumption takes place, such as the number of spaces over which shopping is performed, and the variability in food consumption.

The next and final aspect of conditioning to be discussed is temporal.

3.6.3 Temporal conditioning of consumption practices

Time and temporality (a relation to or with time) is the third way that the performance of consumption practices are addressed. Adam's (2004, 2006) work has been critical in determining the transformative nature of time and the spectrum over which temporal relations exist. Understandings of time have moved beyond a linear comprehension and towards how time is experienced, organised and constructed in society (Levebvre, 2004). Time is socially distributed in how it is configured according to societal rhythms (Southerton, Díaz-méndez and Warde, 2011). In the area of consumption, time analysis has explored the changing amount of time devoted to food in everyday life (Warde, 1999), and changes in how time is structured (such as changes to routines) as well as changes in patterns and rhythms of how activities are ordered and placed (Southerton, 2006). Time has been described as "one amongst other resources that practices need to survive" meaning that for a practice to continue it must secure our attention (Shove 2009:22).

Work on food in particular has shown how the scheduling of meals and the timing of food has changed (Southerton, Díaz-méndez and Warde, 2011). Time therefore can be thought of as both objective and lived, with the habitual nature of practices holding their own rhythmic, temporal organisation (Southerton, 2012) and temporal articulation (Holmes, 2015). This section sets out how the performance of consumption practices can be conditioned via temporal means, giving one aspect based upon how time is sensed in performances, and a second aspect relating to personal rhythms. This section begins with a discussion of time in consumption and its role in theories of practice. This is followed by an outline of the two time based conditioning aspects.

Consumption has been a much utilised subject of time based studies. Studies have explored time use showing how people divide their time between daily pressures, such as the demands of work and family (Shove, 2009). Trentmann (2016) explains the dramatic rise in leisure time between the start and the end of the 20th century and how workers in westernised countries feel overworked and time lacking whereby "people's estimates of how they spent their time each day routinely added up to more than twenty-four hours" (Trentmann 2016:444). Practice based work on time has explored culturally situated rhythms with Warde et al. (2007) identifying the national variation in patterns of eating, noting an overall decline in the amount of time devoted to food preparation between the 1970s and 1990s in the UK. Patterns of eating have broadly identifiable characteristics when viewed across populations (Lhuissier et al., 2013; Yates and Warde, 2014) and social divisions that feature eating as a resilient practice (Cheng et al., 2007).

Food consumption and its relation to time is therefore not simple. There are different ways in which time can be accounted and can play a role in understanding food consumption. Southerton,

Díaz-méndez and Warde (2011) for example set out three key aspects of the temporal nature of eating. This includes 'social time' which describes the conventions and ordering of time by socially defined norms; 'economies of time' which represents the role of timings of work and the influence it has had on eating (such as less prevalence of eating as a family and the move to convenience foods); and finally 'temporal rhythms' which stands for how eating is set out in relation to other practices. Here a rhythm is used to describe the temporal distribution of practice such as how often it is practised over a time period and how cycles of patterns of practice may emerge over daily, weekly, monthly and yearly recurrences. Practices can be said to hold temporalities in how they reflect characteristics of time.

The work of Dale Southerton (2003; and Tomlinson 2005; 2006; Díaz-méndez and Warde 2011; 2012) has been critical in clarifying and constructing a framework that navigates temporality in practices, setting a threshold for temporal language and practice derived knowledge. His work points out how habit and routine have become increasingly imprecise when used to discuss the repetition of action. Southerton (2012) argues that temporalities (the time relational mechanisms that hold practices stable) interact and shape the performance of practices through dispositions, procedures and sequences. Dispositions are considered much in the same way as in this thesis, a tendency to act in a suitable manner when the circumstances arise. Procedures are described as a set of non-reflexive actions that capture embodied knowledge in their performance. Sequences are explained as the "institutional and material scripting of practices" (Southerton 2012:341). Aspects of these already form discussions of the social and spatial conditioning in this chapter, with dispositions somewhat conflated in this thesis to also include Southerton's (2012) procedural and sequential features. Collectively these definitions were crucial in opening up a new area of how performances can be understood via a temporal means.

This body of work has shown the value in using time as a lens to understand the distribution of activities and its connection to wider trends (Warde et al., 2007; Cheng et al., 2007; Southerton, 2007; Jastran et al., 2009; Lhuissier et al., 2013; Yates and Warde, 2014). Shove, Pantzar and Watson (2012) make similar points with regards to the temporal aspect of practice: the idea that there is only so much time to dedicate to practices; practices compete for time; the length of time over which practices endure and continue to exist; and finally the experiential aspects of practices. It is this last aspect that is of most interest given its applicability to performances. The others, and the discussion above, frame time as a resource to be located and distributed in how practices are organised (returned to in the second temporal conditioning aspect below). Through performing

practices the passing of time is experienced which is differentiated depending upon the nature of the practice. This forms the basis of the first temporal conditioning aspect 'sense of performance'.

An important differentiation is made between time being objective, where it is allied to measured amounts of time passing, to time being considered in terms of how its passing is experienced as a sensed duration (Blue, 2017). To say that time is sensed within the performance of practices is to say that there are temporal dynamics and characteristics of a practice that can only be revealed through understanding the nature of its performance in-time. This is critical for both understanding why unsustainable practices persist and identifying points of change (Holmes, 2015). To construct sense of performance as a temporal conditioning force shaping the performances of practices, the infrastructural organisation of practices (bundles, complexes and projects) and the terms *tempo* and *intensity* are drawn upon. These are used as temporal tools to compare participant's accounts of how performances are sensed and experienced, and are now explained.

Accounts of everyday consumption often align themselves with busyness and hurriedness in how people feel as if they have little if any time (Southerton, 2003). Shove, Pantzar and Watson (2012:95) however argue that "experiences of rush are not, or not simply, due to a lack of time, but to the fact that time has become harder to organize and manage". Modern life is one of multi-tasking. Practices are therefore not performed in isolation and instead the experience of one moment can have follow-on implications for several subsequent performances. For example consumers regularly underestimate the amount of time available to them. This trend has been well documented across a range of behaviours, such as Carrigan and Duberley's (2013) work looking at the work life balance of women, and Jabs and Devine's (2006) paper about the impact of time scarcity on healthy eating choices. These are examples of conditioning via temporal articulation, whereby a sense of performance conditions the performance of a practice.

Further work on accounts of 'time squeeze' demonstrates how the resulting performances of practices feature overload and dis-organisation (Southerton, 2007), as well as "doing practices faster and simultaneously" (Southerton 2013:180). Shove, Pantzar and Watson (2012:95) argue that this is not a squeezing of time but a "squeeze of practice-related injections of sequencing, coordinating and personalized scheduling". Meaning that the idea that individuals are rushed or hurried which then causes unsustainable consumption outcomes, such as the wastage of food, is not bound up in individual failures of not being capable. Rather, as Shove, Pantzar and Watson (2012:96) explain, "the problem almost certainly lies with the set of practices they are carrying and with the demands these make in terms of duration, timing and sequence". This also discloses why despite the daily occurrence of the morning and high repetition of practices that individuals

could perfect, the actual performances of them are conditioned within a temporal context. The performance of a practice makes demands on the carrier for a proper performance, and, in these time squeezed situations, there is not always the appropriate resources available (Southerton, 2013). Furthermore this has implications for the set of actions that a practice is made up of. Practices are inherently interconnected with others so the performance of one practice may take away temporal resources from another, or have a knock on affect because of an unsatisfactory performance. To give further explanation the terms *tempo* and *intensity* are now outlined.

The premise put forward here is that the pace of the performance of practices in time, i.e the *tempo* and *intensity* of temporal articulation (how time is experienced in the performance of a practice), can be understood by looking at the bundle of practices that such performances are part of and placing these bundles within a specific time frame, giving light to the notion of a complex. Tempo is used to signify the performance of a number of practices that make a bundle, and intensity used to refer to the performance of a number of bundles that make up a complex. The morning is an example of a complex, defined as "stickier and more integrated combinations" than bundles (Shove, Pantzar and Watson 2012:81). Revilla and Salet (2018:322) point out that "cooking and eating, frequently constitute complexes due to their mutual dependence (in terms of sequence, synchronization, proximity, etc)".

The morning period (whilst differing between weekdays and the weekend for most people) can be considered a complex given it is made up of a series of actions that belong to practices that in turn are part of bundles characterised by the time of day. Bundles here might include practices related to food such as preparing breakfast and organising and planning food for later in the day. Or a bundle of practices related to cleanliness and bodily preparation such as showering, sorting and putting on clothes and making different aspects of the body look presentable. Shove, Pantzar and Watson (2012) explains bundles as co-located and co-dependent practices and arguably there is also a temporal connection in being performed as part of a typical pattern of behaviour for a specific time of day.

The term project is used here to reference practices that might not typically feature as part of a morning routine but can be present and have implications in terms of temporal articulation of performance. Whilst performances linked to food and cleanliness have a clear teleological structure in how their outcomes are achieved within the morning period, projects have a wider remit as are part of more dispersed activities. The practice of going on holiday for example, whilst having its own time allocation, might involve a number preparation actions that on occasion overlap with morning routines. Welch and Yates (2018:293) differentiate between autotelic practices, that have a clear and achievable ends to a means, and heterotelic practices whose end

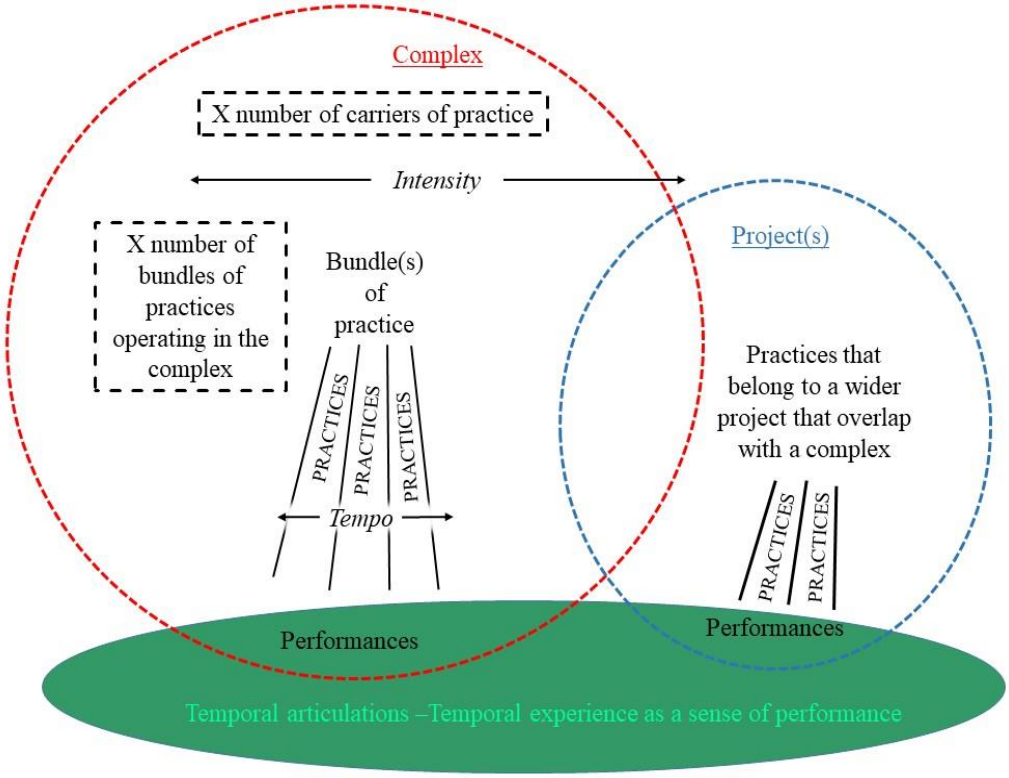
goal is not an end in itself but “reign across multiple practices and conjoins common ends and projects”. In short life is made up of a series of projects which imbricate across, and have implications for, the performance of a number of practices in different moments of everyday life.

Table 3.5 brings together the analytical description above of conditioning via sense of performance and explains the key terms used. In addition figure 3.3 depicts how this temporal practice mechanism functions theoretically as part of the tool kit of how the performances of practices are temporally conditioned.

Table 3.5 Explanation of the terms tempo, intensity, bundles of practice and projects for the benefit to show how performances are conditioned via temporal articulation

Tempo	**Intensity**
Relates to the performance of a bundle of practices, for example how in a morning period a family might have several food related actions to perform, such as preparing and eating breakfast, preparing lunches and planning dinner.	Level of intensity as sensed in a performance relates to the number of different bundles of practices being engaged in at one time. The way in which practices overlap and are concurrent in moments of performance provides a degree of intensity.
Bundles of practices	**Projects**
Sets or collections of practices associated with each other through co-location, co-dependence of co-performance. An example might be a bundle of food related practices undertaken during a morning routine including the preparation of breakfast and lunch and meal planning for the evening.	A dispersed collection of activities, that might contain multiple bundles of practice that have a relative or strategic outcome that does not have a means to an end in a specific instance. Dieting would be a good example whereby a number of modifications are made to the performance of food practices over a longer period to achieve a goal.
Temporal articulation	
The in-time sense of performance of a practice or a series of practices. Not a comment on how time is scheduled but a comment on how time is experienced and how this arises from the performance of practices.	

Figure 3.3 Diagrammatic explanation of the practice temporal tools and how they interlink



This first conditioning aspect of time raises important questions around the nature of temporal experiences in performances of consumption and what temporal qualities are linked to the mitigation and causality of food waste. What can be gained from this is that there are temporal relations that come to light by focusing on the experiences of time embedded within performances, and how these temporal qualities shape the performance of time, such as how customers of the hair dressers constructed their time as being relaxing or wasteful in light of wider temporal relations in Holmes's (2015) work. In the context of food waste, key questions here are; what is the nature of how households experience time during food consumption practices, such as food preparation and provisioning, and what does this mean for the subsequent passage of food into waste? Can certain experiences of time relate to instances where food is wasted? How can hurriedness or more leisurely experiences of time in consumption be linked to the mitigation and causes of food waste? A comment can also be made around the enduring nature of time and temporal experience in the stability of practices, such as how experiences of time change in the performance of a practice, and how the temporal nature of one performance may be different with further recurrences. The rationale for the inclusion of this conditioning aspect therefore lies in

seeking further explanation of the temporal relationships and in-time experiences of practices that both directly and indirectly relate to the wastage of food.

The second temporal condition of the performance of consumption practices relates to rhythms, specifically the role of personal rhythms. The performative nature of lived time is synchronised and sequenced in how people make time and set aside time for specific means (Southerton, 2006). Shove (2009:18) argues that practices have temporal properties that can be placed within the "temporal textures" of people's daily life. These are examples of how patterns of practice shape consumers' lives. Evans (2014) in particular has explained how our routines encapsulate not just the goings on in the home but our life commitments such as the time dedicated to working and caring for a family and how these activities tie in with wider spaces over which food practices exist.

Personal rhythms are used here to refer to the strategic way in which performances are shaped according to how people deal with their daily and weekly routines. This puts forward the idea that rhythms of practice are negotiated as temporal textures regulating the organisation and scheduling of performances. Their properties exist from how time is relational, whereby every performance in-time holds relational qualities in how its movements and actions relate to the habitual nature of practice formation and in turn how the performances forms part of "entanglements of linear and cyclical rhythms" (Edensor 2010:3). With respect to food, Evans (2014:32) has commented that "the routinized nature of grocery shopping…. is not always a good fit for the rather more fluid ways in which lives are lived". Warde, Welch and Paddock (2017:31) also explain that "cooking and eating rely upon synchronisation with working and travelling practices, not to mention the performances of other social actors, both proximate and distant". This conditioning aspect takes a closer look at the personal nature of these rhythms, such as how people navigate and interpret them (Holmes, 2015). This lies in the same region of the performative in-time lens as 'sense of performance' but instead strives to unpack the nature of performative aspects in how practices are sequenced together.

A challenge is made here to the idea that individuals are able to exert their own agency over their routines, to instead present the workings of how temporalities of practices shape how consumers organise and strategize their routines. Phipps and Ozanne (2017:363) for example note that "it is not a mental state that directly causes these contrasting experiences of temporality; rather, the contrast emerges by virtue of the practice's place in the weave and social context of the behaviours". Understanding already exists around how practices happen in-time via both linear and cyclical procedures (Southerton, 2012; Jastran et al., 2009). What is missing however is understanding of the relational qualities between performances in time and how in negotiating

the experiences of daily life through the performances of practices, these relational qualities formulate a conditioning affect. Such as how consumers display personal temporal rhythms as a form of temporal articulation to manage, navigate and negotiate the sequences of practices that make up the everyday life. Such a conditioning aspect can help bridge the collective rhythms of practices that Southerton (2012) explains as sequencing practices through infrastructural and institutional aspects, and the personal rhythm of practice that are reflective of how practices are actually performed.

The work of Shove, Pantzar and Watson (2012:127) note that "for any one individual, enacting a practice is a matter of weaving it into an existing rhythm and honouring temporal injunctions inscribed in concepts of proper performance". Adopting temporal conditioning in this way can help explain why practices might be scheduled even if their premise is not what is driving them. Work on the practice of showering for example reveals that whilst on the surface this is a practice that is associated with cleanliness, this might not always be a driver for its performance (Shove, 2003; Hand, Shove and Souhterton, 2005). Rather it is a practice that is part of the very rhythms of the recurrence of performances that make up the everyday. Temporal experiences therefore are significant in understanding the organisation of everyday life to place "temporal rhythms as a background to socio-temporal order" (Blue 2017:11). Dewsbury and Bissell (2015) argue that "we live in several time-space rhythms all at once" and therefore an understanding of rhythms can form points of reference of what is shaping and organising everyday routines.

The literature review highlighted a knowledge gap of the indirect drivers of food waste with the conditioning framework able to provide answers in terms of how exactly wider practices inter-relate with how food activities are organised and how consumers adapt and shape their performances to navigate food in everyday routines. Further to this, in seeking an understanding of how people manage and navigate their personal scheduling of practices this opens up a window of analysis for the implications of disruptions and points of difference in routines. On the one hand this maybe a small interjection such as where a meal plan is not followed and the implications of what happens to purchased food with no use-occasion planned. On the other hand this may be larger more significant disruption that may cause a temporal change in household responsibilities for food provisioning. Whilst disruption has been framed as a potential intervention to overcome and interrupt unconscious behaviours that cause food waste (Foden et al., 2017), less in known around how unforeseen changes to practices has implications for food consumption and subsequently waste.

There is little literature that has taken into account disruption in the area of theories of practice. Chappells and Trentmann (2018:197) explain that disruption can "reveal the hidden

dynamics of everyday life" as a "temporary intrusion into normal life to be mitigated and overcome as quickly as possible". Shove, Pantzar and Watson (2012) offer an explanation of where elements of practice break links. However all too often practice theory is a story of coordination between components rather than an account for where they are misaligned. Phipps and Ozanne's (2017) work on disrupted routines sets out how a level of security is present in the situational order of practices. The study uses the example of the response to periods of drought to show how this security breaks down causing practices to change, standards and expectations to be re-negotiated and engagement in unfamiliar practices (Phipps and Ozanne, 2017). Disruption therefore can be approached as another form of temporal conditioning, placed alongside how practitioners negotiate their practices due to periods of busyness, the material properties of food and the implications of scheduling.

Overall comprehending how practitioners navigate the rhythms of their routines in a personalised manner offers a way to understand the role of time and its articulation as an indirect driver to factors that potentially lead to the wastage of food. Whilst it has been established that practices are not undertaken in isolation and that collective rhythms attached to social structures are a marker for how practices are scheduled, in considering the experiential nature of time, these rhythms are shaped in a personalised way according to the performance of practices. This raises questions such as the nature of the rhythms that consumers live their lives by in terms of how food consumption is navigated and placed amongst wider practices. The rationale for the inclusion of this conditioning aspect is the insight delivered regarding the shaping forces that lead to different accounts of time usage and experiences and what implications this has for why food may be wasted or be prevented from being wasted. A summary of the two temporal conditioning aspects is given below in table 3.6 alongside how time is understood.

Table 3.6 Temporal conditioning aspects, their workings, how they condition consumption and their relevance to food waste

Name of temporal conditioning aspect	Sense of performance	Personal rhythms
Explanation	How experiences of time condition the performance of practices. Difference between how time is allocated to a practice and the in-time performance of the practice.	How temporal rhythms of everyday life conditions the performance of practices. Collective rhythms can be disrupted by personal rhythms.
How is time understood	Time as something that can be known and sensed in performances. Time is relational to bodily movement and action enactment of practice intelligibility.	Time as a coordinating force that represents the duration, tempo and ordering of performances. Time can be known through temporal textures that are the time based qualities of performances and how these come together and are negotiated between collective and personal rhythms.
What conditions consumption performances?	Notions of lived experience or sense in the performance of practices and how this can cause performances to be inadequate, alter from their expected path and be substitute for other actions.	Negotiating personal rhythms against collective societal rhythms. Performances are representative of this negotiation. Rhythms can be disrupted and derailed having implications for how routines are negotiated in performances.
Relevance to food waste	What are the temporal properties of how household members experience time? How might the performances of practices be constructed temporally? How does this relate to the performance of food consumption practices and subsequent organisation of food and conduits through which food is wasted?	What are the collective and personal rhythms that drive the organisation of food consumption? How might the personal rhythms of household members relate to the ordering and performance of practices that both cause and mitigate food waste? What are the implications of disruptions to normal routines for food practices?

Finally a comment must be made here on the relationship between time and space. Work in the area of consumption and accounts of theories of practice have both made a case that time and

space should be considered and analysed together. Southerton (2006) explores the temporal organisation of practices that require a fixed location. Edensor's (2010) work explains how the rhythmic nature of everyday practices interlinks with a spatial scale of movement. Widener's et al. (2015; 2017) work is also an example of how features of time and space are integral to food consumption, showing different dimensions of food store accessibility. Woermann and Rokka (2015) illustrate that through the performance of practices activity timescapes open up that give distinct episodes of temporality. Lefebvre's (2004) work on 'Rhythmanalysis' also placed both time and space beside each other to explore what shapes human experiences. Schatzki (2010a) has even conceptualised the very phrase 'timespace' and argued that it is difficult to separate time and space as human activity is an 'event' that holds both spatial and temporal features. It is no doubt doing a disservice to this work by addressing time and space in turn in this chapter however in the context of developing a conditioned based contribution, this is for good reason.

Firstly, the spatial and the temporal are addressed separately here for the benefit of constructing the conditioning of practices as an analytical framework. Given the nature of their concepts, time and space have different underpinning epistemologies of what is considered as knowledge and the processes by which this knowledge is acquired. If taken together, the intricacies of time and space would be lost. Secondly, both time and space are approached here with a degree of openness. Time and space are the field within which practices exist and the reciprocal, relational conditioning approach put forward allows endless possibility for the production of knowledge from such relations. When taken together the openness of a timespace concept is a limitation in firstly chaining time to space and vice versa, and secondly making the process by which practice knowledge can shape and frame this openness more difficult to theorise (Malpas, 2012).

The second reason comes back to seeking an understanding of performativity. This contribution acknowledges the "contingent connections between spatial and temporal phenomena" set out by Schatzki (2009:36) but questions whether his explanation of the timespace concept has the appropriate theoretical eloquence and intricacy to both comprehend and allow sufficient and navigable discussion of the performances of practices and what conditions them. If the concept of timespace is interwoven into the production of everyday life, it is also interwoven into performances and there are points at which the conditioning aspects explained in this chapter benefited from a compartmentalised discussion of just time or just space to give adequate explanation. The conditioning aspects developed do not take anything away from being able to describe the temporal-spatial characteristics of practices or of people's consumption patterns, but rather discusses these in turn for the benefit of the reader. This chapter now concludes.

3.7 Conclusion of the research approach chapter

This chapter took the reader through the philosophical underpinnings of this thesis. Opening with a discussion of the ontology and epistemology of relevant social science approaches, social constructivism was identified as an appropriate paradigm to frame this thesis. This gives recognition to multiple interpretations of reality, rather than one grand view.

Following this the ontology and epistemology of methodological individualism was discussed explaining a research approach based upon consumers informed choices and intentions. A discussion of its ontological workings explains how links are made between macro and micro levels connecting beliefs, desires, opportunities and individual actions by drawing upon Hedstöm's (2009) work. The connections between these cognitive elements are the basis of individualised theories such as rational choice theory and the theory of planned behaviour. The idea that people's preferences and choices are a good predictor of social processes was shown to have been somewhat corrupted in this theory's development over the last century from Weber's (1930) original work. The cognitive elements have been overly focused upon at the expense of knowledge formation through collective behaviours and social structures.

A rival account is then given on theories of practice as a research approach. This explained the fundamental differences on how knowledge is approached through the habitual nature of actions. The framing of the world through the lens of practices is shown to provide a means of structuring knowledge but at the same time allowing multiple realities without distinct boundaries of what can and cannot be considered as a practice. A critical realist interpretation of a practice based approach is critiqued. Three key points summed up the epistemological position of theories of practice, highlighting its merits over individualised approaches to research. The approach taken is then outlined clarifying the assumptions made, their context in this thesis and the practical implications.

The final part of the chapter then gave an original practice theoretical contribution, meeting the second objective of this thesis. The purpose of this was to move forward understandings of unsustainable behaviours, by contributing a tool that provides further knowledge of the wider contextual and circumstantial factors that shape consumer behaviours. The domains of the social, spatial and temporal were drawn upon to construct this given that these are all domains within which practice workings operate. A greater depth of discussion ensues around performative aspects of practice, and the need to understand what is shaping and configuring performances. The contribution offered is not another version of theories of practice but an analytical framework that extends practice working to different aspects that condition performances.

Social conditioning is introduced alongside a number of practice workings. These are practice intelligibility, dispositions and how practices are resolved. The body was positioned as being an important platform upon which performances take place. Viscerality is detailed as a conditioning force through the reactionary role of the senses. Materiality is also introduced detailing its ability to condition performances through the appropriation and usage of objects and things.

The spatial conditioning outlined how the characteristics of a place can shape the performances of practices. The reverse of this is also discussed as the second aspect. This explains how spaces are made and emerge in the performances. A further aspect is also given, the mobile nature of how practices are multi-sited. The spatial conditioning aspects emphasises how space can be a fluid and socially constructed factor and how the workings of space has implications for performances.

The final area of temporal conditioning brought forward two temporal aspects, the first being sense of performance, explaining how the sensed duration of doing a practice has a configuring role. The second focused on the rhythms of practices and how temporal articulations are developed by practitioners to navigate and negotiate the temporal connections between the practices that make up their daily and weekly routines. A clear rationale was given for the purpose of each of the conditioning aspects, providing a justification for why these aspects over others were explained and employed in this thesis. These reasons related to the aspects' relevance to further researching consumer food waste behaviour, such as how the aspects can reveal new insights.

Overall this chapter has presented a practice theoretical narrative that gives a real depth of detail into the ontology and epistemology of a practice theory approach to consumption. This chapter met the second objective of the thesis of developing a theoretical contribution to further investigate the wider factors that shape consumer food waste behaviours. This was accomplished by looking into the foundations of both methodologically individualistic and theories of practice approaches, concluding that a social constructivist practice approach is most suitable. The narrative in section three then fully explained the focus on the conditioning of performances and the different aspects and domains over which the framework tool is set out.

The thesis now moves to set out its methodological approach.

Chapter 4

A methodology to investigate food waste behaviours in the context of everyday lives

4.1 Introduction

This chapter provides a detailed overview of methodology and methods employed. A detailed methodology is important to outline the procedural rulebook that clarifies the routes through which the employment of methods ascertain knowledge (Brewer, 2005). The section first gives methodological reasoning of the multiple methods used to collect data. This details the mixed qualitative approach taken, then moves to explain sampling, validity and positionality. Key questions are answered such as how the 'everyday' is accessed and how theories of practice guided the methodology employed.

There is a general lack of studies that have reflected methodologically on theories of practice[4] with this section adding to this emerging area of debate. This is addressed in terms of how a mixed method approach is most appropriate for researching the performances of practices. In this chapter the data collection procedure of the research is explained, noting how methods were implemented and how they were successful in delivering the knowledge required to meet the aims and objectives of this thesis. Finally, the chapter turns to reflect on the research process and explain any ethical complexities encountered. This chapter takes into account my position as a researcher, this means giving the researcher a central role to communicate using the first person when appropriate. This is provided in order to give critical insight into how my position and identity as a researcher may have influenced how the data was collected, as well as to mitigate any potential biases in the eyes of the reader.

[4]This point refers to a lack of studies that have specifically commented on the methodology when a practice approach is employed empirically. It can be argued that theories of practice is a package of both an alternative means to understand behaviours as well as a methodological approach.

4.2 A mixed qualitative methodology to study practices and their performances

At the centre of the methodology employed in this thesis is a mixed method qualitative approach. This means utilising different qualitative techniques as a means of drawing out understandings of participant's performance of practices. This is a suitable approach to researching behaviour from a practice based lens, particularly when seeking to understand lived experience via interpretive social research (Littig and Leitner, 2017; Halkier, 2017). This section draws upon studies to highlight that there are different ways in which a methodology can be orientated to access practice theoretical knowledge. Each of these ways can be situated within approaches to capturing data from participants as social practitioners navigating their everyday lives in naturally occurring settings. A distinction is also made between ways of researching practices as performances and practices as entities. Insight is given on how others have conceptualised practice based methodologies as a package to unearth facets of practice knowledge. Overall this section unites practice based thinking with a mixed qualitative methods to describe a methodological approach to interpret how food consumption and food waste behaviours unfold as performances situated within everyday life.

At the centre of the methodological enquiry of this thesis is a drive to capture and understand ordinary activities. This is a guide to gather in-depth data on behaviour and the settings or social context within with such behaviours are situated (Descartes, 2007). Situating the 'everyday' as the setting within which research takes place generates a number of methodological problems, principally stemming from how to access and capture the constant flow of 'everydayness'. Pink (2012:33) explains that this makes the subject of the research changeable and therefore ways of knowing are also subject to change as "meanings are contingent on the constantly shifting configurations through which they are interpreted". The conditioning aspects developed in the previous chapter are utilised in this thesis as a lens to investigate the fluctuating everyday 'field' within which practices play out. Any methodological approach to researching the everyday must hold the ability to comprehend movement in the sense of how people, places and objects come together to perform practices that arise and fade. It is the configurations, procedures, and engagements of practices that result from how flows of activity unfold that this thesis is concerned with.

Recent work has commented on the ways in which a researchers can pursue practice informed methodologies. Nicolini (2017) argues that when following a theories of practice approach, assumptions are present relating to the way in which the employment of a methodology is practice orientated. This means carefully situating methods to avoid methodologically individualistic pitfalls as well as designing methods to capture how practices "emerge through engagement with

the phenomenon" whilst allowing the researcher to "synthesise the world in their text, rather than trying to describe the shape of everything" (Nicolini 2017:25). This speaks to how theories of practice is considered as much a theory as a methodological package, or in Nicolini's (2017:26) words a "family of ways of understanding the social that gives handles to empirical researchers". Nicolini (2017) sets out four ways in which researchers can employ a practice theoretical package (summarised in table 4.1), each of which are orientated in different ways according to the empirical goals.

Table 4.1 Modes of practice orientated methodologies adapted from Nicolini (2017)

Practice Methodological Package	Description
Situational Orientation	A methodology that is focused on understanding the landscape within which the practice(s) being researched are situated. Concerns how practices are accomplished in scenes of action.
Genealogic Orientation	A methodology that is focused on the development and disappearance of individual practices. Concerns how individual practices emerge and disappear.
Configurational Orientation	A methodology that seeks to understand the configurations of practices and their outcome. For example how might food waste be the result of the wider organisation of practices concerns how the accomplishments of practices band together and the consequences of this.
Conflict Sensitive Orientation	A methodology that is based on the conduct of practices, what tensions and contradictions come to light between practices. For example how might one practice come to be superior or at odds with others Concerns the co-evolution, conflict and interference of practices.

The first orientation is named 'situation' and is concerned with the situations within which practices exist and come to be performed. Practices do not present themselves in the field as neat and straightforward, they are tangled in the everyday 'noise' that people navigate. Nicolini (2017:28) explains that it is critical for any research design to "distinguish the tree from the forest". Methods must aid the research participant in providing an account of their practices that foregrounds what is important to the study whilst recognising its place in the wider complex. The second orientation named 'genealogic' focuses on how practices emerge and dissipate. This holds methodological implications in terms of a design that allows space to research how elements of practices come together, employing methods in such a way that keeps focus on what is relevant and can distance its focus when a performance turns into something else. Nicolini (2017:29)

questions the idea that interviews should be the primary, go to, qualitative method here, noting that "by interviewing someone about their practice, you learn a lot about interviewing, their relationship and (usually very little) the actual practice under investigation".

The third practice methodological orientation sees a focus on 'configurations'. This is a concern with "studying how concerted accomplishments and performances hang together to form constellations or larger assemblages" (Nicolini 2017:29). It is a study of what is behind how certain bundles of practices exist as part of a complex and the implications of this. Nicolini (2017) explains how in understanding the configurations and consequences (or accomplishments) of practices research should move away from abstract processes and instead place knowledge in localised performances. This aligns with the theoretical contribution of this thesis and places trust in a methodological approach that generates questions over the forms in which practices are arranged and are implicated, over easily navigable answers to why a particular phenomenon comes about.

The final orientation named 'conflict sensitive' concerns the conduct of practices, meaning how a methodology can be employed to best understand the process through which practices co-evolve, cause tension and conflict. For example how certain practices may replace and displace others by competing for the same resources or gaining superiority over others. Nicolini (2017) explains how this orientation has a focus on interrogation in study design, looking at the effects that practices produce and issues of empowerment. It is a step beyond how practices hang together to "what effects this hanging together have on those who dwell within the nexuses and assemblages composed" (Nicolini 2017:31). This might include lines of enquiry around whether practices are beneficial for the people that they serve and whether practices align with the integrity of their practitioners.

These four practice methodological orientations provide good epistemological guidance for researchers. For example what researchers should be expectant of in their study design and also overcoming generalisations found elsewhere such as how too often studies simply state that a practice approach was followed with little further details. The configuration as well as the conflict sensitive orientation are most appropriate to this thesis. As stated previously, food waste is not necessarily a practice in itself but can be theorised here as an accomplishment of a constellation or assemblage of how performances hang together. It can also be noted as a consequence of how better food management and consumption practices are displaced by more prominent practices, such as those connected to work or care responsibilities.

A further dimension to consider is that the methodology can produce knowledge with regards to how practices are theorised as entities and performances. The methodological approach must

be appreciative of the sensibilities accompanied in the performances of study participants. Marten, Halkier and Pink (2014:2-3) explain that "much of the way everyday life is lived and performed through habits, routines and mundane activities involves forms of embodied, sensory knowing that people do not usually speak about". This means that the methodology must be concerned with the shifting in bodily movements, capturing figurative expressions of practice-knowledge over the wider social organisation of the data (Martens, 2012). With regards to the mixed method approach proposed here, a focus on practices means moving beyond an inherent linguistic focus to instead capture performances through a package of methods but at the same time still acknowledging how "actions are rendered understandable through talk (Martens 2012:3)

Martens (2012) work on practice 'in talk' and talk 'as practice' highlights an important distinction. The first of these the paper explains is useful for accessing organisational dimensions of a performance. What for example are the organising principles around which the performance of a practice evolves? The second of these, talk 'as practice' conveys as greater interest in the activity itself with this talk shaping the articulation of the practice. Another example to draw upon to give explanation is Pink et al.'s (2017) chapter on methods for researching homes. Pink et al., (2017) discusses accessing practices through using prompts to facilitate participant's responses (such as the mapping and weekly routine tasks utilised in this thesis). This can be constrasted with interviewing whereby participants talk through a practice as it is being performed. This gives further insight into how 'practice talk' should be considered in relation to the design of the research methods. There are different ways in which participants can talk about their practices that can hold subtle differences for the practice based knowledge produced.

Martens and Scott (2017) differentiate between looking 'at' and 'into' performances as well as looking 'for' practices. Each of these have subtle differences in employing the practice lens to research everyday life. Looking 'at' performances refers to making detailed descriptions, noting prominent themes, with aspects of materiality and gender given as examples, and looking at how performances evolve over time and within spaces. Looking 'into' performances takes a micro focus on how practices are undertaken and constituted. This relates to how performances are sequenced noting minute details to break down the barrier between the language through which practices are understood and the language within which the performance of practices are embedded (Martens and Scott, 2017).

Looking 'for' practices refers to the categorisation of practices. Martens and Scott (2017) use the example of self-reported time use diaries to state how practices can be uncovered and known as entities. This is a different type of knowledge that refers to the objective way in which practices are timed or temporally arranged. Here the researcher can uncover the reality of how practices are

situated temporally, how practices as entities may be "demarcated by cultural influences" such as when a specific practice occurs and its timing in relation to other practices (Martens and Scott 2017:187). Typically this is explored using methods such as time diaries with a Gantt chart of kitchen activity given in Marten and Scott's (2017) work. Looking 'for' practices is outlined here in a similar way to explanations by Halkier (2017:197) in noting how researchers should seek to hold a "processual focus on accomplishments of activities". This is also reflected in Pink and Mackley's (2016) work who explain how performances can be acknowledged through the affective atmospheres through which domestic life is constituted, routinised and regulated. Whether looking at or into performances, or for practices, or utilising different orientations, it is clear that the research must apply a malleable scholarly lens to ensure that both the approach taken to knowledge and the methods designed and employed are attentive to practice workings.

Practice based research has also commented on how the methodology should deal with routines as one of the key building blocks of a practice theoretical approach. Martens, Halkier and Pink (2014:2) state that a focus on routines allows access to "social, material, embodied, and technical makeup of mundane activity". Routines are a way of understanding how practices are employed, not just what is done but how it is organised in space and time in terms of how its renditions are distributed as a commonplace activity. Research participant's accounts of their practices contain rules and princples which detail patterns of routines. This can extend to understandings of the longevity of the routine in terms of its repetitive character and the extent to which its practitioners are aware of its frequency. Wahlen (2011:207) notes that "it is possible to stress the longevity of the repetitive and routine character of domestic practices and provide a perspective on often unrecognized and unaware aspects in routines". In Torkkeli, Mäkelä and Niva's (2018) study a focus on routines is noted as a strategy of acknowledging the researcher's reflective role in the study, such as how the data collection process may disrupt participants' usual routines (Wills et al., 2013).

The points discussed so far have hinted that the methods that underpin a practice based methodology should be multiple. The second part of this section draws upon work that concerns the employment of methods on a more pragmatic basis. Firstly, Halkier's (2017) work makes a solid case for the multiplicity of methods as being the favoured approach for practice based researchers. Here different qualitative methods are justified as a means to access different practice knowledge. Halkier (2017:195) shares the queries raised by Nicolini (2017) as well as Martens and Scott (2017) in whether interviews are the "gold standard" and foremost method turned to in practice based studies, noting their "lack of adequacy to establish valid data on everyday practices". Halkier (2017) explains how this is because of the need for a multi-dimensional focus

when moving forward with a practice orientated approach, attributes of which were covered by Nicolini (2017) and Marten and Scott's (2017) work above. Whilst interviewing participants produces discursive data to allow access to certain practice knowledge, it does not provide a complete picture. Participant observation is noted as being integral to understanding the differences between what participants are doing and what they are saying, hinting at similar themes to the attitude-behaviour gap explored in chapter 2.

The researcher must employ visual skill in making sense of practices (Martens and Scott, 2017), with Nicolini (2017:198) arguing that "participant observation was seen as giving more direct contact with knowledge on everyday life on the grounds of researchers themselves having experienced events, actions and habits by being present". However caution should also be exercised with the validity of such observations as "what takes place in an everyday context is not necessarily more straightforward or directly knowable on the basis of participant observation" (Nicolini 2017:198). Akitinson and Coffey (2003) have also called for discretion in viewing observational data as being a more valid source of knowledge of mundane behaviours than undertaking interviews.

For Halkier (2017) employing multiple methods ensures the study can access difference means of knowledge, for example striking a balance between "the tacit embodied dimension and the explicit discursive dimension". Martens's (2012) paper is a good example of this. When comparing CCTV footage and interview data on kitchen hygiene practices, Martens (2012) explains how interview data on its own is not sufficient to access the practicalities of an activity such as dish washing, noting the limitations in the ability of language and the interview setting. Hitchings (2012) has also highlighted that it is often difficult for participants to articulate and adequately explain their practices as their actions are contingent to automated bodily notions such as dispositional responses to viscerality. Sedlačko (2017) noted the difficulties of getting at the bodily sensibilities of practices. Browne (2015) reflects on the need for different talk based methodologies such as humour to engage participants in ways that go beyond standard interview techniques. The practice of interview itself has certain rules through which performances correspond. It is only through considering how methods can complement each other that the limitations of solely discursive and observation approaches can be overcome.

Participant observation typically involves detailing a range of factors such as making descriptions on the behaviour of the individual and their relation to materials. Examples could include noting the food items located within a participant's kitchen (Coupland, 2005); or the contents of fridges over an observed period of time (Farr-Wharton, Foth and Choi, 2014); or the routines and habits of participants, such as the practice of cycling (Larsen, 2013); or how

behaviours are negotiated and reflected within spaces such as understanding the ethics of family consumption (Hall, 2011); or social anxieties associated with eating surplus food (Watson and Meah, 2012). As well as the variety of ways in which descriptions can input into findings, descriptions have the ability to go beyond what can be expressed discursively, meaning that what is expressed cognitively does not always reflect what happens in practice (Carrington, Neville and Whitwell, 2010).

A further method that is important in the practice researcher's methodological arsenal is the production and collation of materials. The collation of materials such as objects and documents provides a further context to situate practices as evidence of the lived experience (Hodder, 1994). Materials contain relational knowledge allowing the participant to further expand upon discursive points or allow expression and opinion on a subject that is difficult to talk about. As noted in chapter 2, materiality (the way in which we interact with materials and its role in practices) has featured more prominently in certain interpretations of theories of practice such Latour's (2005) work on actor-networks. Here engagement with materials is noted as a means of going 'beyond the social' to overcome the uncertainty of cognitive intention and gain understanding of actual performances (Law, 2007). To give an example, Edwards (2002) discusses how the material aspects of photographs, specifically the level of degradation (i.e being torn and damaged) influences the association's people make with them. The collation of materials and taking of photographs are positioned here as a means to retrieve knowledge on the performance of practices through facilitating expression and discussion on materiality amongst other practice mechanisms such as how practices are resolved.

In the context of food, undertaking food practices leaves a material trail that can be engaged with to build a picture an individuals' performed behaviour. Shopping receipts, lists, recipes and receipts all contain relative information and are themselves a source of data. The usage of such materials within interviewing has been shown to produce in-depth discussion on consumer behaviour. Evans (2014) work on food waste for example is based upon discussions and interactions in peoples' homes where food items, appliances and objects in the kitchen were appropriated during discussions. This highlights the important role of material related discussion in research on waste given its hidden and mundane nature (de Coverly et al., 2008). Food itself also has a vast material conception that is explored in depth in this thesis.

As well as drawing upon existing objects and materials, studies have opted to create materials with participants. Such collaborative methods are much more associated with research in the developing world and methodological narratives that seek to place the participant at the centre of the study for equivocal knowledge creation. Collaborative mapping has been shown to give

participants greater power and ability to reflect upon issues at hand through encouraging geographical engagement (Rattary, 2015). In this study, collaborative material creation was seen as a way to bring about narratives of the wider context within which practices of food consumption and waste sit. For participants this is a way to express and describe the complicated nature of their weekly routines and the local terrain over which they live their lives. This is a means of accessing knowledge wrapped up in the everyday that would be hard to access through solely discursive means.

One way in which this can be achieved is to provide a way for participants to not just contribute by describing or collating materials but by encouraging self-reflection. Participants are best placed to interpret and communicate their feelings, emotions and account their actions. This might take the form of requiring participants to share a short piece of written material as a form of data that allows "insight into the patterned processes in our interactions and into the constraints of social structures" (Ellis and Adams 2014:255). Here the reflexive and introspective written narrative is a source of data itself (Hackley, 2007). Requesting participant generated reflections can bring out data that is not easily expressed discursively or is inappropriate or sub textual to an interview situation.

In other fields researchers have asked study participants to share stories whereby the researcher interprets the lived experience underpinning the narrative offered (Ellis and Adams, 2014). Hackley (2007:98-99) argues that as a research tool this allows a "reflexive position of the author in the text" and "opens up the researcher's interpretive stance to the reader's judgement". Whilst such methods have seen limited take up, with their value and ethics questioned (Tolich, 2010), others have praised the positional knowledge that such a method achieves (Denshire, 2014), notably bringing out othered voices that could be hidden from researchers' observations (Hackley, 2007).

Narratives and personal, lived experiences are brought to life through such research, often discussing the intricacies of performed actions and reflections upon these. A theories of practice epistemology therefore can be seen as compatible with such an approach. Furthermore food waste is a topic prime for 'storification' to communicate to readers the lived reality of waste which is often forgotten in the context of everyday lives. To give an example Ellis (2012) presents a story that reflects on her difficulties of avoiding procrastination as a piece of research. Kodama et al.'s (2013) research looks at the experience of volunteers at sports events. Such papers are critical in giving new insight not previously offered in their fields through reflective writing with this extended here to communicate the story of how food becomes waste in the context of everyday lives.

A final acknowledgement must be made here of a common approach that was not followed. Ethnography, readily employed in practice based sustainable consumption and food waste research elsewhere, involves closely observing participants whereby the reflections made by the researcher are somewhat representative of the participant's experiences. For example Evans (2011a) study of household food waste combined interviews with 'hanging out' (author's words) to make notes and observations whilst being present with study participants on shopping trips and the preparation of meals. This is another approach that extends beyond the discursive to access further practice knowledge.

Whilst ethnography could be considered an appropriate methodology to follow, a mixed method approach was pursued instead as this was seen as preferential. Being present when participants are conducting activities arguably only gives a short window into participant's lives. Questions can be raised over the extent to which a researcher being present at one food shop or cooking time gives a true indication of how a practice is performed. Furthermore whether this gives any insight into the complexity of the everyday and the foregrounded routines of participant's lives, notably the everyday practices that are driving food waste. How, for example, can a researcher undertaking an ethnographic approach truly assimilate themselves to the study settings of 'the everyday', a context that is so unique to a participant that it can span the mundane concerns of feeding the family to more pressing anxieties, doubts and fears that come into play in hidden, unexpected ways in everyday activities.

Ethnographic approaches have also been criticised for being unconstructive, overly descriptive and lacking in theoretical engagement (Brewer, 2005). A mixed method approach instead has benefits of allowing the malleable lens required to be practice orientated, not reducing practice knowledge to what can be solely known discursively, or to what can be observed. The mixed methods employed in this thesis are fully outlined in section 4.6 of this chapter and consisted of semi-structured interviews, photo-elicitation, collation of materials, mapping exercises and written reflections of the morning routine. These methods covered the spatial aspect of the conditioning framework, reflected in the mapping exercise, as well as the temporal aspect in requiring participants to map out their weekly routines. Visual skills, such as observation and the potential of photographic methods to capture practices and their performances, were a feature of this section and are further explained next.

4.3 Visual methodologies and everyday practices

Visual methodologies acknowledge that insight into the social world can be ascertained by observing and analysing visual phenomena (Pauwels, 2010). A study of the visual has developed into a field itself with the rise of visual sociology and anthropology exploring and documenting visual aspects of society (Pauwels, 2011). Knowledge formation and data acquisition exist over a spectrum in visual methodologies such as the difference between employing methods that use pre-prepared visual materials, to those created by participants, to visuals formed through collaboration. Visual resources supplement qualitative research methodologies like ethnography. When using visual methods it is important to consider: the framing of the subject of study (i.e naturally occurring, prescribed or elicited behaviour); how observations and materials are collated; and how material is analysed (actual versus representational) (Pauwel, 2011). Further differences were also observed in how visual methods are conducted in terms of sampling, data capture, proximity to the participant, and how findings are presented. This section gives further details of visual methodologies and their suitability to the methodological approach developed for this thesis.

Advocates of visual methodologies state that the visual offers a more detailed means through which to research and understand the social context of behaviour (Aitken and Crane, 2005). Pink (2006) notes that the rise in visual methods being incorporated in qualitative research procedures relates to an increased concern for the role of the senses. Power (2003:9) argues that the visual can represent knowledge in greater depth than text through the ability to "evoke the sensual, non-rational and material aspects of life". Engagement in visual aspects delves deeper into conscious parts of the brain that differ to the way in which verbal exchanges operates (Harper, 2010). For example visual imagery brings to life material aspects of consumption providing a space to comment on the sensory and embodied nature of products and their meaning (Edwards, 2002). In the case of researching food, visual methods enhance the participants' ability to go beyond a solely discursive expression as a response to the researcher, facilitating the communication of the visceral nature of food. Whilst there are several studies that explore these aspects of food using visual methods (discussed next), there is a gap in methodological development to apply this approach to food waste.

Common procedures of visual methods use pre-meditated or participant elicited material alongside normal interviewing techniques to generate discursive data. Consumption and its domestic normality have been increasingly researched using visual methods. Pink and Mackley's (2012) work on domestic energy consumption practices for example videoed participants explaining how the 'sensory aesthetic' of the home influences their energy consumption (such as

the textures and sounds of the home). Brown et al.'s (2010) research on minority consumer groups involved providing participants with a video camera to self-record their experiences of everyday consumption. Wills et al., (2015a) also use video to record kitchen practices with the participants giving a kitchen tour explaining the differing temporalities of practices in this space.

This study can draw parallels with the work of Halkier and Jensen (2011) who explore the healthy eating habits of Pakistani Danes. In this study participants were requested to take pictures of cooking and eating practices in the household over the course of an ordinary weekday. The photos supplemented in-depth interviews providing prompts to participants. Halkier and Jensen (2011) note that traditional interviewing limits the ability of the researcher to understand how and why participants perform actions. Participants for example struggled to find the correct words to express themselves with Wills et al., (2015b:3) noting that participants "often fail to 'translate' their narrative for a listening researcher, resorting instead to phrases or rhetoric such as 'you know what I mean' to fill in the gaps between what can be articulated and that which can not". Visual methods therefore offer a means to capture the aspects of practices that are difficult to converse.

For this thesis, photo-elicitation was employed. On a basic level, photo-elicitation simply refers to the use of photographs alongside qualitative interview techniques in order to develop discursive narrative (Harper, 2010). Studies attempting to understand social processes and behaviour have undertaken this method alongside researchers, with the participants providing the images for the study. Elsewhere this has been defined as 'volunteer-employed photography' (Nielsen and Moller, 2014), with each picture holding a context and reasoning to justify its creation, explained and expanded upon by the participant in the discussion. Photography has also been used to investigate ideas around place in the area of tourism (Garrod, 2008). In studies of food waste behaviours, photography has been used to document the contents of fridges to provide an "interconnectedness between talk and materiality" (Hebrok and Heidenstrøm 2019:1437).

Caution is needed however given that photography is itself a practice that has embedded norms that influence the ways in which pictures are taken and constructed (Shove et al., 2007). A procedure is clearly communicated to participants to ensure that photography is used as a way for participants to further express and enhance discursive accounts with the photos themselves also being a source of data. Images are imbued with meaning which can be considered as socially constructed when analysed in terms of what is depicted, how it is depicted and the explanations of why it was depicted. These meanings can be understood as "representations of social life via our 'gaze', thereby perceiving that social life as experience, and so we are able to become part of spatial relationships contained within the spaces of the images/representations" (Aitken and Craine 2005:252).

Critically visual methods not only provide a means of overcoming the limitations of the discursive but also can temporally capture moments as a way of overcoming the difficulties of researching the constant flow of everyday behaviours (Pink, 2012; Edwards, 2002). Photographs and drawings are used in this thesis and are both ways of recording social, spatial and temporal consumption. Nielsen and Moller (2014) note the suitability for photo elicitation to explore how practices differ between places. Their study of consumers in Denmark highlights how methodological techniques that involve collaborative data collection (such as employed photography) enabled an analysis of consumption in the context evolving processes. Such a method sheds light on the context within which practices take place, enabling engagement with how this context differs and changes. Collaborative drawing techniques were also drawn upon in the approach taken to supplement the employed photography to establish this spatial and temporal context (Banks, 2007).

Note here that the focus on the usage of photo-elicitation is on understanding the configurations and situational context of performances and practices, in accordance with the difference aspects through which practices can be socially, spatially and temporally conditioned. The participant employed photography was first and foremost a visual supplement to the interview process. An image allowed participants to further articulate their points, with the photographs being a visual artefact to refer to during the discussion to explain and contextualise the performance of a practice. The way in which photographs also allow access to minute (looking 'into' performance) details present in the movement of participants and objects and tools they employ was a bonus attribute. Whilst such details were useful, the contextual aspects of the conditioning framework were forefront. If the detailing of minute movements specific to the ways in which participants perform was the sole purpose of the visual method employed then asking participants to take videos may have been more appropriate. However the suitability of video can be questioned due to: Firstly whether this would have impacted how a visual reference supplements discussion, such as how a video may have interrupted the flow of discussion; secondly whether participants would have been inclined to produce self-directed video; and thirdly the added time and varied response that could have been received, with photography seen as much less invasive than video. The chapter now gives details of sampling and validity.

4.4 Sampling, recruitment and validity

The approach to sampling was purposeful, meaning that a specific kind of sample population was sought rather than a randomised approach. This was to ensure that the study captured differences in patterns of living in order to be inclusive of a wide range of practices, both food and non-food related, to understand how they are linked to food waste. Different food consumption practices and their associated routines was the key sample variable. In setting out to undertake the data collection process, I envisaged collecting data on the following practices displayed in table 4.2. This was informed by the research gap identified in section 2.4 of the literature review. Specifically the bridge between consumption and waste actions, the importance of understanding the nature of performances that relate to food and food waste mitigation, and also how this is interconnected with non-food practices that determine patterns of living.

Table 4.2 Representative practices sought from the sample population

Practice	**Factors covered**
Shopping	Place of shop, type of shop, frequency, where placed in routines, connection with other practices
Eating and cooking	Food preparation, cooking, eating bodily consumption, nature of meals, where eaten, who with, connection with other practices
Food organisation	Placement and monitoring of food
Recycling and disposal	Management of recycling and waste disposal in the home, connection with food waste
Work	Work routines, commuting practices, connection with other practices
Leisure	Leisure practices, how free time is spent, connection with other practices

It was important that the sample population was able to adequately cover the practices in table 4.2. This was somewhat of a departure from other studies which seek to be representative of different lifestyle aspects which is shown through socio-economic data (Sanne 2002; Barr et al. 2011). This data was collected from participants to give the study rigour in being able to compare this study's participant population to others. This meant that the participant's everyday routines, and the way in which the practices in table 4.2 populated them in different ways, was the key variable.

Each of the 23 participants completed a socio-economic data sheet (Appendix 1). This covered postcode, household size, gender (of them main respondent) domestic status (single, couple, retired etc), age bracket, occupation and household income bracket. Income and age where the only questions that provided pre-set options for responses. I found that, whilst the socio-

demographic data collected did show I had a good spread of participants, this was not a helpful way of characterising the different arrangements of practices I was looking for. This was not a factor reflected in other practice based studies. Halkier (2011) for example records various socio-demographic information in order to ensure that practices of the participants selected represent significant variation to ensure a widened research scope. In this study's case, the findings chapters 6, 7 and 8 show several instances whereby participants with similar socio-economic data differ greatly in the practices they employ and the amount of food they waste. This reflects partial findings in the literature elsewhere, such as Melbye, Onozaka and Hansen (2017) who note how household income is not significant to attitudes towards wasting food. Table 4.3 shows the socio-demographic data of the participant population in this study.

Table 4.3 Socio-economic data collected from participants

Partici. No.	Postcode	Household size	Household type	Gender	Age	Ethnicity	Occupation	Household income	Synonym
J01	CV6	2 adults	House	Female	30-39	White British	Researcher	£45,000 plus	Julia and Carl
J02	B13	2 adults	Flat	Female	30-39	White	PhD student	£25,000 to £34,999	Sam
J03	CV6	2 adults	House share	Female	30-39	White British	PhD student	0 to £24,999	Violet
J04	CV1	2 adults	Flat	2 Male	30-39	White	Researcher	0 to £24,999	Antonio and Christian
J05	CV1	1 adult	Flat	Male	18-29	White British	PhD student	0 to £24,999	Jason
J06	B15	6 adults	Flat share	Female	18-29	White British	Undergraduate student	0 to £24,999	India
J07	CV4	1 adult	Flat	Female	18-29	White British	Undergraduate student	0 to £24,999	Jade
J09	CV5	2 adults	House	Female	50-59	British	Library Assistant	0 to £24,999	Linda
J11	CV2	4 adults	Family home	Female	50-59	British Asian	Library Assistant	0 to £24,999	Meera
J12	CV5	1 adult	House	Female	60-70	British	Researcher	£45,000 plus	Anna
J13	SE25	2 adult and 1 cat	Flat	1 Male and 1 female	18-29	White British	Journalist and Fundraising Officer/ Marketing Assistant	0 to £24,999	Andrew and Jeena
J17	CV2	2 adults and 2 children	House	Female	30-39	British	Administrative Officer	£35,000 to £44,999	Kim
J18	CV6	2 adults and 1 cat	House	Female	18-29	British	Administrative Officer	£35,000 to £44,999	Georgina
J19	B30	2 residing adults, sometimes 4	House	Female	50-59	White British	Researcher	£25,000 to £34,999	Beverly
J20	CV22	2 adults and 1 child	Family home	Female	40-49	British	Resource Planning Manager	£45,000 plus	Michelle
J21	CV47	2 adults and 2 children	Family home	Female	30-39	White	University Researcher	£45,000 plus	Elizabeth
J23	CV10	2 adults and 1 dog	House	Female	30-39	British	Researcher	£45,000 plus	Amanda
J24	SW17	5 adults	Shared house	Female	18-29	Caucasian	Public relations executive	£25,000 to £34,999	Kalee
J25	CM9	4 adults and one child	Family home	Female	40-49	White British	House wife and Business Partner	£35,000 to £44,999	Katherine
J26	CM9	4 adults	Family home	Female	50-59	British (white)	House wife and carer	£45,000 plus	Sandra
J27	CM9	2 adults	House	Male	70+	C of E	Retired	£25,000 to £34,999	Raymond
J29	CM9	1 adult	House	Female	60-70	White British	Retired	0 to £24,999	Brenda
J31	N11	2 adults	House	1 male and 1 Female	40-49	White British	Teacher, Local Government Officer	£45,000 plus	Eric and Joanna

Table 4.3 shows the sample used in the research. These are numbered J01 to J31 to reflect that 31 participants began the study but only 23 participants completed. Uncompleted cases were when an initial interview took place but despite following up the participant responded that they no longer wanted to take part or did not respond to requests to organise the follow up interview. The participants covered a range of socio-economic statuses and lifestyles according to the differing occupation and household types recorded. An arguable limitation is the lack of participants of a lower socio-economic status therefore being unrepresentative of patterns of living associated with this group. For example a household in receipt of universal credit or a household using a food bank or the charity of friends and family for help with food provision. Other studies have commented on how such groups, whilst important, are hard to reach (Meah and Watson, 2011). Furthermore such participant households would be outliers considering how their food practices would be different from those in the study. A suggestion is that this population should be the concern of a future follow on study with a distinct methodology and sampling to sufficiently engage with a lower socio-economic group.

Whilst one interpretation of the socio-demographic make-up of this study may be that it shows a spread of factors, a valid criticism is that this is a somewhat homogenous, white, middle class, female orientated group. What table 4.3 does not show is the range of everyday habits and different patterns of food practices, work and leisure routines that are captured in the sample. Table 4.4 below gives an outline of the sample participants detailing the characteristics of their everyday rhythms and routines.

Table 4.4 Characteristics and attributes of the sample population rhythms and routines

Partici. No.	Synonym	Work and Leisure routines	Food shopping and organisational attributes	Eating, cooking and disposal attributes
J01	Julia and Carl	Ability to work at home	Indicated they do not plan, some planning whilst shopping at the weekend.	Liked to bake. Little if any waste. Composted
J02	Sam	Studied full time, cycles and takes train for commute. Ability to work at home	Tends not to plan, more frequent shopping trips locally.	Food cooked is not always of a high standard due to partners' experiments.
J03	Violet	Commitment to PhD studies, Circuit training weekly	Shared the kitchen with a flat mate.	Vegetable box, content of meals linked to requirements for exercise. Little waste
J04	Antonio and Christian	Both work full time and attend a gym. Antonio attends drama club	Like to 'go with what they fancy' each week. Some planning but influenced by what is available when shopping.	Limited preparation and cooking space in kitchen.
J05	Jason	Commitment to PhD studies.	Shopping when returning from working on cafes	Studio apartment, bin location problematic.
J06	India	University academic studies. Attended a gym.	Lived in share housing, access to catered food from canteen. Shopping between studying and the gym.	Poor food safety in flat. High waste.
J07	Jade	Works part time 2 days a week. Goes to a gym	Purchasing and organising meals on the way home from work.	Minimal food waste. High use of freezer, defrosting as a means of planning.
J09	Linda	Role at local church, full time job. Cares for elderly parents.	Plans weekly shop around taking her parents shopping.	Several examples of using up leftovers, cooking for her family in Nottingham regularly.
J11	Meera	Had two jobs. Going to the temple regularly.	Clear gendered role in being responsible for the food in the home. Purchasing food to fill time before and after work.	Adult son and daughter decide what is for dinner. Waste from uneaten meals.
J12	Anna	Lived alone, difficulties walking so took a taxi to and from work.	Small freezer limited food saving. Home help staff would put away food for her.	Unconventional breakfasts. Some waste through visceral concern of fruits and vegetables.
J13	Andrew and Jeena	Both commuted an hour each to work by public transport each weekday.	Indicated they did not plan but generally bought the same food eat week.	'Standard' food, mental fatigue, food as fuel. High waste. High visceral concern.
J17	Kim	Daughter attends swimming club	Shopping after picking up daughter from swimming club, start of the week planned out.	Fussy daughter with what she will eat. Husband will eat leftovers, taken to work.
J18	Georgina	Works part time. Up early for work. Partner works full time and does most of the cooking.	Big shop every fortnight. Costco every 6 weeks. Top up shopping.	Specific ingredients needed for partners' cooking. Eating leftovers over the course of the week.
J19	Beverly	Works full time but can work at home. Food planning around the rhythms of work and daughter's college hours.	Re-purposed ice cream freezer difficult to organise. Organising food around her daughter being at home. Dinner often based on reduce items at local shop.	Skips breakfast. Wastes little. Purchases reduce items and freezes them.
J20	Michelle	Partner's Wednesday evening cricket match, daughter swimming club.	Food menu to stop spending so much money on food, reduce takeaways. Disagreement with husband when throwaway away food.	Busy – only ate with family 2 nights of study week. High waste, high visceral concern.
J21	Elizabeth	Taking son to gymnastics and swimming, picking children up from school	Menu plans made with purchases following this but meals did not always reflect this. Significant amount of frozen food.	Wasted food. High use of freezer.
J23	Amanda	Commuting to work by car. Instances of eating out and visiting family.	Top up shopping at the weekend, main shop during the week.	The dog as the 'dust bin' – given leftovers.
J24	Kalee	Office job, commutes each day.	Living in a shared house. Shops locally, lack of a car to access larger shops.	Eats ready meals on days when very busy with work. Bakes in spare time. Little waste.
J25	Katherine	Exercise classes and cycling, singing club.	Throwing away food retrieved from freezer but seems unappealing. Shopping after exercise class. Top up shopping.	Picky daughter, waste from unsuccessful cooking, other members of family not good at using up leftovers.
J26	Sandra	Husband is away during the week working outside UK. Sons attend gym.	Decided what her family are having for dinner	One son has allergy to gluten. Family only ate together twice in study week. Waste from subjective appraisals of foods edibility.
J27	Raymond	Retired, lots of leisure time. Seeing friends. Routine of café breakfast every weekend.	Some food organisation distributed to wife.	Safety and management of food in the home assigned to wife.
J29	Brenda	Retired, lived alone. Bridge club.	Small fridge limited what she could store. Shopping locally at smaller shops.	No sense of smell, very caution with food.
J31	Eric and Joanna	Eric mostly worked at home. Joanna – camera club	Preferred to shop at independent local shops, fewer supermarket trips	Followed a vegetarian diet.

Participants were recruited initially using word of mouth and an email to PhD students in the Centre for Business in Society at Coventry University during the piloting stage when the research procedure was under development. Following this a Business Faculty wide email advertised the study and a process of snowballing participants was successful. The study was also promoted on twitter using the flyer in Appendix 2. A specific rhetoric of questioning how easy it is to actually reduce food waste was used as a hook to draw in participants, prompting them to challenge the content of television programmes at the time on recipes and actions to mitigate food waste. Personal connection such as friends of friends and friends of family were also utilised. This can be justified given that the study was concerned with the practices that made up people's lives and what they actually did therefore avoiding any attitude forcing of subjectivity in participants telling me what they though I wanted to hear.

The participants are based in two main areas of the UK, the West Midlands, including Coventry, Warwickshire and Birmingham, and the South East, including London and Essex. Several of the respondents were in some way connected to a university institution. This did not influence the representativeness of the data as this did not have a strong influence over how food was organised for these participants and its connection to their working practices. There was sufficient variation to rule out any bias. All participants had a similar level of access to food (I.e more than one major supermarket in their local area) and local services subject to the opportunities and constraints of their socio-economic status.

Recruitment of participants and the data collection process finished when a data saturation point was reached. Data saturation is a common validity procedure involving the researcher revisiting the research until results are similar to what has already been found. This is utilised across the social sciences. Creswell (2007) notes breaking down qualitative research into a number of properties, such as how different types of knowledge are relevant to perceived outcomes, and noting how similar findings are arising to reach a point when no further data collection is required. A saturation point comes when new information provides no new knowledge of what is being studied. Again this can be seen as an inference made by the researcher and it is important that a procedure details when and how saturation was reached (Hammersley and Atkinson, 2007).

With no academic commentary on data saturation with regards to a practice orientated approach, validity by saturation is aligned with similarities in the performances being revealed and the connections to how food waste comes about. For example similarities in how families manage their consumption and wastage comprehended via the practices that make up these actions. A further factor to consider here was the differing living patterns of participants with no

two households the same. However the households were put into loose groupings such as single household, young/ old couple, family etc. Even though there were differences within these groups, some similarities in terms of practices were observed making a case for a saturation point. Therefore rather than continuously searching for differing examples of lifestyles and household orientations, a saturation point was more closely linked to the extent to which data was gathered met the aims and objectives of the thesis, i.e an understanding of food waste practices.

With regards to the validity of the study, generalisations are made across the social sciences from data to create knowledge. In a theories of practice approach these generalisations move away being about patterns of individual behaviour to patterns relative to "enacted social processes" (Halkier and Jensen 2011:113). In order for research to be valid via a theories of practice approach, caution must be taken when making generalisations. Food waste at consumer level is a problem connected to millions of actions of the disposal of food that continue on a daily basis. This study gives relative insight into such actions in the context of lives in urban and semi-urban areas in the UK. This is not to say that the lives of similar individuals will act in the same way, a justification made by methodologically individualistic approaches. Rather that the configuration and arrangements of practices researched in this study will inevitability be present elsewhere and therefore the findings hold wider relevance to how certain patterns of living, and the shared practices that they consist of, are linked to both food waste and food waste mitigation.

Further caution was taken in ensuring validity considering that the ontological standpoints discussed gives a degree of power in placing the researcher in a position to determine the nature of knowledge. This is reflected in the typical rhetoric of qualitative research, utilising wording such as 'understanding' and 'meaning' (Schwandt, 2001). I was aware of how as a researcher I was seeking to explore the social world and my subjectiveness played a role in the creation of knowledge that ultimately reflected on the sampling and validity of the research. This is further explained in the next section

4.5 Positionality

A characteristic of the methodological approach described is researchers' direct engagement with participants. This proximity is important to capture sensory data and understandings of the lived experience. However without careful consideration it can be a limitation. It is important to acknowledge how my identity as a researcher had an active influence on the responses and interactions with the participants. On the one hand, my skills in drawing out the discursive and visual data from the participant makes this a beneficial point, however on the other hand my identity and how I perceive things, and how other perceive me, may have influenced the responses given.

Considering positionality is an active pursuit across the social sciences and readily associated with critical academic research. Pink (2012) explains how researchers are active agents in the data collection process and that considering the role of the researcher is an active part of contemporary reflexive ethnographic practice. To give an example, Brown and Bos's (2017) work illustrates how consideration of the researcher's identity influences the gap between the researcher and the participant. The paper discusses the emotional labour and power of acting as a researcher in an evaluation of a prison gardening intervention, raising some important questions around what is missed when attempting to be objective to the point that the methodology is modified (Brown and Bos, 2017). Bringing to the forefront and accounting any subjectivities in relation to the role of the researcher strengthens the methodological position of qualitative research. In the case of this thesis detailing such considerations is all the more important given the discussion of the attitude-behaviour gap. Whilst discursive explanations of motivations are not replied upon to comprehend behaviour, the responses participants gave about how they practice and perform actions was ultimately influenced by the context within which they were expressed.

In order to subjugate any views of subjectivity in the eyes of the reader, I give an overview of factors I consider important to my identity and the life course over which this PhD was completed, this is detailed in figure 4.1. This will help the reader understand any potential bias due to way in which I may have acted in the interviews. I made reflective accounts after each interview to document such aspects. For example one of the main reflections I had is awkwardness that pictures of unhealthy food brought upon conversations, which I feel is in part due to the values I hold in relation to being healthy. Figure 4.1 is also important given the auto-ethnographic aspect of the methodological approach, which involves making the audience understand the viewpoint and context within which me, the researcher, undertook this study. Ethnographic and observatory notes were made after each interview which are drawn upon as a data source.

Figure 4.1 Overview of the identity of the researcher, Jordon Lazell, and the PhD journey

I am a white male, of medium height and build. I was 23 years old when beginning the PhD and will be 29 upon its completion. I undertook my PhD on a part time basis whilst working full time as a Research Assistant at the Centre for Business in Society, Coventry University. I describe my research area as 'why people throw away food' and I principally work on consumption based projects.

Over the course of the PhD journey I first lived in a flat and then a house in the Earlsdon area of Coventry. In 2017 I moved to Cambridge and in December 2019 returned to live in Earlsdon once more and currently reside there. I live with my wife Emma who is a children's book author and illustrator and previously was a teaching assistant. We have two pet cats. My wife and I grew up in the central part of Essex (the towns of Maldon and Coggeshall).

My relationship with food changed over the course of the PhD journey. For a number of years my BMI (Body Mass Index) has been low and at the beginning of the thesis I undertook a fodmap (no gluten, no dairy and other limitations) diet to temporally address this.

With regards to food and waste, I generally try to eat healthily and avoid food with lots of sugar. More recently I have been trying to eat vegetarian meals where the choice is available. I also make some effort to prevent and reduce the amount of food I throw away, however I'm often honest in saying that I'm not great considering it's my area of research. I do throw things away from time to time but make an effort to use the food waste bin service provided by the local council.

It is hard to know where to stop in the amount of detail to give in figure 4.1 but I am aware that what I have written has been drawn upon in conversations with participants in the study. For example I have lived in Coventry and several of my participants lived in areas I was similar with which had an impact when they described where they shopped and worked. Some of my participants had pets and I was able to relate to that. There was also some recognition of my accent and where I grew up as well as other factors related either to my identity or background. These factors are important to acknowledge in how conversations flowed and perhaps had marked points during which I drew upon my identity and how it was perceived by participants. One concern was that I did not want to come across as expert in food waste and that the interview would involve judging participants. This is because my research concerns the everyday lives of participants with what they do to mitigate food waste only a small part of that. It was not my position to comment on wrong practice or offer advice, I was interested in their everyday behaviours. This chapter now turns to give a description of the methods employed.

4.6 Description of method

The qualitative mixed methods employed takes into account mixed qualitative method to study practices and their performances. Semi-structured interviews, photo-elicitation, collation of materials, a mapping exercise and descriptions of routines were the methods implemented which are explained below. An iterative process allowed a degree of flexibility throughout the research process to make modifications to the research design. This allowed the researcher to pursue aspects of research that were unforeseen when setting out which then became apparent through the research process. Knowledge was inductively formed, allowing the researcher to learn and develop the method whilst in the process of data collection.

To facilitate a high level of consumer engagement in the study, a semi-structured interview schedule and participant employed collation of materials was proposed. A further desire was to understand the socio-spatial-time implications of food wastage, with participants asked to take pictures, collect receipts and complete a morning routine sheet to account for all their food consumption and wastage both inside and outside the home. The reason for this was twofold; firstly to generate an account of food consumption and wastage practice; and second to understand the social-spatial-temporal context of practices and how they were performed.

The data collection procedure was carried out over three stages. In the first stage participants were recruited via the means described in the previous section. In the second stage an initial, in person discussion took place where the study was explained to participants and the instructions and materials were provided. An information booklet was given to participants at this point, see Appendix 3. This explained what the study involved. Over the course of a week the study required participants to take photos of the food they prepared, ate and discarded as well as their fridge. Participants were also asked to collect receipts and fill in a description of their morning routine sheet for one morning. The booklet proved a useful reference point for participants when they were unsure what to do. This was important given that I asked participants to gather a significant amount of self-generated data. Participants were also given a checklist to help them remember and keep track of the photos taken (Appendix 4). Participants were also asked to read the participant information sheet (Appendix 5) and complete the consent form (Appendix 6). In the third stage interviews were then arranged and held after participants got back in touch to say they had completed the study week. Often I had to prompt participants. The interview involved going through and discussing the photographs and materials presented by the participant as well as completion of maps and tables explained in subsequent sections. Figure 4.2 gives an overview of this procedure. This was the final version of the research approach with different iterations made during the piloting stage.

Figure 4.2 Procedure for implementing the mixed method research approach

Stage 1 Recruitment
Participant recruited by email, social media, snowballing and word of mouth.
- Arranging initial meeting to discuss research.

Stage 2: Initial discussion
Initial discussion outlines what participants are required to do in order to take part. Participant information form, checklist, morning routine form and example photograph sheet and checklist provided. Consent form completed.

At a convenient time participant undertakes the study over the course of a week. Uses checklist to keep track of progress. The participant:
- Takes pictures of food prepared, eaten and thrown away and their food waste bin (if using) and fridge at different points.
- Collects shopping receipts.
- Completes description of morning routine sheet.

When the participant is finished he/she contacts researcher to arrange interview. Participant also sent reminder.

Stage 3: Interview discussion
Interview discussion where conversations flows through each day of the study week. Participant shares and discusses data collected. Participant then completes household and local area food maps as well as weekly routine table. Participant hands over description of morning routine and shares photographs taken. Semi-structured interview schedules guides discussion, Audio of the interview is recorded.

Participant completed

Table 4.5 gives a rationale for the methods employed. Firstly semi-structured interviews were at the centre of the approach, allowing participants to give a discursive account of their performances of food practices related to the study. However interviewing was always a supplemented method, benefiting and going further than solely discursive explanations through drawing upon the products of the other methods. The other methods push discursive accounts beyond the abstract to reveal such facets as those labelled genealogic by Nicolini (2017), how practices emerge and disappear. The rationale for photo-elicitation, asking participants to take pictures of the food they procure, manage, prepare and dispose of during the study week, was that this method allowed visual data production and greatly supplemented the interviews. As Hitchings (2012) noted earlier, visual aids can help participants articulate themselves in ways that are difficult to articulate through language, such as the mundane, visceral and bodily nature of everyday food consumption. This method allowed a process of looking ‘at’ performances, connecting talk to the materiality of food as well as aiding participants in explaining how the food performances were configured in certain ways. This was aided by the mapping exercises. The

rationale for this method was a process that allowed looking for practices, meaning participants accounting how they distributed their time, where food practices featured within that and how these practices mapped spatially in both their home and local area. This can be linked to the situational practice orientated methodology discussed by Nicolini (2017). The maps allowed participants to further expand on the landscape within which practices exist.

Table 4.5 Rationale for each methodological technique employed

Method employed	Description	Rationale
Semi-structured interviews	Dialogue with participants concerning their food and waste actions over the course of the study week. Supplemented by the photographs participants took and materials collected during the study week as well as the mapping exercises.	Allows a discursive account of the performance of practices. Used in conjunction with other methods to supplement the discussion.
Photo-elicitation through volunteer employed photography	Participant directed photography of food practices including shopping, cooking and disposal.	Allows participants to further their discursive accounts of their performances of practices and how they are contextualised into wider routines. Allows participants to articulate aspects of materiality, bodily performance and viscerality.
Collation of materials	Participants asked to collect shopping receipts, lists, recipes or other materials relating to how food is managed in the home.	Further understanding of practices being researched through the details of the materials and their further discussion by participants. Furthers situational understanding of performances.
Mapping exercises	During the interview participants were asked to complete a household and local food area map as well as note down their routines. Discussion of completed maps in interview.	Allows spatial and temporal insight – the participant reflects on the configurations of their performances and the practices that make up their lives, and the input upon food and waste.
Morning routine description	Participant completes a description of their morning routine once during their week study period.	Captures a specific complex, the morning routine unearths everyday experiences often overlooked. Reveals tensions between practices, conflict and sensitivity of practices.

The collation of materials was a method justified in the same way as the photography, a means through which participants could further elaborate on their everyday accounts. This method

helped reveal further details of what actually happened in practice, as material trails contextualise a certain time and routine. Finally the rationale for the morning routine description task was that this method allowed for another form of data production, a reflective written response that can capture the reality of participant's tension in the complex of the morning routine. This relates to the conflict sensitive practice orientated methodology, unearthing the challenges present related to navigating everyday experiences.

The research process placed a high degree of trust in participants to collect such materials which was important as this was further elaborated upon during interviews. This procedure was a form of ethnographic methodology that was most appropriate to the research objectives and the limitations of my time. Undertaking my PhD on a part time basis alongside working meant I could not carry out a traditional ethnography where I shadowed participants to become immersed in their environments. Studies using similar visual methods that are concerned with everyday living behaviour and the organisation of daily life have promoted 'go-along' ethnographic approaches. This involves accompanying participants to shadow them and being present during their experiences. Angela Meah (Meah and Jackson, 2016; Meah and Watson; 2016, Meah and Watson 2011; Meah 2014a; Meah, 2014b) is one author who practices this method using visual and non-visual documentary techniques. Such an approach is beneficial in providing insight into lived experiences as the research is able to directly observe, record and question the performances of practices present. Typically this involves photography and videoing participants and has been used to explore consumer food anxieties (Meah and Watson, 2016), family kitchen practices (Meah and Watson, 2011), the gendering of roles in the kitchen (Meah and Jackson, 2013) and food safety practices (Meah, 2014b).

Meah and Watson (2011) note how this is complementary to a theories of practice approach. This challenges the limitations of research on reported behaviours (i.e what people claim to do) offering a focus on what participants actually do in practice, known through observation, as an alternative (Meah, 2014a). Power (2003:10) notes that "practice has its own logic, which is not the rational or calculated logic of the logician, it is an embodied, practical logic, without conscious or logical control". The direct observation 'go-along' technique therefore is a means of collating data that can comprehend behaviour within the alternative paradigm of theories of practice, which draws conclusions and knowledge in a different way than studies based upon cognitively reported behaviour.

Participants took me along with them when explaining the story or journey of their week referring to the photographs they had taken which prompted expansive description. The visual methods employed allowed participants to comment on their performances, with photographs of

meals and wastage bringing to life a situational context where a participant could talk about a number of practices that lead to food being wasted. This was crucial for interviews that took place at workplaces. Some of the discussions however did take place in participant's homes where it was appropriate to request a kitchen tour. Here the participant would explain the contents of their fridge and cupboards and I prompted questions of how items such as leftovers would be used and how they came into being. Furthermore, being present at participants' households meant the time spent had to be placed within routines and habits, some of which had to continue whilst present (such as family members returning home from work and asking what is for dinner). This is also true when discussions took place outside the home, with the participant giving justification of how they were able to find time outside their normal routines to take part in the study. This section now turns to give more detail on each of the methods.

4.6.1 Semi-structured interviews

The semi-structure nature of interviews represented the basis of the discussion from which the discursive narrative was drawn. The interviews began by asking the participant to talk through the week during which they undertook the study (referred to as the study week for short). This drew upon: the photographs taken; the receipts they collected giving explanation to their weekly food shop; the checklist made which was designed to help participants keep track of their progress in the study; and the final part of the discussion where participants drew a household and local area map of their food habits and a weekly routine table. Interviews were typically undertaken with the member of the household most engaged in food consumption activities however there were cases when more than one household member was participated.

An interview schedule was prepared (see appendix 7) which set out this procedure and was used as a prompt to ensure that the interview covered all desired areas of discussion, such as the social-spatial-temporal remit of the theoretical contribution. As the process was repeated, the schedule became less of a guide and more a list of things to remember to discuss. This was because more detailed discussions arose from allowing the interview to take its own course as the narrative developed alongside the visual methods. The semi-structured nature of the schedule allowed the researcher flexibility to pursue the areas of interest with differing circumstance, whilst ensuring all necessary questions were asked. This approach seemed in accordance with other studies. Hebrok and Heidenstrøm (2019:1437) for example note that an "unstructured approach toward food provides rich narratives about specific food handling that more structured inventories would not capture".

The place of the discussion differed which in certain cases changed the dynamic and level of data extractable. Using a university as a pool of participants, most of the discussions took place in cafes and other communal areas across campus. However some participants agreed for the discussion to take place at their homes. This allowed for further photography capture and discussion of the current state of their fridges and cupboards. This was typically undertaken after going through the study materials. These kitchen tours proved particularly fruitful and supplemented the narrative developed in the interview discussion. Participants were able to expand their explanation using the materials collected during the study week given how practices are connected to the environments within which they take place (Hitchings, 2012). There was not an insistence for the interview to take place in the participant's home given the time constraints of the researcher and the ethical dilemma of entering a private space. Where discussions took place in households, this was typically when the researcher had some prior familiarity with the participant previous to the study.

4.6.2 Photo-elicitation through volunteer employed photography

Participants were asked to take pictures of the food they prepared, ate and threw away for seven consecutive days, starting when most convenient to them but within the time frame of the research. Appendix 8 shows a 'Photography of food prepared, eaten and thrown away' example sheet given to participants in the initial discussion to help communicate what they were required to do. This included taking pictures to document food prepared, eaten and wasted for seven consecutive days. This page was also in the participant information booklet. Participants were asked if they had a phone or tablet they could use to take the pictures (in one case a participant used a digital camera) and if they were happy to bring the photos along to the follow up main discussion to share. The researcher bought a laptop or tablet device to display the participant's photos or the participant displayed the photos on their own device. A checklist (appendix 4) was also provided to help participants keep track of the pictures they had taken and included space to note down the details of meals and wastage if the participant forgot to take a picture. This was a common occurrence for participants that lead busy lives. The familiarity between the participant and the researcher as well as how important a phone was to a participant were also influenced the likelihood of the participant taking pictures.

The pictures were important in stimulating conversation, prompting the participant to think about and consider both what they had bought, cooked and eaten, what they had thrown away and how their daily or weekly schedules influenced what food they threw away and why. An active effort was made to organise the interview within one week of the participant finishing their seven days of documenting the food. There was one case where a period of more than a month passed between when the participating household took their pictures and when the interview was held. This did not prove to be a problem as the pictures enabled the participant to recall the week in question.

4.6.3 Collation of materials

Participants were requested to collect shopping and eating out receipts over the week's study period as well as any other materials that were representative of their food consumption. This again was utilised both as a means of data collection and to encourage discussion during the interview. Experiences of consumption can be embedded within associated materials and objects therefore materials were an important mediator for understanding the lived experiences of participants. Materials held a sense of biography in that they related and represented distinct routines and habits, for example the difference between the kind of food items bought on the way home from work or a weekend shop where all the family are present.

During the discussion, I requested participants to talk through their receipts and enquired about whether the items were purchased routinely or were more impulsive purchases. I would also pick out items from the receipt and ask what happened to them which would lead to a discussion of whether a certain item was consumed, became surplus, spoilt or was thrown away.

4.6.4 Mapping exercises

This method sought to generate data to address both space, place and time. Following the discussion using the photos taken and receipts, each participant was asked to complete one A3 table and two A3 maps. The weekly routine table (appendix 9) involved participants indicating how they typically used blocks of time during the week. Participants indicated their working hours, times when they shopped, ate out and other activities. Discussion during the drawing of the table enquired into how food practices were shaped around these activities. The first map (appendix 10) was a local area food map which asked participants to draw a spider diagram of the places they travel to during a typical week. This featured both work and leisure places as well as different food provision outlets. Participants drew connections between places, such as shopping on the way home from work, and how practices fit together and are organised spatially.

The second map, a household food map (appendix 11), required participants to draw a top down view of their household layout and give explanation to the position of food related items. For example this involved a discussion of the layout of the kitchen, the amount of space used and how it is used for the preparation and cooking of food and where food is consumed in the house and where it is disposed of. The household and local area food maps included prompts in the top right corner as suggestions of what to write. I talked participants through what they should note down or draw and this normally allowed a short break to discussions while participants filled in the maps. I then prompted participants to fully explain what they had noted or drawn for each of the two maps and one table in turn.

These three collaborative drawing tasks were completed by the participant and helped bring out interesting discussions of their food practices. Specifically they highlighted aspects of place in terms of how food practices differ and also aspects of space in terms with how household areas are utilised for food and the remit within which food provision takes place in the local area. The discussions also typically involved a characterisation of supermarkets and why certain items were bought from some places and not others either due to product preference or circumstance. In one case, rather than map out the study week, Sandra (a mother looking after two grown up sons) gave a typical week because how her study week was so disrupted, although this was reflected upon in the interview. There is little work that has used mapping with a theories of practice approach to look at everyday practices. One study to note is Albon (2007) who uses food maps to explore food and eating patterns from a health perspective. Albon (2007) explains how food mapping is a useful tool to understanding eating patterns. Widener et al., (2017) also uses mapping to look at the spatial access to grocery stores. To the authors knowledge the mapping exercise undertaken here is the first time such a method has been implemented to research consumer food waste behaviours.

4.6.5 Morning routine description

The purpose of this method was to allow the participant to provide data in an alternative, written form. Participants were given a template that asked them to write down details of their morning routine for one of the mornings during the week study period. The description template (appendix 12) first provided prompts for this, with participants required to fill in the gaps such as the time they woke up and what they ate for breakfast. Following this, the instructions asked the participants to write their routine out again but this time write this in their own style without prompts and to reflect upon how they felt. From this is method a different kind of reflective data was received on routines and habits, as the participant had time to write out and think about their responses.

The reasoning for this method is linked to the auto-ethnographic approach discussed earlier in thesis. The descriptions give participants a voice to express themselves, with such experiences an important basis of knowledge. This reflection is written rather than verbalised and was completed during the study week in the participant's own time.

4.6.6 Transcription

All interviews were audio recorded and subsequently transcribed. With the exception of 5 transcriptions complete by a company, all others (the remaining 18) were transcribed by the researcher. This involved listening to the audio file recorded of the interview and then writing what was said verbatim. Other information was also noted to give further background to the interview. For example, this included where the interview was undertaken, any pauses or interpretations or anything else that influenced the discussion with participant. These were important factors to record as sometimes the flow of the conversation was influenced. As a case in point, during Kalee's interview (J24) I accidentally knocked over and smashed a glass of water that was offered to me. This lead to cleaning up actions being taken and affected the train of thought and narrative the participant was expressing. Reflective notes were also transcribed and organised alongside the transcripts. The ethical and practical considerations of the methodology employed are now discussed followed by a reflection on the data collection process.

4.7 Practical and ethical considerations

At each stage of the study ethical approval was gained from the Coventry University ethics committee, this included for both initial stages of desk based work and data collection (see Appendix 14). A number of practical and ethical considerations are made in this section.

Firstly a practical consideration of researching food waste behaviours is the negative connotations people hold with engaging with the topic of waste. Trentmann (2016) discusses the invisibility of waste in the second half of the 20th century whereby norms were developed around hiding waste in the home. The ability to generate waste and perceive waste in such a way that it should be hidden is part of what separates humans from nature and how modern society has developed to have control over it. Generally consumers are aware they should not be wasting food. Asking participants to talk about and reveal their waste generates uncomfortable situations and confrontation (Evans, 2011a). This was overcome through thorough explanation of the study and its purpose as being a piece of research that does not seek to make judgements only understand the everyday reality of what people are really doing. This also involved emphasising to participants that any data collected is treated anonymously.

A further practical consideration was the photo-elicitation method. The booklet and example sheet that gave participants an idea of the sorts of photos they should be taking. This was important as in researching everyday consumption what is of concern is what is might appear very obvious and mundane to participants. Some participants took considerably more pictures than others but in general there was sufficient images for participants to further explain their everyday performances.

A further anticipated problem with asking participants to take their own pictures was the fact that there are certain ways in which photos are taken and how participants may have changed what they normally do because they were aware they had to record their actions and discuss them with me. I question whether some of the pictures in the study were staged. For example Jade and Violet's pleasing looking arrangements of ingredients and chopped vegetables shown in figure 4.3.

Figure 4.3 Pictures of food preparation taken by Jade (J07) and Violet (J03)

Jade, J07

Violet, J03

Figure 4.3 shows possible signs of staging which part of the practice of photography. Whilst on the one hand this method is still able to capture moments within performances, they are to a certain extent subjective to the photographic lens of the participant. Generally this was not an issue and it only had a small influence over the data collection. Elizabeth however gave one example where the knowledge that she had to take a picture of her and her partner's food potentially had an impact on the behaviour they would have normally employed. In the quote below I ask Sam if the study had any impact on their behaviours:

> ***Did it make you think about what you were buying and then you might change your mind or anything like that, I don't know?***

> *Yeah, it did… yeah, it did make me think about stuff a bit. And it did… my husband as well, like that chicken curry he made, I know he made that partly 'cause I was doing this project 'cause he was kind of like, there's a chicken breast in the fridge and you don't want to photograph it at the end of the week [laughs]*. (Sam, J02)

Sam justified a food waste prevention action here because she does not want to photograph her waste as part of her participation in the study. This was the only case of this being verbally communicated and it was difficult to make iterations to the data collection procedure to mitigate this. In any study that relies on participant generated data a level of trust is placed in participants that they will generate a truthful account. In this study's case the initial meeting was a good time to gauge how infused the participant was and their likelihood to undertake the study sufficiently.

A further four people were recruited and the initial meeting held but they either did not get back in touch or did not reply to my follow up emails so their interviews were not completed. This suggests that for some people they did not have the ability for whatever reason to carry out the research. Perhaps this was related to the expectations of what exactly I am requiring from participants. My study involved generating data which is different to the norm of methodologically individualistic studies that often just require completion of a questionnaire, or survey. A further reason for non-completion could the inability to incorporate the study's data collection tasks in the busy flow of everyday life. I can only speculate on the true reasons for non-completion. Also I do not believe that there is an element in bias or curbing of findings from these non-responses. The sample size proved more than adequate to uncover findings with regards to factors that shape food waste behaviours.

As for ethical considerations a point of concern was where the boundaries lie of what is and is not relevant data to collect. In understanding everyday behaviours and wider practices it was not clear how wide the net should be cast with regards to what could impact on food consumption and subsequently food waste. Sandra was a good example of where this was tested. Participants held the ability to only tell the researcher as much as they felt appropriate but this was challenged in instances when a participant's week was disrupted because of a problematic development. During Sandra's study week both her parents and her husband's parents feel ill and she tells me about how she was rushing between hospitals which greatly interrupted the normal flow of food consumption in her household. Luckily Sandra was happy to discuss this but I can imagine that for other participants this might not be the case (or they would not get round to completing the study) and this therefore puts the researcher in a difficult situation of not wanting to cause the participant stress or grief in asking them to recount a week they would rather forget.

With regards to the photo elicitation, an ethical issue arose from participants taking pictures with themselves or a family member in such as a child. These pictures could not be used given that permission had not been granted and the ethical clearance did not state that minors could be part of the study research. I had to make clear in participant information that all data collected would be anonymised whether this be the transcripts, photos or maps. It seems somewhat converse to say that a study aiming to further understanding people's behaviours could not collect images with people in them. Sufficient data was generated from the pictures taken by participants however and for future study it would be beneficial to work out a way round the problem of how participants can be identified through photographs taken. Pictures taken of one family member cooking or organising their food for example would have been beneficial to further expand participant's accounts and explanation of the performances of not just themselves but also others in their household. The last part of this chapter makes some further reflections on the data collection process.

4.8 Reflecting on the data collection process

In considering the journey of the data collection process some further comments are made to explore the methods employed. Firstly in conducting the interviews it become very apparent how useful the photographs were at prompting participants to both remember and give an explanation of their practices and the specific performances that the photographs corresponded with. The photos prompted participants to explain minor details of how a particular practice was undertaken. This was a valuable resource in assessing the link between consumption, wider practices and food waste. This really made me think about the significant limitations of not using visual prompts in interview situations for any study that was concerned with everyday behaviours. For example some participants found it very difficult to recall what they had been up to only a week ago without the photographs. This was all the more apparent when there was not a photo to draw upon which created gaps in how participants gave accounts of what they did in the week over which the study was undertaken. The discussion with Kim is one case in point:

> ***What did you get up to on Friday? So you had a different breakfast?***
>
> *Yes I had weetabix and milk (laughs) that day and then I was off work then so I took ... my daughter goes to the gym ... a gym so I take her to a gym class. I can't remember what we did in the morning. Housework probably and then probably in the park after school. I can't actually remember what I did on ... I know she goes to gym but it was two weeks ago. I can't really remember.* (Kim, J17)

Generally participants seemed to have quite a short term memory of the performances of their food practices as they are considered so mundane and trivial. Some participants like Georgina made an active effort to remember telling me that "*I've been going over it in my head because I didn't want to forget because it's been quite a long time since I've done it".* Participants that gave the most in-depth accounts were those that met me for their interview discussion only days after they had finished gathering their data.

A further reflection is the invisibility of waste. I actively saw the attitude-behaviour gap in action. As stated most participants had some knowledge that food waste was a negative thing but yet for some participants such as Kim and Meera they failed to comprehend that their own actions were wasteful. I recall Kim laughing whilst telling me that: *"No. I don't really throw. That's the thing. I said to my husband I'm not really very good like for your (laughs) research because anything that was left either he takes for work the next day".* Meera also told me several times she did not waste food. Both of these participants however told me about instances when food was thrown away in their interviews.

It was difficult to remain impartial in the interviews. Certain participants explained to me their waste mitigation actions and it felt as if they were actively seeking my approval. In the interview with Kim I responded to one of her explanations of what she does to prevent food waste by saying "*it sounds like you're really good. You've got time to think and stuff like that".* As I already stated in the previous section I did not seek to judge instances where participants threw away food, but at the same time this does not mean that I should be commenting and congratulating participant's good actions. There were some cases where I did this without thinking because of the way in which the conversation developed. My sensory responses and own morals made it difficult at points to make comments. At points I felt disgusted, as explained in India's interview in chapter 6, and also conflicted by some of the things I was observing, such as participants keeping and eating food long after what I would judge as safe, or the way in which some participants shopped and organised their food in very inefficient ways. Sometimes participant's actions become an irritation leading me to want to intervene in instances when waste was being consistently generated that could have been prevented. In these cases I had to just say okay and move on and keep my feelings to myself.

Finally, in thinking about what I would do differently I would try to pursue more comprehensive ethnographies for all participants. Firstly that all the follow up interviews were undertaken in participant's homes. Secondly, when interviews were completed in participant's homes I would have asked participants to have a bit more of a look around of their kitchen. Opening up all the cupboards and asked where things are kept and why. This was the case for some interviews where participants were open but I could have been more insisting for other participants. The chapter now concludes.

4.9 Conclusion of methodology chapter

This chapter discussed ethnography and auto-ethnography as methodologies detailing how these approaches locate knowledge in contextual, observable settings. This was shown to be suitable to the purpose of this thesis as well as how ethnography aligns well with a practice theory approach. Ethnography was also shown be capable of capturing aspects that form part of the socio-spatial-temporal theoretical contribution. Using examples of other studies, this approach was shown to engage with and draw knowledge from aspects like the body and the spatial dynamics of place. The ability of ethnography to facilitate the collection of such data was shown to be important for this thesis given the implications for how behaviours are viewed through a theories of practice approach.

The chapter then outlined how visual methodologies, such as the use of photography, are a useful way of getting people to talk about their performances. The interviews conducted required self-generated data to ensure participants could account and explain instances of their performances and what influenced how they turned out. The visual data generated by participants was hugely valuable in facilitating this. The sampling, recruitment and validity discussed commented on how socio-economic data collected was not always a reflection of the differences between participants as such data does not reflect everyday practices. Comments were also made on the researchers' positionality, being up front about any potential influence by fully accounting my identity.

Moving to outline the data collection procedure employed, this section detailed how the data was collected using several different methods. A number of practical and ethical considerations were then made, highlighting some of the challenges of employing the mixed method ethnographic approach. In reflecting on the whole process some problems encountered were detailed as well as what would be done differently if the study was replicated. The next chapter explains how the data was analysed.

Chapter 5

A data analysis procedure to examine consumption practices and their connections

5.1 Introduction

This chapter outlines the data analysis procedure of the thesis. The analysis process explained here draws upon the methodological approach explained in the previous chapter to detail how the data collected on the performance of practices are analysed via a theories of practice lens. As previously noted, there is a lack of literature on 'going about' theories of practice with this also applying to data analysis. This chapter begins by reviewing how current studies of consumption and food via a practice lens explain the process of analysing and making sense of data. The chapter then illustrates the practice based data analysis procedure pursued. This begins by outlining how performances were coded and categorised using an interpretative approach, then moving to discuss the zooming in and out process adapted from Nicolini's (2012) work to show how connections are drawn out from the data. This approach enables consideration of the findings according to the socio-spatial-temporal framework outlined in chapter 3 as well as across discursive, visual and material data sources. The chapter concludes by discussing some points around the presentation of the findings.

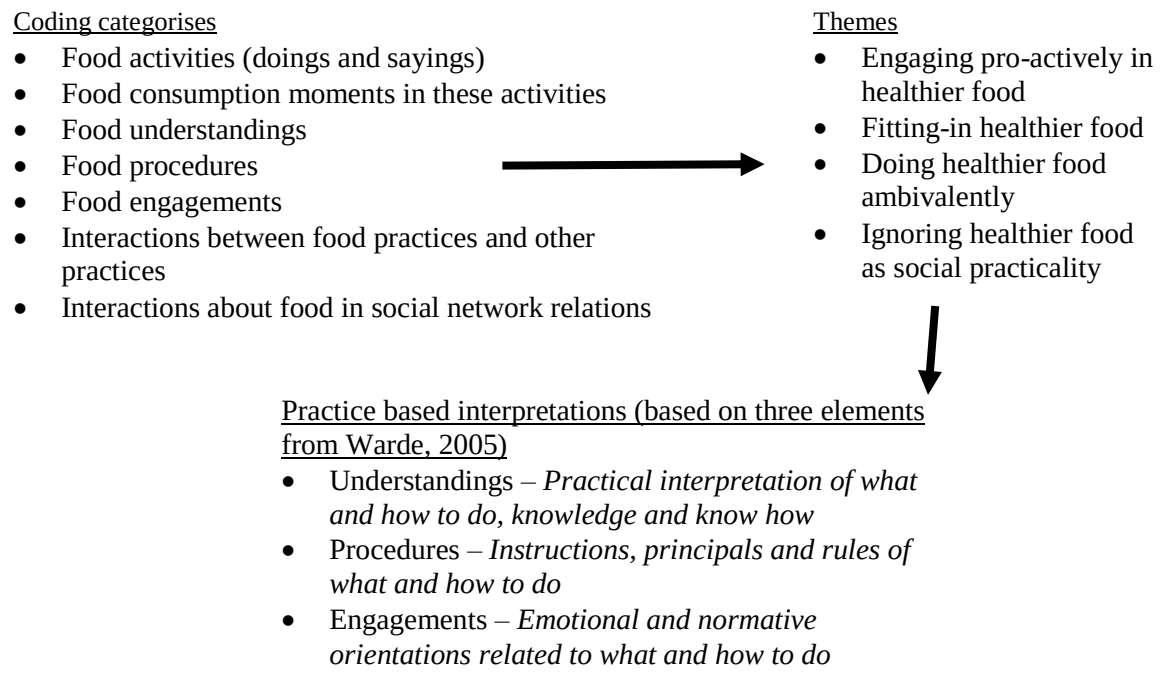
5.2 Review of current literature on making sense of practices from qualitative data

There are few academic commentaries that focus specifically on detailing the process of analysing data to make sense of practices from qualitative research. This process of inferring practices is a theories of practice equivalent of interpreting knowledge from the data, considering the representational, multiple reality standpoint of social constructivism. The placement of practices within this paradigm means that this inference process involves a degree of negotiation. Data collected in the form of performances can be made sense of through theorising practices, facilitated by the practice orientated mixed methodology set out in the previous chapter. This might for example include details of how to go about the process of thematically analysing data whilst ensuring these actions take place within a practice lens. There is a lack of academic discussion on this topic however, with what is available reviewed below.

Halkier's (2009) discussion of everyday dealings with food and the associated environmental changes illustrates several considerations of how to go about a practice-based analysis. The methodological procedure first produced a typology of food practices and second a typology of environmentalised food consumption practices whereby "the experience of each participant are in accordance with several different types of food practice or environmental performance" (Halkier 2009:4). This is the limit of the explanation given. The process of inferring practices is noted by "using the conceptual translation of practice theory into sociology of consumption made by Warde" (Halkier 2009:20). Further work on applying practice theory by the author is also similar in providing in depth discussion of the theoretical application of theories of practice but little in terms of the analytical process (Halkier, Katz-Gerro and Martens, 2011).

One paper that does give further insight however is Halkier and Jensen's (2011) work. This paper describes the methodological challenges in using theories of practice in consumption research. The paper uses the eating habits of Pakistani Danes to describe a process of narrowing down codes. These codes were interpreted and negotiated by reviewing the discursive and visual qualitative data to then produce themes and thus infer practice. This is outline below in figure 5.1.

Figure 5.1 Outline of the practice-based coding procedure presented by Halkier and Jensen (2011)



Halkier and Jensen (2011) begin by undertaking a typical coding process to pick out characteristics of the subject matter in relation to the practices at hand. For example in this case understandings, procedures, engagements and activities relating to food and its interrelation with other practices are coding categorises. This is an example of how practice workings are used as a data analysis tool, here being the three elements of practice theorised by Warde (2005). This is then inferred into four thematic areas that reflect practice-based knowledge, such as how participants went about eating healthier food. Halkier and Jensen (2011) note that these initial stages interpret practices as performances in the data and require further analysis, through the three practice elements, to then move to four thematic areas that are more representative of practices as entities.

The procedure noted by Halkier and Jensen (2011) represented in figure 5.1 is considered as the first detailed data analysis procedure via a theories of practice approach for a study of consumption. Even in this paper however there is still a lack of clarity regarding how some analytical aspects are undertaken as Halkier & Jensen (2011:108) note "ordinary qualitative coding and categorizing … and visual analysis techniques … was combined with operationalizations of a number of concepts from practice theory". The analytical procedure

detailed includes a degree of interpretivism, considering the data in terms of performances first before carrying out further in-depth analysis using different elements of practice.

Another paper that gives a process of analysis using a practice-based approach is Crivits and Paredis's (2013) work on behaviour in local food systems. The paper uses a three tiered framework (agency and material and socio-cultural structure) aiming to "describe consumption practices in terms of everyday routines and habits, integrating an agency perspective with a dual perspective on structure" (Crivits and Paredis 2013:206). This paper raises a number of points of contention in comparison with Halkier and Jensen (2011). The first of these is how to empirically code and categorise qualitative data. As noted above, Halkier & Jensen (2011) fail to discuss how the data is initially approached. Crivits and Paredis (20130 note that:

> *"The empirical categories used to describe the routinuous elements are not straightforwardly derived from the definition of 'practice'. The proposed analytical constructs are abstract and subject to interpretation. This leads to ambiguity when treating a concrete case study"* (Crivits and Paredis 2013:330)

And go on to note that when explaining how the study dealt with this:

> *"When designing the empirical categorises, we began with a wide-perspective examination of people's behaviour in their consumer food practice. Then we constructed the categories to structure the routines"* (Crivits and Paredis 2013:331)

In comparison with Halkier and Jensen (2011), this approach attempts to involve and take into account the formation of practices early on in the research analysis approach. Crivits and Paredis (2013) note that before coding, three categorises were assigned to the practices observed whilst conducting the research. The three categorises were: ordering and selecting products; organising of delivery and purchases; and cooking and eating routines. Following this a model using the three tiers was then applied to each of the three categories. This then lead to an agentive, socio-structural and material-structural interpretation of the data.

One of the main differences, and potentially a limitation, is the lack of interpretivisim before the structuring or practice building process. Arguably the practice formation process, i.e moving from the raw data on performances to define practices as entities and draw out their elements, first requires a grounded understanding of the data collected. Whilst the different practice informed methodological packages from Nicolini's (2017) work in table 4.1 guided the data collection process, without a practice informed approach to analysing data it is difficult to comprehend the range of lived experiences, the patterns of living, routines, habits and performances of practices. The practice informed data analysis approach provides a key role in guiding the coding process.

A question lies in the extent to which this initial coding process takes on board aspects of how wider practices connect. Arguably first an idea of the performances of practices, i.e the lived experiences embedded within the data, must be understood, before applying any aspect of the theoretical framing of practices as entities of any coding frame around how practices connect together.

A further limitation of Crivits and Paredis's (2013) approach is the lack of critical and in-depth engagement with the practices themselves. For example the practices are examined in terms of agency and two types of structure, missing the three elements of practice model noted by several practice thinkers (Schatzki, 2001a; Warde, 2005b, 2014; Shove, Pantzar and Watson, 2012). There is little mention of competence (an important element in the basis of practice thinking) and too much reliance on agency without practical intelligibility. The pitfalls of this area of literature on data analysis through a practice based lens is not only the lack of detail, but where explanation is offered papers are divergent in a common approach.

This poses a further problem in how data analysis should be carried out in relation to more theoretically progressive practice work, such as the conditioning framework developed here. The studies most closely related to the conditioning tool do not account their data analysis procedure. Mylan and Southerton (2017:8) do not expand upon "analysing laundry performances through the lens of practitioner's actions revealed how they coordinated activity sequences with other daily practices". Whilst Southerton (2006) points out which practices to analyse and which to exclude and under what categorisation, a detailed procedure of data analysis is absent. Typically the rhetoric of ways of analysing theories of practice falls within the realm of supplementing and clarifying practice workings (as well as some work on practice orientated methodologies discussed in the previous chapter) rather than outlining a data analysis procedure (for example Hand, Shove and Southerton, 2005, and Welch and Yates, 2018).

To develop a data analysis approach for this thesis, the more comprehensive account of a 'practice toolkit' to study practices offered by Nicolini (2012) is turned to, which brings together several of the points made above and goes further to provide some clarity in practice-based data analysis. Nicolini (2012:219) makes a distinction between 'zooming in' and 'zooming out' of practices as a means of building understanding where zooming in on a practice as stated is a detailed focus on the "local accomplishments of a practice". Whereas zooming out involves expanding "the scope of the observation following trails of connections between practices and their products" (Nicolini 2012:219).

Nicolini (2012) frames this under the aim of surfacing the dynamics of practices and their organisational effects. In the case of this thesis, such an analytical approach is greatly suited to

the aim and objectives. Zooming in on food waste practices provides an understanding of aspects of how practices unfold, such as the role of materials and the body. Zooming out of a practice is much more focused on sets of practices and identifying connections between practices. Both of these analytical procedures are directly tied with the second thesis objective in bridging the theoretical contribution with a means of making sense of data to exercise the conditioning framework.

Zooming in and zooming out is described as a toolkit approach because there is an active consideration of a variety of aspects that feature workings with the research able to adopt what is most suited to their study. Similar to the work Halkier and Jensen (2011), and Halkier, Katz-Gerro and Martens (2011), Nicolini (2012) points out the need to embed the theorisation of practices into the analysis. However the explanation goes further to note how 'doing' theories of practice is a practice itself situated in the social world and therefore both carrying out methods and the process of analysing them are enriched with practiced based discourse. Ultimately this has implications for how the theories of practice approach is incorporated into the analysis meaning that the theory cannot come before or after the method but is entwined as a "meaning-making socio-material performative endeavour" (Nicolini's 2012:217). This thesis therefore has a practice orientated data analysis, in the same light as the practice orientated methodology explained in chapter 3.

Given its relevance and suitability to this thesis, an adaptive account of the zooming in and out process is now given. This is explained alongside the process of coding and thematically analysing the data via a practice lens.

5.3 Data analysis procedure

The data analysis procedure was an ongoing process that began with the first interview conducted. Notes made by the researcher following the interviews were useful not just as a reflexive form of data collection but also as an ongoing consciousness of probing ideas and connections. The process of fully analysing the performances represented in the data began once all the interviews were completed and transcribed and the visual and material data was collected, scanned and organised on a computer. Nvivo 12 Pro software was used as a qualitative data analysis tool to organise the data, facilitate coding and draw links between emerging themes. This enabled the highlighting and categorising and attaching of meaning to both text and visual based data. The full process is further discussed below followed by the zooming in and zooming out procedure.

Firstly each transcript was read and re-read alongside the pictures taken and the mapping exercises and materials to get a sense of what could be pulled out from the interview. This primarily concerned an understanding of the performances present in an open and interpretive manner in line with Martens and Scott's (2017) looking 'at' performance strategy. This initial stage involved minimal thought of making sense of the data in terms of fully formed practice entities. This was important to get a sense of wasteful actions as well as food waste mitigation actions and the performances they were part of. This gave initial ideas before attention was paid to routinsation to formally identify the practices that these performances were part of to clarify what practices were being looked at, in line with Martens and Scott's (2017) looking 'into' performance strategy. This was informed by the practices sought out when designing the study as well as an interpretative open coding process to categorise the performances coming out through the study. Figure 5.2 shows an example of this process with the coding for the fridge and the freezer.

Figure 5.2 Example comparison of interpretive coding of performances to more formal categorisation

Original interpretive coding	**More formal organisation after categorisation**
- How food with dates is negotiated in the fridge - Impact of a full fridge versus an empty fridge - Managing the materiality of food in the fridge - The fridge as a tool or appliance in saving food - Clearing out the fridge - Freezer as a place to put food when it does not fall into planned eating - Freezer a tool to make food last longer - Putting food in the freezer to avoid having to throw it away or deal with it	<u>The fridge as a device to manage how food is used</u> - How food with dates is negotiated in the fridge - Impact of a full fridge versus an empty fridge - Managing the materiality of food in the fridge - The fridge as a tool or appliance in saving food - Clearing out the fridge <u>Practice of clearing out the fridge</u> <u>The freezer as a tool to mitigate food waste</u> - Freezer as a place to put food when it does not fall into planned eating - Freezer a tool to make food last longer - Putting food in the freezer to avoid having to throw it away or deal with it

The first column in figure 5.2 shows performances identified with codes generated via the initial interpretive coding. The second column shows how these were then formalised under three practice based headings. This process of formalising the codes was a case of grouping and sorting codes under headings that relate to the workings of practices. Figure 5.2 represents codes related to the fridge and the freezer. This in turn was linked to the conditioning aspects as a third stage given how materiality was one of the factors identified that shaped consumption performances. More description is now given of the coding process of zooming in and out to bring out the conditioning aspects of the data discussed in the next two sections, 5.3.1 and 5.3.2.

A full list of codes can be found in appendix 13. This is represented across 4 levels, from the major code names at level one, such as ‘fridge and freezer’ in the figure above, followed by sub codes across levels 2, 3 and 4. There was no set trends of what could and could not be considered as a code at each level. A code could represent a practice, an aspect of practice working (such as a competence or materiality), or a conditioning aspect specific to one of the three domains such as reflections on space or place, or how practices combine and connect and the tensions that exist between them. Contextual and circumstantial factors also characterised the coding. A major code on co-ordination contained findings relevant to the responsibility of food. There was also codes

around time and temporality that brought together data on time allocation, the dynamics of the week and the day and how this linked to the organisation of food. Another major code featured instances where performances were interrupted, how they were dealt with and the implications for food waste. Loosening the remit of structuring the coding according to practices was beneficial in retrieving deeper meaning from the data collected to piece together the life of the participants involved in the study.

The process of coding however was not linear or simple. It is a process of going backwards and forwards from the raw data, in its textual, visual and material forms, to the basis of a practice theory lens and furthermore the conditioning framework. A disadvantage of qualitative analysis via coding is its fragmentation. Highlighting to code a sentence to then coming back to this piece of data can at points leave the researcher wondering how that data was relevant when first coded. A danger is the rapid expansion of coding leads to a situation where the analysis for one study expands to concern subject matter that might span several studies. On the one hand an iterative and interpretative, flexible coding approach is beneficial but at the same time it must be manageable for the researcher. There were several points when I questioned where the analysis would end and what is and is not connected both directly and indirectly to food consumption and waste.

It is not only a challenge of organising and managing a rich data set (Bryman, 2016) but also a constant clarification of how the knowledge produced is of relevance and targeted to unearth food waste behaviours and the wider factors that shape them. The ‘memo link’ function was used in the Nvivo software which allows notes to be attached to each code. This provided useful markers as descriptions and labels that help manage the coding process. For a code to fulfil its purpose it should provide rich details of the phenomena it concerns and give insight via the theoretical framework employed (Fereday and Muir-Cochrane, 2006). Coding was a continuous, constant and non-linear process that is difficult to accurately illustrate.

5.3.1 Zooming in on practices

Before explaining the zooming in and out procedure, it must be noted that this process is not an attempt to adopt any hierarchical practice based knowledge. The thesis supports Schatzki's (2011, 2015) take on a theories of practice being absent from a sense of scale. Zooming in and out was an analytical strategy of using the practice analytical lens to uncover knowledge in two different ways.

Zooming in draws upon Nicolini's (2012:219) work and concerns "real-time doing and sayings something in a specific place and time". This is a focus on the intricacies of performances of practices, their place based, spatial and temporal relevance. Nicolini (2012) notes that firstly the purpose of this is to directly enquire into the competencies required for such practices. Zooming in involves understanding the 'work' that is completed in the practice, which is probed through a number of practice-based aspects that goes beyond the typical competences, materiality and meaning framework utilised elsewhere (Shove, Pantzar and Watson, 2012). Nine aspects of practice are utilised during the zooming in process by Nicolini (2012). The original text relates these to research questions however these can be equally attributable to the analysis of data as in Nicolini's (2012:219) words these aspects are "devices to produce diffracting machinations that enrich our understanding through thick textual renditions of mundane practices". A summary of the aspects of are given in table 5.1, these have been adapted to suit the data analysis of this thesis. This is explained in the third column.

Table 5.1 Aspects of practice utilised to zoom in as a data analysis procedure; adapted from Nicolini (2012:220)

Aspect of practice	**Explanation**	**What is identified in the data as part of the data analysis procedure**
Sayings and doings	- People's doings and sayings - Patterns of doings and sayings - Sequences of doings and sayings - How these doings and sayings are used to accomplish practices	Doings and sayings associated with food waste practices. Associated practices of food consumption that subsequently cause food waste. Practices that lead to food waste as part of a sequence.
Interactional order	- Kind of interactional order, series/ sequences of practices - The negotiation of the interactional order of practices - The collective interests of the practices and how they are sustained	How different practices interact with each other and how these interactions are negotiated. For example how working and leisure practices interact with those related to food such as how food planning is sustained within the context of wider lifestyle practices.
Timing and tempo	- The temporal organisation of practices and their flows in time - Temporal sequences and rhythms of practices	How food waste practices are organised in time. How they are part of other routines and sequences of practices such as the frequency of shopping.
Bodily choreography	- The role of the body in the accomplishment of practices - How bodies are configured by practices	How the body is a site in food practices, for example the use of the senses to know whether food is ok to eat.
Tools, artefacts, and mediation work	- The role and usage of tools, materials and objects (or artefacts) in practices - The 'work' they perform in practices both visible and invisible - The connections tools/ materials/ objects make with other practices - The actions they bring into present and the intermediation work they convey	The role of that objects, such as appliances like the fridge and freezer play in food management and food waste practices. How the 'work' these objects perform can mitigate and cause food waste.
Practical concerns	- Practical concerns that interfere with the routine nature of daily practices - 'Worries' present in practice and related activities	How wider lifestyle practices interfere with food planning and cooking routines and what this means for food waste.
Tension between creativity and normativity	- How practitioners make themselves accountable in practice and how these are sustained in doings and sayings - Tensions and disputes in practices such as how tools and practices are aligned - Formal and informal rules of a practice	How participants identify with certain lifestyles and how this has an influence over food consumption and subsequent food waste practices. For example this might mean making a regular commitment to a sporting club or cultural group that in turn shapes food practices with regard to how they are organised and their nature. How they might take time away from other practices.
Processes of legitimation and stabilisation	- How are others included in practices, sayings and doings utilised - How practices are utilised to identify and include practitioners into communities - Differences between insiders and outsiders of practice and how these divisions are made through the 'work' in practices	How practices are co-ordinated. For example how the household is collectively part of food organisation practices. How certain members of the household hold greater responsibilities for food practices than others and what this means for, and how it shapes, food waste.

Table 5.1 was a useful resource to guide the analysis process as the coding developed. The table gives an account of the breadth of practice theoretical features. The zooming in analysis process is not one that involves a very specific focusing on a practice in its ideal context, but rather zooming in revolves around utilising a range practice-knowing epistemological aspects. It is both looking at and looking into performances in accordance with Martens and Scott's (2017) work where performances are made sense of in relation to practice workings. Utilising these allowed an exploration of the diverse nature of how a practice is practiced. The goal here was to give as complete account of the practice as possible by capturing the nature and dynamics of the 'work' involved.

5.3.2 Zooming out of practices

In contrast with the zooming in procedure, zooming out identifies connections. With respect to food waste, this means connecting both the sets of practices that make up food consumption, and the wider non-food practices that place and schedule food consumption (such as work and leisure), with the wastage and mitigation of food waste. Zooming out therefore involves understanding how practices relate and are dependent upon each other, a process by which the relationships between practices are untangled to reveal a nexus of practical activity (Warde, 2005). In order to accomplish this, Nicolini (2012:229) describes a process of iterative zooming that "requires moving between practice in the making and the textures of practices which causally connect this particular instance to many others". This involves following a trail of how practices connect as part of a wider set of practices or movement of shared practical understandings. Nicolini's (2017) work on practice methodological packages explained in chapter 4 helped position the data collected to undertake the various facets of zooming out such as bringing into the frame the need to consider how outcomes, such as the wastage of food, are the result of the way in which practices are situated and configured in different ways through the conditioning aspects. Table 5.2 explains the zooming out points given by Nicolini (2012) and there implications for the research context of this thesis.

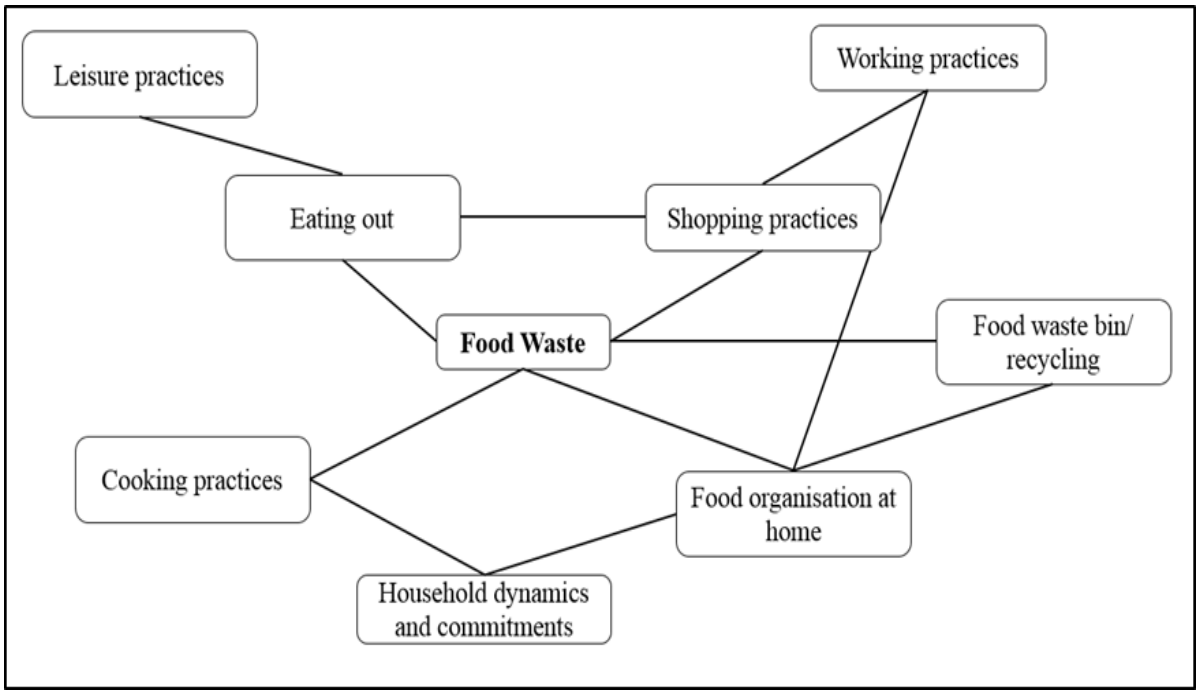
Table 5.2 Aspect of practice utilised to zoom out as a data analysis procedure, adapted from Nicolini (2012: 230)

Facet of zooming out	**Explanation**	**Implications for this thesis**
Associations between practices	- How the practice can be seen as a cause of other practices - How a practice is materially connected to others - Differences between the 'here and now', the actual in time performances of practices, and the 'then and there' of other practices - How other practices interfere, affect, compliment and conflict with the practice in question - The way in which sets of practices are kept together	- The cause (and prevention) of food waste is interconnected with other consumption practices and wider lifestyle routines and habits - The materiality of food waste is directly linked with wider food consumption practices - Difference between the actual performance of throwing food away and the wider context of food practices that lead to this - How other practices interact with food waste and what results from this connectedness
The effects/ implications of the association between practices	- The contribution of a practice to a wider picture of a problem or phenomena. The reproduction of social arrangements by a practice leading to tension or conflict - How arrangements of practice establish or give accountability to known societal structures and norms - How practices can act at a distance to bring into the present practices through mediators	- How different aspects of food consumption, such as shopping, contribute towards food wastage. Certain working practices may give light to food planning and cooking habits that lead to food waste. - The lifestyle arrangements that encourages food waste prevention, for example an association with cooking and planning practices - Mediators of generalised knowledge include recipes which convey specific actions associated with cooking
Historical reflexion of practice	- How the practice and its connections lead to the current situation of concern.	- The wider context and organisation of the food system and the consumer's role. For example the availability and accessibility of food via mass market retailers

Zooming out achieves understanding of the implications of a certain arrangements of practices, for example the impact of a specific set of household practices over the wastage of food. As an analysis procedure, this involves first following and tracking practices over temporal and spatial scales, for example how food practices change through the weekly household rhythms and how practices move from place to place. The maps as a source of data facilitated this process. Nicolini (2012) notes that space and time are dynamics that connect local and distant practices that allow the formation of associations between practices. In this thesis food waste in the home is ultimately linked back to following how food reaches the home and how the sets of practices

involved are spatially situated and allocated time within negotiated routines. Figure 5.3 was created during the development of the data analysis procedure to envisage some of the connections between practices that potentially relate to the wastage of food.

Figure 5.3 Associated practices with food waste and their interactions



Associations are drawn through conflicts and implications with other practices such as how cooking practices lead to food waste but this is still contextual and dependent on wider factors. For example how a household is able to organise food in retrospect of the temporal dynamics and routines of other practices in the home, as well as wider commitments such as working practices. Factors relating to the location of a practice and their temporality played a key role in these associations. Work by Nicolini (2017:28) was drawn upon in the analysis process to provide further details on how practices emerge and disappear to give "an edge when trying to explain how practice travels in space and time". Despite the fact that figure 5.3 is a simplistic representation of practice connections (more elaborate figures are provided in chapter 6 to explain how practices are resolved), the figure shows that knowledge was embedded in the contextual nature of practices.

Analysis through zooming out provides insight into how sets of practice reproduce social arrangements, for example the accessibility and nature of food shopping practices has implications for how consumers are able to plan and manage food within a background of lifestyle practices. The long commuting and working hours of some households had a direct impact on the

amount of time available to adequately plan in such a way to mitigate food waste. Zooming out allows a perspective on the "constraints that conjure the lived world of the practitioner at the point of action" (Nicolini 2012:234), significant to how the sets of practices are kept intact and functioning as a bundled unit. In focusing on food waste in different households, not only was there different sets of practices within which food waste practices are connected, but factors that keep these sets of practices in place are different thus showing another level of data analysis on a wider scale.

A final point made in table 5.2 is that the data analysis tool can zoom out even further to provide a more historic context to the practice. This concerns time and space at a greater scale. Local practices that develop as shared practices and the associated infrastructures that make them possible develop over time as part of wider societal configurations. A good example of this is the loss of cooking competencies, the increased availability of convenience food, the reduction in time allocated to cooking, changing gender roles in the household and the time pressured nature of modern life (amongst other reasons). These were reflected in the changing nature of local level cooking practices over the course of the last 50 years which when taken together show a historic change in practice (Yates and Warde, 2012). This longitudinal data is not within the scope of this thesis but is relevant in understanding long standing trends of how consumer food waste behaviours came to be like they are today.

A further and final point is when to stop coding and analysing the data. Nicolini (2012) discusses a resting point when sufficient understanding has been achieved of both practice workings and connections to wider practices. I actively looked for as many connections as possible between the practices, which is reflected in the coding structure in appendix 13 with codes such as health, leisure and working practices. A natural saturation point was reached as this was an exhaustive process. The chapter now turns to make some points on how the findings are presented in the upcoming chapters 6, 7 and 8.

5.4 Presentation of findings

To ensure that the narrative in the following three finding chapters 6, 7 and 8 are as impactive and purposeful as possible, a number of points are made here on how the findings are presented.

Firstly the findings are presented not in a way to classify participants according to how they might have wasted or mitigated food but rather to illustrate the workings of the three conditioning areas of the social, spatial and temporal to provide new insight into food waste behaviours. This section began by critiquing data analysis procedures that align certain participants with certain food behaviours and how this places critical limitations on being able to adequately explain the reasons why these behaviours come about. In particular the inability to contextualise such behaviours. For this reason the thesis moves away from a traditional structuring of first outlining the findings to then have a follow on discussion chapter. Instead in this thesis the findings and the discussion are entwined in order to present a much more theoretically and empirically informed piece of academic work. This is a demonstration of the strengths of a theories of practice approach and the huge potential in furthering understanding of unsustainable consumption behaviours through exploring the factors that shape them.

A few points on the writing. The use of the term practitioners refers to the participants, not practitioners working in the food waste area. This aligns with a practice based lexicon. Ellipsis used in quotes (…) bring together pieces of text from participants to summarise their responses. These are used to shorten longer quotes spoken as one piece. Emphasis is made to ensure that their use does not represent any bias in how the quote is being used. Previous experience was drawn upon from a journal paper I co-authored, see Carrigan et al. (2017). There are some cases however where an ellipsis was inserted in transcription to signify a natural pause in speaking. The findings also uses participant's quotes within the thesis narrative to make key points. This tactic is followed to ensure that the chapters reflect lived experiences and performed realities. This has proven engaging and enabled critical discussions elsewhere in food waste research (see Evans, 2014 as an example). Quotes from participants are in Italics, quotes from literature are not.

Finally with reference to the content of the findings chapters, there were further findings that were omitted because of the word limitation of the thesis as well as in the interests of brevity. What is included is the content that most readily meets the aim and objects of the thesis. The chapter now concludes.

5.5 Conclusion of data analysis chapter

This chapter outlined the data analysis procedure. This began with pointing out how there is an absence of comprehensive accounts on data analysis procedures via a theories of practice approach for the study of consumption. By drawing upon the literature that is available, the chapter points out that the analysis process of inferring meaning from raw data relates to the process of building practices. There are differences in the literature in going about coding, such as whether codes should capture practices, performances or the elements of practices. The procedures described vary according to the underpinning interpretation of the practice theoretical stance put forward.

The practice toolkit of Nicolini (2012) was utilised to guide the coding process undertaken. Using the Nvivo 12 Pro software, the coding involved first considering the raw data, in textual, visual and material forms, solely in terms of lived behaviours, moving next to consider more formal practice organisation. Emphasis was placed on codes that were not solely based around key sets of practices but also appliances such as the fridge and freezer and connections between practices. The zooming in and out process highlighted the thinking behind how practice based knowledge can be constructed. This detailed both the intricacies of zooming in on performances and the process of zooming out to draw connections between practices. This strategy of data analysis provided a procedure to investigate performances, practices and their arrangements over spatial and temporal scales in line with the aim and objectives of this thesis.

Chapter 6

The social conditioning of consumption practices

6.1 Introduction: The social conditioning of practices

As established in chapter 3 section 3.6, the social is the domain within which practices are created, circulate and cease to exist. The conditioning of consumption practices was defined as the processes located in the social domain that seeks to shape, coordinate and order the performance of practices. Research on food waste at the consumer level has yet to give a fully reaching account of inter-related performances, despite how activities in the household have been linked with related aspects of food wastage. Evans (2014:xv) work notes that "the passage of "food" into "waste" occurs as a more or less mundane consequence of the ways in which practices of everyday and domestic life are currently carried out, and the various factors that shape the prevailing organisation of food consumption". This thesis does not wish to duplicate such knowledge and instead utilising the zooming in and out data analysis tool explores consumption and its organisation in the home as a critical lens for social conditioning for three reasons. Firstly, that the household is a nexus point for the organisation of food and how it interjects and overlaps with wider work and leisure commitments; secondly, that despite Evans' (2011a, 2014) and Evans, Campbell and Murcott (2013) contributions, the small amount of practice-based work has yet to do justice how food waste is shaped by what happens in the home; and thirdly because the findings reveal intricacies of how food is coordinated in the household that have not been addressed elsewhere, providing further elaboration and new insights. This section moves beyond, updates and clarifies such thinking and provides a platform for practice orientated theoretical engagement.

This chapter is organised across the 3 key aspects of the social conditioning of consumption performances outlined in chapter 3. As a reminder these are as follows:

- Resolving practices: Practices are purposeful and hold teleoaffective structures as a common understanding of their achievements. This involves both physical actions and mental processes. People do not have control over the fate of practices, rather a degree of elaboration to discontinue, divert and re-employ what is appropriate to a specific situation. Performances are conditioned through how the purpose of practice is negotiated in everyday life in terms of whether and how its achievements are met.
- The body as a platform of practice and its visceral response: The body is a volatile, variable and reactive site of practice. Sensory feedback construct articulations and affects in performances. The body forms a visceral response with food given its ingestible nature. Performances are conditioned by how the body holds a degree of agency (in terms of how the body is a reactive platform of practice) to direct performance via visceral feedback.

- Materials and materiality: A tacit in-hand knowledge is formed between the objects and things involved in practices and how we know how to use them. These objects can script actions and visceral responses to food. Performances are conditioned through the role of objects and things in practice, their materiality and their role as a mediator in consumption

The key findings of this chapter are as follows:

- Resolving the practice of planning:
    - Participants identified planning as a formal menu or meal plan however the majority of planning actually took place via a mental process of managing, accounting and coordinating food stuffs, their perishability, food preferences and the amount of time available.
    - Food planning is shaped via a process of how plans are altered and amended in performances.
    - The idea that consumers can be segmented into those that plan and those that do not is challenged. Planning is employed with variability depending upon contextual aspects of wider commitments of leisure and work.
    - Current inclusion and promotion of planning in food waste campaigns fails to take into account the subtle and complex nature of planning and could even generate food waste in cases where households plan meals, purchase food accordingly but plans are not realised and food consumed is different to what was proposed.
- Bodily conditioning and viscerality:
    - The body is a volatile platform of practices that can redirect and interrupt performances of food practices such as food preparation and cooking.
    - Participants ignored and used unconventional food storage actions justified by their own visceral norms on a household basis.
    - Competences of cooking were employed with variation because of the relationship between dispositional actions, articulations of sensory feedback and negotiation with others.
- Packaging as an information mediator:

- Food consumption is conditioned by the material, tacit engagement through how objects, such as packaging, can script and prompt actions
- Participants held their own rules for certain food groups, such as treating meat and dairy with greater caution than fruit and vegetables. This related to how participants actively question how retailers assess and implement datelines and storage guidance.
- Instances of food disposal were present by both participants that strictly adhered to packaging datelines and those that disregarded suggested guidelines

- The key implications for understanding food waste in this chapter were as follows:
    - Planning is not a clear cut practice that should be universally associated with mitigating food waste. Food waste can be caused or be mitigated due to the way in which planning is resolved over the course of the weekly routine.
    - There is a need for greater acknowledgement of the informal nature of planning. The ability to manage the mis-direction of meal planning is a key attribute of food waste prevention.
    - The role of the body in food consumption practices is a key cause of food waste. The body plays an important role in appraisals of edibility due to the way in which consumers articulate and have dispositions towards food.
    - The way in which consumers interact with packaging, such as how freshness is understood, is a leading mechanism through which food comes to be wasted. This means that consumer's aesthetic appreciation of food it directly tired to packaging. This is linked to the causality of food waste in how consumers have their own rules and ways of interpreting food's materiality and food safety information.

The first section begins by discussing how planning practices are resolved.

6.2 Resolving the practice of food planning (and recipe employment)

Meal planning forms a central part of guidance to mitigate food waste, embodying the idea that the more organised and accountable households can be with food, the less food is wasted (Parizeau, von Massow and Martin, 2015). There are few studies however that have shed light on the process of planning food, particularly with regard to both formal and informal planning. This can be attached to the physical actions and the mental processes that Schatzki (2010) relates to how the teleoaffective structures of practices play out. With teleoaffective meaning the working framework that practitioners hold on the purposefulness of a practice, rephrased in this thesis to mean how practices are resolved. Beyond acknowledging that food planning is part of the 'household constellation' of everyday practices, recent reviews of food waste literature have not scrutinised practices of planning in great detail (Hebrok and Boks, 2017; Schanes et al, 2018). Planning has been investigated as a process attached to shopping, noting how it is placed within a "mess of practices" (Watson and Meah 2013:10), however it is practised with much variance and is far from being as stable and as easily recognisable as some food waste campaigns incite (WRAP, n.d; Love Food Hate Waste, 2018a). Here the teleoaffective structures attached to the practice of planning are explored to show how the purposeful teleological ends of this practice are not always met because of the demands of the wider organisation of life. The zooming in on participant's planning allowed analysis of the aspect of interactional order to reveal how planning was resolved through its interaction with other practices. The aspect of how practices involve and are mediated through artefacts was also significant here when employing the data analysis procedure, with planning being mediated through lists and menus. How planning is resolved as a practice through both informal, formal, and mental means is explained, showing that the resolving of practices is a form of social conditioning, but more importantly that there are current inconsistencies in how planning is theorised in food waste campaign material.

To engage in planning habitually is one of many consumption practices performed frequently as a "mental short cut for navigating the complexities of daily life" (Southerton 2012:340). Arguably planning is part of a practical consciousness that is prompted (and neglected) by wider practices of everyday living and commitments. On the one hand this can be viewed as a stable and culturally negotiated practice in line with others, this for example relates to a shared understanding of the purpose of a written plan or menu and how to approach going about initiating this. Whereas a second side of planning is much more reflexive where planning is a mental activity that is processed by drawing upon the food resources at hand and past consumption experiences. In this study, participants readily identified planning as producing a physical food plan (such as a written piece of paper with meals for specific days or a labelled menu), rather than a mental

activity. The practice of planning food here takes into account both these forms of performance and can be said to be conditioned by the way in which planning is resolved through social negotiation.

A menu or a food plan was explained by participants as a device that sets out how ingredients were going to be used in a specific combination on certain days. Michelle a mother in her 40s living with her husband and young daughter gives one example. Michelle tells me about the importance of having a menu as part of preparing for the shopping trip and that making a menu has become weekly occurrence because her family "*just spend too much money*" on food they "*weren't eating*". She tells me about meals such as spicy turkey burgers and steak with sweetcorn and potato rosti, all organised and cooked according to the plan. When enquiring further about how their food is planned Michelle tells me about how busy she feels, describing how the family only sat down and ate together two nights during the study week due to work commitments, leisure activities (such as her partner's Wednesday evening cricket match) and taking her daughter to swimming club. The menu plan is used in line with *"a family calendar"* that tells Michelle *"where everybody goes"* and *"is supposed to be"*. In reflecting on this Michelle admits that there are times when the meals cooked do not reflect the plan and despite making time to plan *"that doesn't mean sometimes it doesn't get thrown away"* as when returning some weekday evenings her husband and daughter *"don't want what's it is that's on the menu*". Michelle continues and tells me that despite this lapse in the meal planning during the study week, their actions now are much better than they used to be:

> *"when we looked at how much we were spending on food, we were having a phenomenal amount of takeaways, which was one and also our food bills were over a hundred pounds a week for stuff we were just throwing away …. So now we are quite a bit more planned on what we are doing and what we are eating"* (Michelle, J20)

Here the family's attempt to plan and break free from previous wasteful behaviours features instances where what unfolded was not in alignment with the end purpose of planning. Elizabeth was also a very wasteful participant despite using a meal plan, Kim also wasted food despite explaining a process of planning whilst shopping with both these participants being a similar household structure of families with young children. Other reasons for diverging from what was planned included impulses to purchase and consume certain food items such as fresh herbs in the case of Violet (a PhD student living in a flat share with one other person) and chilli paste in the case of Beverly. Katherine and Sandra also discussed instances where plans did not turn out as intended due to not being organised or 'not being bothered'.

Each household has their own way of planning in terms of how food that enters the household is transformed to be prepared and cooked into a meal. How this planning unfolds therefore has much variability. Meals are prepared and eaten in coordination with everyday practices (Hebrok and Boks, 2017; Watson and Meah, 2013; Evans 2014) and the interview discussions brought about reflections relating to how participants' plans compared with the lived reality of how food planning intersected with wider commitments. Here the teleoaffective basis of planning is deflected and re-negotiated in how planning is resolved throughout different moments in the week.

Research elsewhere has discussed how households plan their meals (Stefan et al. 2013) but this falls short how planning unfolds through physical actions and mental procedures and furthermore how planning might be derailed and the implications of this. The findings in this study feature both participants that invested time in creating a meal plan through to those who planned their meals via mental recording of what might be the best meal to consume on a certain day. 7 of the 23 households that took part in the study used a form of formal meal plan. Whilst these descriptive statistics are useful, even those participants that were more organised did not employ these actions consistently across the week. Whether planning was organised more formally by being noted down in advance or was a process of mental organisation, for such plan to be successful a degree of flexibility or negotiation is required. Elsewhere such adaptability has been described as 'improvisation' differentiating consumers that employ improvisation and those that do not (Hebrok and Boks, 2017), with Aschermann-Witzel et al. (2018) also segmenting consumers by whether consumers plan in advance or last minute. This study however shows that how planning materialised involved negotiation between the original goal and the wider commitments of everyday life, often leading to redirections and discontinuity with regards to how plans turn out. This section now turns to investigate examples of this in further detail.

All participants were asked how they planned their meals, and through discussing the food eaten throughout the study week, participants spoke about how these plans are substantiated. One case in point was Julia and Carl who say "*we don't tend to plan*". This was also the case for Sam who mentions that some of the performances of cooking were undertaken without any pre-calculated thought. A 'plan' was often interpreted by participants as a written menu or list of what was eaten (which some participant did undertake). For most participants however, planning was engaged in a mental fashion, even for example participants like Julia who denied she plans her meals. Her further elaboration however indicates a way in which meals come about:

> *"we usually plan when we shop at the weekend, kind of two or three things we'll planning to cook for the week so if we are going to do a roast chicken or if I was going to do I don't know, ratatouille or something we'll plan for that"*(Julia and Carl, J01)

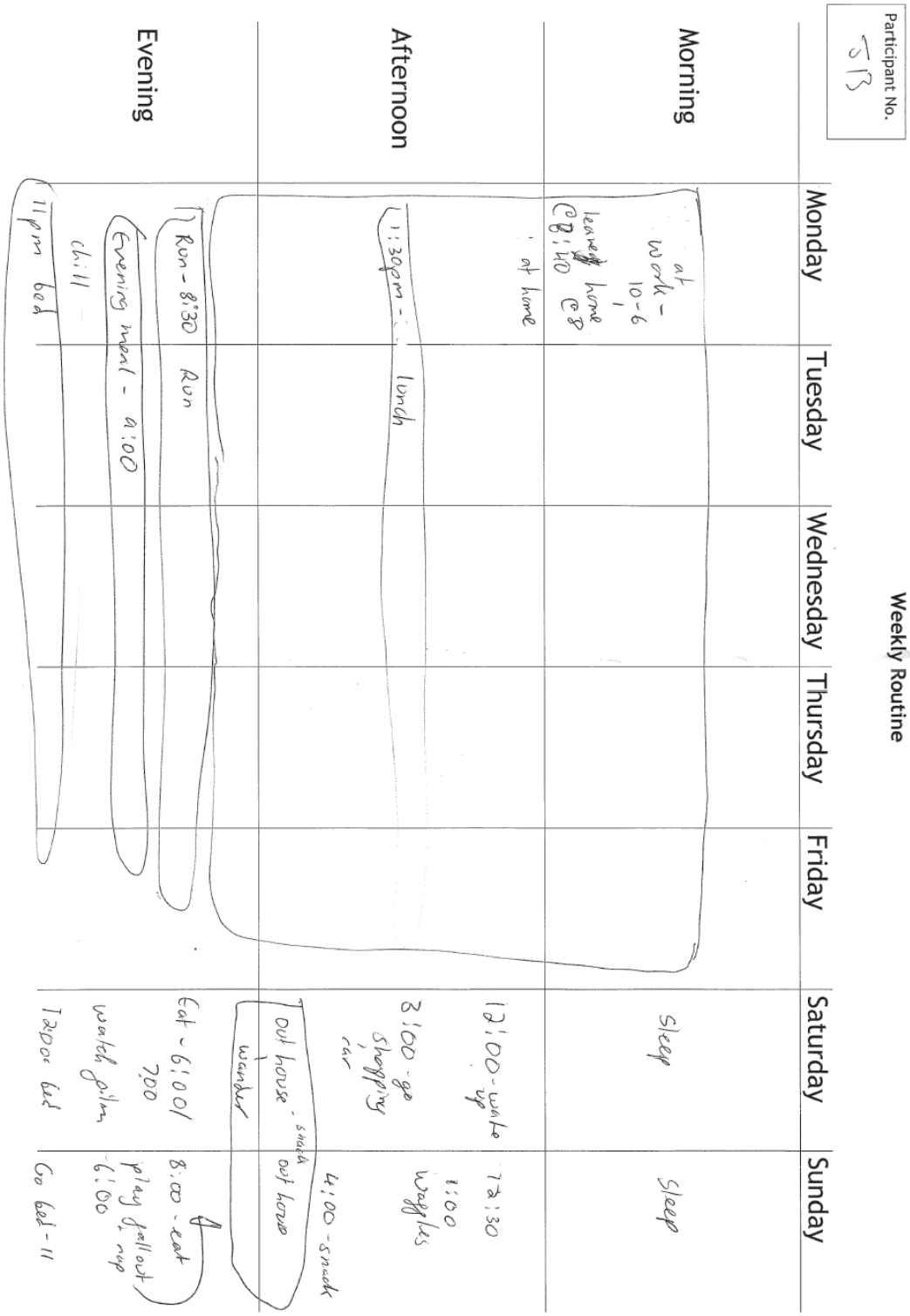
Performances of planning were revealed as mental accounting. Here planning relates to having the ingredients for two or three meals which are to be eaten within a week's time frame. Julia goes on to note how this is often prompted by replenishing the house with food and that this notion of planning how a collection of foods might be eaten in a certain time frame varies with the working week as *"more thought goes into it at the beginning of the week"*. Planning out what will be eaten when, even in the nonspecific means here, is a practice that requires mental energy of estimating the timing and demands of other practices, shown in how Julia tells me that this happens only when she *"can be bothered to plan"* and she can *"end up eating the quick stuff like salad or pizza or something that doesn't take long to cook"*. Interestingly Julia and Carl were a household that reported considerably less instances of putting food in the bin in comparison with other households, yet the practice of planning did not appear in a well-defined form in their routines.

From the interview discussions planning was not present as a well-defined practice instead occurring and being performed in different moments of consumption. Planning was present in the acquisition of food, in how domestic provisioning is performed in line with meanings and understandings of a healthy and proper diet that overlaps into cooking (such as the ability to be versatile). It is also present in moments of appropriation and divestment, in how ingredients are turned into meals and the need to use up certain foods that are approaching the end of their consumable life, such as in the case of Julia and Carl.

Participants explained how planning required knowledge of what could be eaten when, and how this was aligned around the need to use certain foods at certain times and the temporal demands of cooking. Planning therefore can be seen as a practice that drew upon households' mental activities of coordination labelled here as 'organisational thinking space' with regards to where foods stuffs fits within the layout of the week, with this term also suggesting variance to the amount of 'thinking space' participants devoted, or could devote, to the planning task (drawing a theoretical basis from Gidden's (1984) work on 'practical consciousness'). Michelle's experiences of her plans not being fulfilled in how food consumption in her home played out shows a contrast between the application of planning and its practical reality. One of the reasons for this is due to the lack of time to see through what has been planned, with time instead invested in other practices in the make-up of working and living routines.

Andrew and Jeena are a particularly evident example of this. Living in a flat in the suburbs of a city, both Andrew and Jeena worked full time jobs and commuted an hour each way to work each morning and evening. They explain to me when completing the weekly routine table that they have little time during the week to think about food with the average work day evening consisting of cooking and eating a meal together and then falling asleep to start their routines the next day. Figure 6.1 shows their weekly routine table.

Figure 6.1 – Weekly routine table as drawn by Andrew and Jeena (J13)



When asking about how they plan their meals, Andrew tells me that they *"never plan"* but they *"tend to eat the same thing every week if that makes sense"*. Jeena goes on to tell me that Andrew does most of the cooking during the week which are *"more set meals"* and that food is *"more standard at the moment"* and that they *"are not varying the cooking"* because of returning late home from work at 8pm. What they put together and eat during the week consists of meals repeated on a weekly basis (linked to their shopping practices discussed later) which although may not be planned day by day, the food cooked is the food at hand and where competence of cooking is already present. The couple have a limited ability to plan meals during the week given their work commitments therefore limiting the performances of planning, both mentally due to fatigue and practically due to time. In buying the same food stuff each week, that generally lasts the week, there was not much of a need to think about how and when and what food will be prepared, cooked and eaten. Andrew and Jeena for example tell me about how food for them is very much just fuel. Unlike other households where planning food relates to wanting to cook something to satisfy desires of having interesting or different food or wanting to eat healthily or save money, Andrew explains that his food *"is not great, it's just dinner, its nutrients"*. Moments of appropriation and appreciation in food consumption therefore can be linked with both mental and practical performances of planning. In the case of Andrew and Jeena food to a certain extent had been devalued and lost its meaning.

Aspects of planning however were not absent here. Jeena tells me about one night during the study week where Andrew retrieved some frozen chicken from the freezer that was turned into a meal through the *"happy co-incidence"* of a fajita kit and some peppers. Here the action of defrosting the chicken places the food stuff in a state where it must be used and involved somehow in a meal, therefore prompting actions relative to preparing whatever is appropriate to go alongside. Here the freezer is a device or tool that enables adjustments and variability in how planning is performed as a integrative practice alongside wider household organisation, such as how Hand and Shove (2007) describe the freezer's a role in establishing household order. The freezer gave greater organisational thinking space given how it limits and pauses the decay of food, facilitating how practices of planning often evolve up to the point of combining ingredients together to form meals (the role of the freezer is further discussed in section 7.2).

As planning was often a mental activity, a degree of 'effort' was described by participants relating to extent to which they could be 'bothered' to plan or how planning was neglected. Not being 'bothered' to plan as in the case of Julia and Carl or neglecting planning such as in the case of Andrew and Jeena shows how the performances of planning were obscured by a lack of the application of organisational resources which may have been utilised by other practices. This is

something that Antonio highlighted in his discussion. Antonio and Christian were a couple in their 20s and 30s living in a two bedroom flat near a city centre. Antonio spoke about how the food he and Christian buy varies and they *"go with what they fancy each week".* He tells me how this means planning sometimes slips:

> *"Last time, no two days ago I thought to write down the recipes that I have in mind to make this week and I forgot because I bought some ingredients so I thought I could cook this with this ingredient and then I forgot so". (Antonio, J04)*

Performances of planning therefore require a mental application that is exercised and takes place within moments of consumption. Performances evolve and take place in different forms up until how ingredients come together, whether this be days before the meal is cooked or even minutes before. Even those who planned well; meaning participants such as Julia and Carl that had a good understanding of the food stored at home, how and by when it needed to be used; still showed variance in planning through the instances of 'not being bothered' where mental organisation was not present in equal measure in performances of planning throughout the week. Planning therefore was not only dispersed and intersected with other practices but performed with a great variance of competences of what participants understood and identified as adequate planning.

Given the range of factors at play in the performance of planning, Figure 6.2 gives further explanation of the conditioning of planning practices, using a temporal scale.

Figure 6.2 Diagram to explain the variance in the performances of planning and the aspects that shape understanding of this practice as an entity

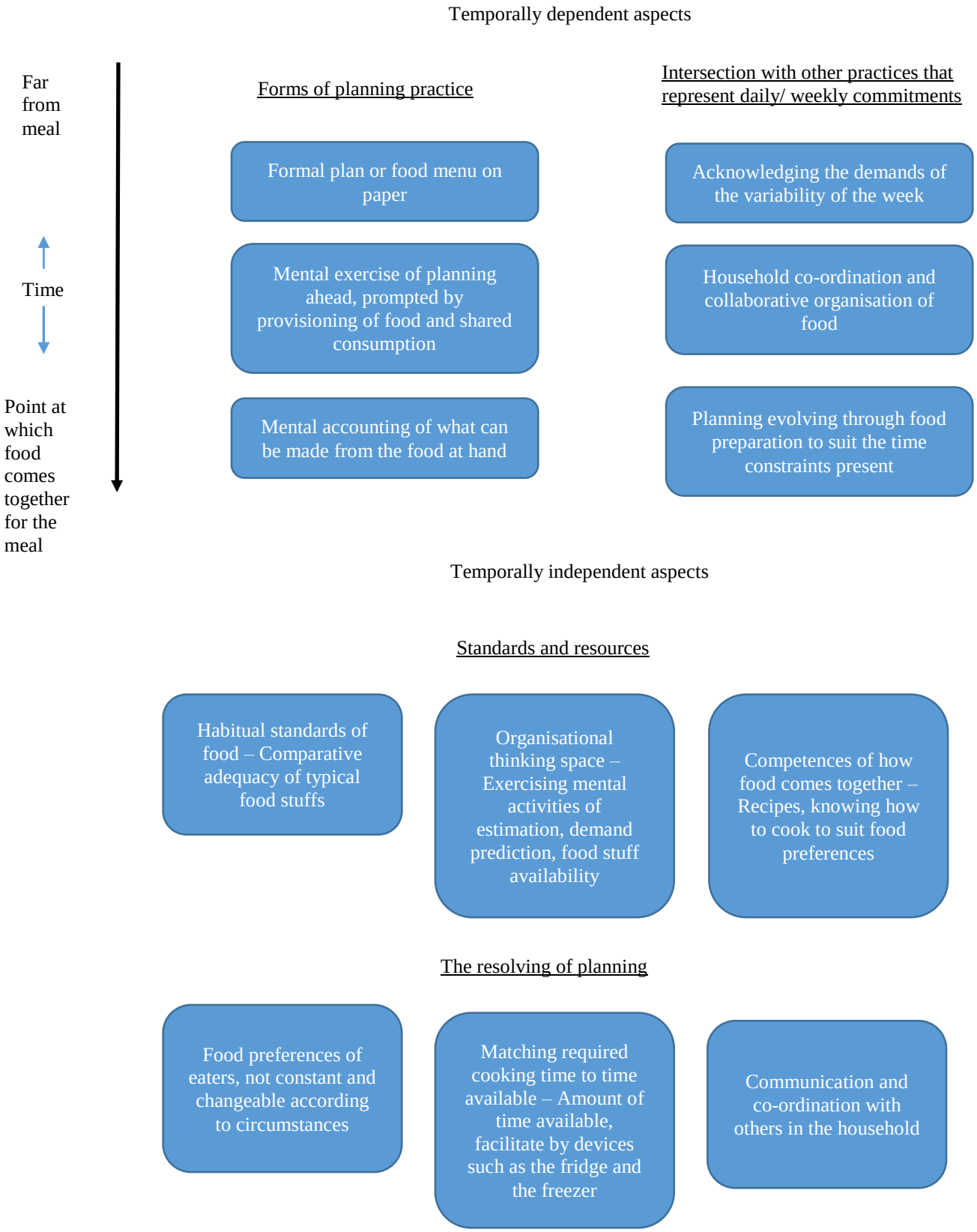


Figure 6.2 brings together aspects of the variation in planning practices observed in the study which spans both zooming in a performative aspects as well as zooming out to reveal how practices are associated. Planning is a performance situated in the social but it is important to employ a scale of time given how performances of planning unfold and are resolved according to the temporal demands at hand whereby "practices produce their own temporal demands based upon the degree to which they require coordination (or synchronisation) with other people and practices" (Southerton 2012:343). This means that this socially situated process of coordination can be temporally measured in terms of how "temporalities configure the performances of practices" (Southerton 2012: 338). In Figure 6.2 a scale of temporal demand is used to show that the more time available between the planning and the meal consumed, the greater temporal demand and therefore ability the planning practice has to intersect with other commitments of the week.

The first aspect, the 'forms of planning practice', that is placed on this scale shows that more formal planning requires greater time and temporal demand. Putting together a menu or weekly food plan is a culturally shared and negotiated practice, whereas mental practices are based upon present reflexiveness of the resources available and past experiences. This is hinted at in the literature already, such as in how Hebrok and Heidenstrøm (2019:1439) stating that "how much food goes to waste is not how meticulously purchases and meals are planned, but rather how flexible participants are concerning the use-occasions for particular items and their frequency of shopping". However this is only a partial answer. The findings give more in-depth explanations of why different forms of planning are performed. The second aspect that is also placed on this scale of temporal demand is the extent to which the plan intersects with other practices. Where greater time is available, participants were able to coordinate and manage the flows of food in accordance with the variability of the week in terms of leisure and work commitments. When drawing closer to the point of eating such considerations were less likely and instead food planning is much more about meeting the present time demands of whether there is enough time to prepare and cook. This was reflected during the data analysis process where planning practices far from the meal had clear interactional orders with other practices but these unfolded and their sequences modified as they were resolved nearer the time of the meal.

A further two facets of factors sit outside this temporal scale, meaning they can shape the performance of planning regardless of the temporal demand or how close the meal is to being made. The first facet (labelled standards and resources) covers aspects governing the standards of food, such as how comparatively adequate the meal will be compared with what is normally available; the amount of organisational thinking space or capacity for mental estimation and

prediction of food stuff available; and competences of knowing how bring together ingredients. The second facet (labelled resolving of planning) accounts for aspects that shape planning in the moment of performances. This includes: Ensuring meals planned meet the preferences and tastes of household members (which are not constant and changeable); matching the time requirements of a meal to what is available (facilitated by appliances and devices in the kitchen); and finally communication and coordination with others in the household.

Figure 6.2 shows that preventing food waste through planning is not as simple as encouraging and prompting consumers to implement a distinct 'practice of planning'. Planning is not always a positive thing. Planning unfolds and is resolved across a myriad of moments in consumption, intersecting with other practices (such as shopping) and is socially negotiated across a temporal scale. How planning practices are resolved is a form of conditioning that dislodges the need to categorise or locate consumers that are considered as those that are more likely to improvise or those that are more organised. Rather planning, as part of a move to prevent food waste, could be approached as a point of reflection in how food stuffs will be used and how these points intersect and coordinate with other practice commitments. Planning practices require social and temporal resources as any other practice does however its dispersed nature means that these resources are allocated across both consumption and wider practices that made up the participants week. This creates difficulties in intervening and promoting "faithful performances" of planning practices as a shift towards more sustainable consumption (Southerton 20120:339; Evans, Mcmeekin and Southerton, 2012).

Arguably there is a mismatch between the promotion of practices as a culturally shared practice and the reality of variance in how practices are actually performed. As the literature review highlighted, planning is a frequently mentioned mechanism of educating consumers to nudge them towards food waste reduction and prevention. The findings succinctly question the basis of such knowledge. Furthermore it could be claimed that the adoption of forms of planning such as a weekly menu plan has increased waste for some households, such as in the case of Michelle and Elizabeth where a menu plan was created, food purchased in accordance but the realities of everyday life mean this was not followed and food ultimately went unused, placing consumers in situations where they have to deal with food in the surplus gap.

Policy makers and food waste mitigation campaigns should take note of the intricate nature of planning practices, specifically the temporally dependent and independent aspects that influence how planning practices unfold and are resolved. Further research could explore what the best way to plan in order to both mitigate food waste but also to provide a degree of negotiation and variability in line with the demands of daily life, and whether certain ways of planning maybe

more readily adopted to facilitate this negotiation than others. Critically planning should be acknowledge not has a single menu or tool for listing what food will be eaten when, but rather as a mental process present across different moments of consumption that is shaped and negotiated with wider practices. This chapter now turns to give greater insight into the role of body in how it can condition practices of food consumption and its organisation.

6.3 The body as a conditioning platform: Recipes, food storage and visceral appraisals

This section explores how the body and its material, visceral responses can condition the performance how food is kept and how it is prepared. The literature review revealed how food is embodied in its consumption which refers to the bodily, visceral affects and actions that can be both enabling and limiting in relation to food waste (Wilhite, 2012). As outlined in the explanation of social conditioning (chapter 3, section 3.5.1), the body can hold a degree of agency in practices (Wilhite, 2012), such as the body's senses of smell, touch, taste and sight that can play a role in performances. Articulations are made by practitioners whereby the body becomes trained to be affected and respond to taste in certain ways. The body's choreography was a specific factor focused upon in the data analysis procedure to reveal its accomplishing role in shaping performances. Here questions are raised regarding the volatile nature of the body as a platform of practice in the context of food waste mitigation strategies, such as how the body can redirect food storage and preparation from suggested guidelines.

The section begins by outlining the phrases and words participants employed when talking about interacting with food. The language used highlights 'foodsensing' in terms of the visceral relationship that exists between bodies and food stuff (Evans and Miele, 2012). Table 6.3 summarises these words and phrases showing how food's changing materiality drew out a visceral response from participants.

Table 6.3 Phrases used by participants regarding the materiality of food to show how a visceral, bodily notion of food, was used to justify food's disposal

Type of food stuff	**Food stuff**	**Visceral response to change in materiality**
Fruit and salad	Banana, apple, satsuma, lettuce, nectarines, blueberry, pineapple, salad, tomatoes, potatoes, cucumbers, strawberries	mushy, mouldy, gets brown marks, tastes bitter and sour, go mouldy before getting ripe, white mould, too dark and black, overripe, moist and horrible, mushy and soft, black, washy goop, squishy
Vegetables	Potatoes, carrots, spring onions, vegetables in general, carrots, spinach and rocket, celery	becomes sprouty, go a bit off, go soft and start to smell, squidgy, go a bit wet, squishy, look dodgey, sweaty, brown
Meat	Chicken, meat in general	Smells funny, bad smell
Dairy	Yogurt, cheese	Furry, looks a bit watery, mouldy
Other food stuffs	Jam, pickles, mayonnaise	Layer of green mould, film on top, mouldy

This visceral language that combined human action and corporeality communicated a bodily sense in how food become 'squishy', 'squidgy' and 'mushy'. Carrots become 'sweaty' and 'bad smells' arose from meat. These terms draw significance across the senses whether this be by

appearance, smell, touch or taste, and perhaps even sound in how food might lose or gain a crunch. The practice of managing food in the household and ensuring food was kept and used, sorted, ordered and discarded drew heavily on visceral responses. An example of this was seen in the conversation between Andrew and Jeena which took place in their flat:

> *Andrew: If you had a loaf of bread and just at one corner is mouldy, would you cut off that corner and eat the rest of the bread*
>
> ***Researcher: Yea***
>
> *Jenna: Told you*
>
> *Andrew: That actually makes me feel sick …*
>
> *<Jeena walks past with the mouldy strawberries>*
>
> *Andrew: Ergggggggg*
>
> *Jeena: Well don't look then*
>
> ***Researcher: Do you think that you were to get ill then if you were to eat something like that?***
>
> *Andrew: It's just the thought if it being in my mouth, ergh*

Andrew had a particularly heightened visceral awareness. During the interview I was surprised by his child-like squirming reaction when Jeena presented him with the mouldy strawberries. This visceral reality of food only presented itself when prompted by the interview process, despite the fact that the strawberries were pictured in their fridge over the course of the study. Drawing upon Evans's (2014) work on the surplus gap, these visceral responses can be seen to redirect performances. In the case of the strawberries this was typical of food being left to degrade in order to avoid dealing with foodstuffs. However when interrupted and re-situated as a foodstuff in question in the interview a visceral response was demanded, prompting disposal.

This in-performance viscerality constructed household norms around how food should be kept, that at times differed with suggested guidelines. Sandra's household consisted of herself, a busy housewife who is also employed as a career, her husband who during the week is typically working out of the country, and her two sons, one in his late teens and the other his early 20s. Sandra tells me that on an average week day she prepares chicken, rice and salad for her sons to take to work. Their diet reflects their daily visits to the gym and one of her son's allergy to gluten. In talking through the perishable items in the fridge, Sandra tells me that there is quite often a lot of waste from lettuce because she *"doesn't like the middle bit, it gets quite bitter inside"* going

on to speak on behalf of her sons in stating *"we don't like that … and they don't like it"*. She also tells me how she prefers some fruit and vegetables kept out of the fridge:

> *"The taste of your fruit is warmer or your salad you get a better flavour. Put a strawberry in the fridge and one not in the fridge. You bite into that cold one and then you bite into the warmer one and you have more flavour from the warmer one. ……. You bite into a cold tomato and its cold, it's so cold you haven't got that flavour. If it's a warm one or at room temperature is what it should be, then it's got more flavour. And years ago food that would not be kept in the fridge, it would be kept in a pantry. So again that's just room temperature isn't it? We only put things in the fridge to keep them cold."* (Sandra J26)

Whilst having this conversation her son also pitches in to say that Sandra does this because she thinks they are *"more juicy"* but he personally likes strawberries better when kept in the fridge. Here competences around knowing how to best store food at home has a clear link with the body. The sense of taste holds influence over to how food is stored and how this is negotiated in the home. As the person responsible for domestic provisioning and preparing meals Sandra displays dispositions here that go against packaging guidance on where to keep perishable food for it to last the longest (i.e the packaging of tomatoes and strawberries give guidelines that the product will keep for longest in the fridge).

The body therefore plays a key role in how the materiality of food is managed. The way in which the body is conditioned in-performance underpins how food may move between categories and purposes, "from raw ingredients, to a cooked meal, to leftovers to 'past its best' and eventually waste" (Evans, 2014:23). This can be seen in how edibility is managed in accordance with viscerality. Katherine for example tells me that she will always *"snap the stalk off"* when she buys broccoli because she doesn't want to *"pay for that much stalk"* as she knows she is *"not going to eat it"*. These visceral responses construct a means to approach what is edible and inedible, giving justification for shared norms. Zooming in on these norms showed how visceral responses from the body legitimises foods stuffs catagorisation as waste and its disposal. Anna (a middle aged lady who lived alone and required home help) tells me that she does not eat the pips and centre of an apple, but yet she knows some people do, and that she does not eat the skin of a cucumber because it has *"washy goop"* on, instead cutting this off and throwing it away. Anna's bodily response displays a negative edibility of apple seeds yet she is aware of others for whom this is different. The case of the skin of a cucumber is similar, shown in Anna's surprise in my remark that I normally eat all of the cucumber including the skin.

To provide one more example of visceral responses and how the materiality of food is negotiated in how food is kept we turn to Kim. Kim lives with her partner and has two young children. She tells me that bread is something that is sometimes thrown away in her household. She explains one instance finding some stale bread after wanting to make a sandwich, she says she *"didn't know if it had mould on it"* and she would have *"probably … had it for toast"* but it was thrown away regardless. Both she and her partner *"don't have sandwiches for work"* and her kids *"wouldn't have it"*. Here the potential use for the bread is negotiated once it has been discovered in a state that is past its best. The possibility of her children consuming this food is ruled out given that one of her children is *"really fussy"* and the bread had *"gone out of date and it was about a week old"*. For Kim the change in texture of the bread placed the food item in a position where is had few options for usage.

The way in which participants undertook visceral appraisals of their food and how this in turn conditioned food performances was very much related to food preparation. In talking through the pictures of food cooked and eaten during the study week, participants explained when food was not to their liking or did not have the expected outcome in terms of taste. Sam explains that not all of the meals her or her boyfriend cook are not *"gastronomical highlights"* and that it tends to be her boyfriend rather than her that *"sometimes does cooking that isn't great"*. She says that it is not great as the food sometimes is not to her *"taste"* whereas when she cooks it is *"nice enough"* and there are not normally any problems. These problems come from when her boyfriend decides to cook something a bit more *"experimental"* which is when she tells me she often steps in saying *"that's horrible I'll fix it and I'll try to salvage it a little bit"*.

Taste (as well as smell) here as a sensory feedback plays a role in meal preparation. Despite cooking being exercised as a collective practice between both Sam and her boyfriend, each of their bodies holds a degree of agency as reactive sites to such sensory inputs. This can condition performances shown in how Sam feels she must intervene in his cooking. Sam's sense of taste provides a judgement against her boyfriend's cooking practice and the competences he employs in preparing the meal. Taste however should not be interpreted here as purely physical. Tastes are socially constructed and the body is trained 'to learn to be affected' in order to identify and react accordingly (Latour, 2004). For Sam, her competences of cooking are upheld through a process where a number of comments are made regarding bodily experience that are socially constructed as a way of knowing what is good and bad. Sam says that she *"tends to do more of the cooking"* and that in expressing how her boyfriend sometimes gets *"funny ideas and he just thinks oh I'll make this"* she is articulating that her competences of cooking are shaped in a different way (perhaps a more superior way according to her emphasis), positioning herself as more receptive

to a better outcome. In fact in undertaking more of the cooking Sam has had the opportunity to train her cooking practices, with such articulations from taste helping to train and condition her body and thus shape competences.

This example also is enlightening given how Sam and her boyfriend's relationship and household responsibilities for food are played out in meal preparation. Other examples in the study feature instances where there were clear gender roles of the women of the household being responsible for food, shown for example in Meera's anger at her husband leaving food to go to waste explaining that he has "*been bought up to know it's a woman's job"* as well as Raymond's reply of *"whatever the wife thinks"* when asked how he assesses whether food is still safe to eat. These two participants, and the example of Sam, show how food can be contentious and conflicting in its management. There is not sufficient space to explore this further here but it is important to recognise that food consumption does not happen in isolation, with performances unfolding within and between bodies. Food waste is part of gendered domesticities of kitchen practices that can be both oppressive and empowering food-work (Meah, 2014b). Part of how the body conditions performances therefore is down to interaction with others and the intended and inadvertent consequences.

To draw upon another example of an unsatisfactory meal, Katherine describes one instance of cooking an evening meal that did not turn out as expected:

> *I made pasta Bolognese ragu that night. That was bloody horrible. I threw most of it away because it was bloody horrible.*
>
> ***Why do you think it went badly?***
>
> *Well, it was a slimming world recipe and the picture looked absolutely delightfully gorgeous, but it just didn't live up to it.* (Katherine, J25)

Katherine actively participates in a weight loss club, or *"fat club"* in her words, which is a regular social commitment and involves talking to others about weight loss and sharing recipes. This particular recipe did not turn out as planned and blame is immediately placed with the recipe rather than the way in which the meal had been cooked or the ingredients used. Expectations of the taste of food were drawn from the imagery in the recipe. It is interesting that this articulation of taste was not linked to competences employed in cooking and instead the recipe instructions blamed. In the interview Katherine seems rather annoyed that her cooking was not able to replicate and produce food that aligned with the imagery and was satisfactory in taste. This suggests that although articulations may help consumers make reflections of their practices, it is not always

clear which action, as part of the competence employed, requires configuring to lead more satisfying results. The conversation moved on very quickly from the Bolognese and Katherine explains in great detail how her bean casserole *"melts and goes really creamy"*, a meal that she did remember to take a picture of and is shown in figure 6.3. This was a much more successful meal and highlighted a pattern that participants were much more able to discuss their food preparation and cooking when the meal was a success.

Figure 6.3 Picture taken by Katherine (J25) of her bean casserole cooking in the oven

Beverly was a further example of a participant who commented on the appearance of her food. She is taken back by how *"brown"* the food is in the pictures she took and thinks this shows how boring her food is. This was only noticed upon reflection in the interview where she is conscious of how I might have judged her meals. Christian also tells me how Antonio sometimes cooks meals that look questionable but taste nice. These two examples, and Katherine's in the previous paragraph show how 'foodsensing' (Evans and Miele, 2012) is not always present across all senses in performances. This is related to the way in which practices are undertaken without conscious intention, where dispositions act as a precursor of how future practices will be performed (Wallenborn and Wilhite, 2014). These bodily dispositions however can have an untended and negative affect. This can explain why Sam's boyfriend would repeatedly cook meals that were not to Sam's liking, or why Beverly may make brown meals that she disapproves of, or why Katherine sometimes cooks meals that are not acceptable in terms of taste. In placing the body as a vehicle of competences it means that such articulations as embodied knowledge are not

drawn upon consistently in the performances of practices. Consumers as carriers of practice may be able to make reflections from their bodily feedback but this does not mean the desired output is always achieved (here being a tasty meal) despite the potential for the body to be trained to respond in more effective ways.

The literature review highlighted distributed agency as one explanation for the role of the body as a reactive site of a practice. The findings here support the conclusions made by Bartos (2017) in how viscerality can be overbearing, outlining how even if food is agreeable to an individual's political ideals (such as being sustainably grown or farmed) the food's visceral relationship with the body can contend this. Katherine gives an example of how edibility changed through visceral interaction, telling me how she often gets a meal out of the freezer or vegetables from the fridge only to change her mind after sensory engagement with the food.

> *"I have good intentions, it's just… and then I get it out and think it doesn't really appetize does it, it looks a bit mingy, doesn't it, it's a bit… so no, then I won't eat it. If it's something the dog can eat, she'll eat it, but if not, I just throw it away"* (Katherine, J25)

Katherine's quote here shows the volatile and unstable nature of the practice of food preparation, highlighting the misdirection in flows of performance that visceral responses can bring. Current knowledge of food waste behaviours has only just begun comprehend the impact of this, as well as how the conditioning of the body through visceral responses might influence food preparation and eating. Katherine's quote also highlights the role of pets in the surplus food gap. Three of the participants in this study discussed giving leftovers to pets, typically their dog, which to a certain extent was an established procedure as an alternative to disposal. There is little room to discuss this here with a further study potentially unearthing some interesting findings on food performances, waste conduits and non-human actors in the household.

To round up here, the findings showed that the body has a critical significance in how food waste arises in the household. Studying food waste from an in-performance angle has opened up further intricacies around how food maybe kept in ways that are unconventional and the twists and turns in food preparation drawn from visceral responses. The findings given here take an analysis of viscerality relevant to food waste further than current studies (Hebrok and Heidenstrøm, 2019). The visceral appraisals of participants situated the body as an unconventional platform upon which practices are situated, with socially constructed articulations of taste (amongst other senses) shown here to redirect and interrupt flows of action. The zooming in data analysis procedure based upon Nicolini's (2012) work must be updated to consider how the body shapes performances beyond its choreography through its viscerality, articulation and

disposition. Food can be said to have a ‘social life’ in its perishable nature and it is as the food stuff degrades that our interactions with food vary, informed from our trained articulations of the senses and what we understand as normal practice.

Crucial questions are raised with regard to how the body is considered in current food waste campaigns and interventions. Examples of how food is kept in unconventional ways, directed by the visceral body, pose questions of how consumers can be best directed to extend the life of food. Questions can also be directed towards the role of the body in food preparation and how competences, informed and trained by articulations, can be enhanced to prevent food going to waste through unsatisfactory meal outcome. All in all the body’s volatile nature is somewhat of a challenges to any intervention hoping for consumers to mitigate food waste through proper food organisation and storage.

There is an inherent link here to packaging and how this is a common medium through which manufacturers and supermarkets direct consumers to properly store and prepare food, and this is where this chapter turns next.

6.4 Packaging as an information mediator

In drawing upon the body as a vehicle for the deployment of food practices in the previous section, this section now addresses how packaging as a mediator can act as a form of social conditioning in how objects and their materiality script actions. The literature review set out how consumers have become more detached from food, with our understandings of how the materiality of food decomposes driven by packaging devices. The zooming in data analysis procedure included a focus on the materiality and its intermediary role between objects the body in practices. Packaging has been described as the 'skin of commerce' holding a physical materiality that sits between the body and the foodstuff as a mediator technology (Hawkins, 2018). This section presents findings showcasing conditioning via packaging as a mediating material, woven into practitioner intelligibility of the purchasing, storage and consumption of food.

Foodstuffs are in continuous deterioration with food transitioning through a number of consumption categorised 'states' through its consumption journey. Evans's (2014) work in particular described how packaging can facilitate food falling into the 'surplus gap' whereby households fail to use of food before finding a use. In this study Linda tells me how she threw away a carton of tomatoes as *"from experience they go off in a couple of days"* and that she *"thought I'm not risking that as there wasn't a meal to hand it to really"*. The aspect of 'risk' here is evident of how the management of food in the home is an embodied process. Beyond acknowledging that consumers hold negative reactions to imperfect perishable food products, little is known about how consumers engage and negotiate edibility of foodstuffs via packaging as a mediator to material and visceral engagement (de Hooge et al., 2017).

All participants were asked how they knew food was in an acceptable state to be consumed probing responses around understandings of food safety. The literature review highlighted how safety was used as an excuse by consumers to dispose of food and how aspects of risk relate to how edibility is constructed through labelling information. Responsibilities of the risk food posed relates to one's self and those in the household and therefore cuts across both visceral engagement and tacit material interaction with packaging. The participants in this study represented a mix of where the boundary of acceptable consumption was drawn, reflecting themes of embodied knowledge of food present and its negotiation in sensory evaluation (Waitt and Phillips, 2016; Watson and Meah, 2013). This section sheds further light on the line differentiating what is considered edible and what is considered as no longer consumable and therefore waste through the social conditioning lens. Whilst on the one hand this to a certain extent should reflect public discourses around food safety. In reality how viscerality is negotiated through the agentive powers of the body mean the suggested guidelines of food waste mitigation actions communicated on

packaging are not always followed, with this section presenting an account of this. The findings here support Meah's (2014) comments that consumers are not ignorant in their pursuit of potentially risky actions rather that their actions are part of how domestic responsibilities were conducted

The participants in this study represented a mix of where the boundary of acceptable consumption was drawn. Some participants explained how they had rules of appraising how edible a foodstuff was depending upon what exactly was being eaten. Sandra explains that meat is one category of food that has different rules as noted here:

> *"Well only depends if it is meat then only the next day. But if the boys are having chicken and rice I'll do enough for 2 days. So tea, dinner the next day and then the next and that's it. I won't keep it in longer than that. With ham, I am actually…… the date I do follow the date line for that and it's been open for 2 days and I won't let them eat it because it does go, ham does go a bit funny"* (Sandra, J26)

The visceral response of the meat's deterioration shows how Sandra's justification for the window of time within which its consumption is safe is embedded with an aspect of care. Practices of food preparation coordinate with meanings of being a good mother showing responsibilities in the form of avoiding negative visceralities and ensuring edibility. For several participants such as Jason (a PhD student living alone in a studio flat), Sandra and Michelle the materiality of meat made it more of a concern and meant the application of specific rules for its safe management. Other participants however show lax and rather concerning behaviour in terms of knowing how food is edible and the periods of time over which food is safe to be consumed. Elizabeth, whose household comprised of herself, her husband and her two young children, talked about how leftover pizza was eaten over the course of a week and the remaining slices thrown away. Violet also remarks that *"if it hasn't crawled out the fridge on its own then I figure it's probably alright"*. Other participants also made a link in how food achieves life-like qualities as it deteriorates and reaches a point at which it was no longer suitable for human consumption. These periods ranged from participants stating that food must be eaten the next day to several days in some cases.

Packaging was a factor that mediated how this length was determined, with Jason for example explaining that *"with the meat I'm quite strict about meat can go funny so with meat I will you know once the packet is open I will try and use it over a couple of days"*. The guidelines around how long it is safe to keep food for seemed very much open for interpretation for some participants such as Jason who trusted his own visceral responses noting how he *"treats the best before as a guideline rather than something that's set in stone"*. This behaviour was also shown by Eric and

Joanna, a middle-aged couple living in north London without children who followed a vegetarian and vegan diet. Vegetables and fruits formed the central part of their diet and they were confident in their ability to manage food's deterioration without the need of packaging as Joanna explains:

> *"if it is a vegetable you just ..... I take them out of the packaging so I don't even know what the date is, you can tell when it's not good to eat"* (Eric and Joanna, J31)

This veering from appropriate food safety guidance is comparable with Watson and Meah's (2013) research showing how some of their participant's actions fell significantly short of industry and policy guidelines on food waste. One of the most concerning examples was with India, an undergraduate student living in student halls. Looking through India's fridge she tells me about the wasteful habits of her flatmates with her fridge containing a number of perishable foods that appeared well past any point of safe consumption according to packaging guidance. She tells me how she does not always use the dates on food as a guide, however unlike other participants that would add a condition that meat and dairy are an exception, India states the following when prompted whether she would eat a yogurt that was a few days past its best:

> ***Would you still eat it then?***
>
> *It says eat within three days and I opened it like a week ago.*
>
> *But I'd still eat it, unless it smells off, it if smells off I won't eat it. But if it smells fine then I eat it. I had yogurt not last week the week before that smelt absolutely fine and it says eat within three days and I had over two weeks*
>
> *<laughs> it was fine, literally, didn't make me ill, tasted completely normal* (India, J06)

As a researcher trying to achieve an objective position in the interview, I could not help but contemplate aspects of food safety. India went on to compare herself to others in her flat saying that she is 'better'. In her situation such behaviour was deemed normalised by student standards. For India this was an amicable point of laughter, and I also related to this from past experience however as the interview continued I started to feel quite disgusted as a visceral response to the foodstuff present. India pulls out a lemon that is visibly mouldy from the fridge during the interview as seen in figure 6.4 below. There were a number of questionable food products, such as a thai curry ready meal, in the fridge of India's flat. At first she points this out as a thai 'green' curry but after noticing that the best before date had past several months ago, it was quickly established that the food stuff was not meant to be green at all. She explains that the boys are worse than the girls in her flat, displaying the formation of collective visceralities in gender identity. These visceralities exist as a response to packaging. Here packaging is not just a provider

of guidance and film to keep food safe but a material that plays a role in how we understand the materiality of food, conditioning our visceral responses to whether food is acceptable for consumption.

Figure 6.4 Picture to show a lemon that showed signs of mould taken from the fridge during the interview with India (J06)

Date labels played a key role as a packaging information tool that conditioned such visceral responses. Dates on food products showed mixed accounts in their role in explanations of knowing when food is acceptable to eat. Few participants such as India and Julia took the dates as an absolute date by which food should be consumed but this depended upon the food stuff, with meat, dairy and perishable fruit and vegetables treated differently to store cupboard items. There were several accounts such as in India's above that noted how dates on food were not a good indicator of food's freshness and by when it should be eaten. Kim for example tells me about one instance where *"it was a bag of spinach and it had a date and it was like six days but is was fine…six days out of date and it was fine"*. Dates were managed around rules for different food stuff as Kalee, a young lady who lived in a shared house in south London and worked in a professional capacity, explains:

> *"I don't really pay attention to dates on packaging unless it's something with chicken in or milk. Generally otherwise I'll do it just by sight. If it's mouldy I'll throw it away. Like*

bread I'll use a couple of days after its sell by date if it doesn't have mould on it. I'll taste it. Erm, again I'm not a very big fan of wasting vegetables and things if they still look fine and they are not growing stalks and things" (Kalee, J24)

For others however dates proved to be an important way in which food was managed. Returning to Andrew and Jeena, Andrew talks about how dates are important to stick by to avoid any anguish and disgust from the viscerality of food. Here any trust or usage of the senses to appraise whether food is edible was actively avoided. Dates, as in previous research, were shown to be used as a device to justify the disposal of food (WRAP, 2008). Michelle's habits were a good example. Prompted by the picture in figure 6.5 below, Michelle explains that these items were thrown away because:

"they looked a bit funny. I'm really funny about food, I don't have anything past its sell by date or anything like that"

No?

So when I looked at it they looked a bit funny so I just threw them away [laughing].

And do you like, smell them or anything like that or?

No, they just looked a bit watery, they were probably fine but no, I threw them away, I threw them away" (Michelle, J20)

Figure 6.5 Items thrown away by Michelle (J20) during the study period

Figure 6.5 shows one of three pictures taken by Michelle during the study week of a collection of perishable foods that were thrown away. Similar to Andrew she showed little inclination for visceral engagement with food, even when prompted, giving an account of how the appearance of the food stuffs was not to her liking. The *"watery"* nature of sauces going against the aesthetics Michelle expected from them. Certain participants actively avoided developing visceral interactions with food that was near or past its best, with date labels one method of achieving this.

To provide one last example of visceral interactions with date labels we turn to Brenda. Brenda was an older lady that was retired and widowed living on her own. Brenda tells me that she has no sense of smell so the dates on food were important to ensure that she does not eat food that maybe harmful and past its best. She also practices actions such as not reheating food in the microwave just to be safe. As she explains below, similarities can be drawn in how an appraisal is still made of vegetables but other food items like eggs and milk are more difficult without a sense of smell.

> *"I mean when you buy the pre-packaged vegetables for instance and they say best before such and such I have them a week or more in the fridge after that. You can tell with vegetables if they are alright*
>
> *I have a problem with things like eggs and things because I have no sense of smell I can't smell if things have gone off*
>
> *I can't smell nice things or bad things so I worry. I do actually probably sometimes throw things that, like milk, because I can't tell and if I can't and if it looks as though it should be out of date or the date is gone and I can't smell it so I tend to chuck it"* (Brenda, J29)

Dates are negotiated as a device alongside the embodied performances of food management. Dates had a further embedded meaning related to how they were used by consumers and their purpose. Date labels represent aspects of the relationship between consumer and food provider, reflecting both the commitment to provide customers with advice and guidance on how best to store and use products. Dates are indicative of the stock management system that oversees the continuous stream of produce entering and leaving food stores (Midgley, 2019). For some participants dates on food were contentious as shown in the example of Raymond. Raymond was an elderly man who lived with his wife, he was retired and lived a leisurely lifestyle. He explains to me how dates on food products are disingenuous:

> *"Well the supermarkets are making enough money as it is, no I know, you can tell when food is off, when it's finished and past its sell by date is when I don't want it. Not when they don't want me to have it. If it says best by I'll do it but if it says eat by like dairy products I don't, I throw that away but normally we don't get that far"* (Raymond, J27)

The idea that food sellers maybe insincere about the purpose of date labels manifests in understandings of responsibilities in society for the provision and safety of food. Evans (2011) notes that the problem of food waste has been anchored in blaming the individual, with more recent work noting a turn to more distributed responsibility (Evans, 2017). These solutions however focus on the social and material contexts with the body and the visceral context lying somewhere in between. Going against suggested storage guidelines and removing packaging that could potentially help a product last longer was part of both a sense of wanting to be in control and placing trust in the senses but also, where dates pre-empted actual deterioration, a rationalisation that current models of food provision are not just. This was not just shown in relation to larger food providers as the quote from Anna shows below:

> *"there is a little fruit shop. Well as one example I bought some fruit I think it was blueberries and I went to eat them the next day and they had already got white mould on them, so you'll see that on my waste, I didn't go back and trust the guy throughout the whole thing. It was very annoying, but that happens sometimes right, these little stores, it's cheaper it might only be a pound"* (Anna, J12)

Similar to Raymond, Anna questions the level of trust attached to food in terms of the customer purchasing a perishable product that will last at least one day. Linda also mentions the short life of perishable food bought from her local market and that "w*hen you say you want two apples they put it in a brown bag and when you get home they actually don't really resemble the nice shiny ones they have got on displays they are a bit wrinkly"*. Through the zooming in procedure, a differentiation was shown between consumer's expected materiality of food (influenced by the products appearance on sale and visceral expectations) and the purchased food's actual materiality. Food surplus and food waste in the home can arise when these two factors are not in balance. Our visceral responses therefore can be represented in aesthetic standards of expectation, with these standards incorporating ways in which participants employed their means of appraising food's shelf life (whether this be via date labelling, visceral responses, or otherwise).

Date labels and their attachment by food providers to products are interpreted in line with responsibilities of the self (Watson and Meah, 2013) or an ethics of caring for the self (Evans, 2011a) in the conduits through which food waste comes to light. Raymond and Anna show that

consumers question how food providers approach the process of assessing product shelf life. This can be seen as part of a wider move where the responsibility for food waste is distributed beyond the consumer (Evans, 2017). Nevertheless this generates questions around where visceralities lie in the responsibilities of both supermarkets and alternative food providers in shaping visceral responses and how these can subsequently lead to food waste.

For the participants in this study there was a great deal of mistrust and inconsistency with regards to packaging and its role, both between participant's households and within them. Clearly packaging and the information that it is representative of does not always have the desired impact, but furthermore it can be considered as a social conditioning aspect for how food products are approached and organised in the home. Packaging as a material to supplement the sale, storage and consumption of food conditions performances through its mediation. Zooming in on performances showed the visible and invisible impacts of this mediation between the body, food stuffs and packaging. It is a material that required negotiation between the body's viscerality and corresponding materiality of food and through this process packaging can script actions that actively lead to food wastage. This is representative of a type of embodied knowledge that can contrast with suggested guidance and competences flowing from societal institutions such as supermarkets. As with practices of planning, guidance to mitigate food waste should not underestimate consumers' processes of appraising the edibility of food.

6.5 Conclusion

In conclusion, the findings presented on the social conditioning of consumption performances pose new intricacies of knowledge in understanding food waste behaviours and raise critical questions for the current and future implementation of prevention based solutions. The first social conditioning aspect, the resolving of planning practices, confronted a crucial part of the organisation of food that has seen little direct investigation and scrutiny. The planning of food was revealed to be a much more convoluted practice in how its performance unfolds in daily life. Participants identified the practice of planning as a formal meal or menu plan but not only did their performance of planning actually take the form of less formal, mental accounting, in some cases formal planning actually led to food being wasted. The resolving of practices as a conditioning aspects dissected how formal plans materialised highlighting both temporally dependent and temporally independent factors. The mental accounting process or 'organisational thinking space' showed a process of negotiation involving coordination, redirection and discontinuity in how food was acquired, prepared and cooked over the course of a week. This challenged the idea that consumers can be segmented into those that plan and those that do not by placing their behaviour in line with the ongoings of the household, work and leisure commitments.

The chapter then moved to disclose the role of the body in shaping the performance of consumption. The body is a conflicting platform of practice and its in-performance dispositions and articulations of material and visceral engagement were shown to lead to food waste. The visceral relationship between the body and food expressed through language and emotive reaction redirected performances towards food disposal. Questions were raised over the adherence of food storage and safety guidelines by participants and how certain material proprieties of foodstuffs cause them to be deemed inedible. This section also provided further interrogation of the role of competences, showing how their deployment is shaped by sensory feedback in the form of articulations of smell, taste and appearance that can lead to unintended outcomes of meal preparation. The lack of acknowledgement of bodily and visceral aspects in the performance of food consumption and food waste behaviours requires further confrontation to properly address the discord between the agency held by the body in its visceral reactions and food waste mitigation actions.

Finally this chapter explored the role of materials and materiality as a conditioning aspect to position packaging as a key mediator of our engagement and understanding of food. Participants explained their interaction with materials showing how the framing of materialities was linked to the bodily scripted performances. The packaging of food was shown to represent an indication and signifier of freshness. For some participants this led to food waste when the indicated date or

desirable food presentation did not correspond with the expectations from the packaging. Some showed a disregard of packaging information and actively questioned the date markers and food safety instructions. Participants held rules for different groups of food, principally meat and dairy, with some placing trust in their own visceral appraisals whereas others were reliant on the packaging device. The findings raise the concern of how the adherence and disregard for date labels prompt food wastage and how this is processed via construction of risk and care for other household members. Overall these findings demonstrate that the conditions of consumption aspects chosen to inform the social domain have proven fruitful in giving further insight into how food becomes waste. The way in which the role of the body was further expanded, and its connection with the materiality of food, unpacked what was occurring in performances to give a new means through which food waste behaviours are implicated.

From considering these findings that have arisen from the social conditioning aspects, the implications for understanding the generation or mitigation of food waste are that firstly planning does not have a clear cut association with food waste prevention, the success of planning is resolved within wider demands that take place over weekly routines. Secondly planning is informally practiced alongside and instead of formal planning (a physical list or menu). Skills in negotiating forces that disrupt planning are a key attribute of food waste prevention. Thirdly the body is a cause of food waste in how, through appraisals of edibility, it exercises its own agency through dispositions and articulations that can lead to waste. Fourthly consumer's interaction with food packaging is a determining factor over understandings of freshness, appraisals of edibility and proper interpretation of food safety information each of which are contributing factors towards the wastage of food.

The next finding chapter explores the spatial conditioning of consumption practices.

Chapter 7

The spatial conditioning of consumption practices

7.1 Introduction

The second of the three findings chapters moves to examine the spatial conditioning of consumption practices drawing upon the problem of food waste as an illustrative canvas. In providing a spatial exploration of the social, rather than vice versa (Low, 2016), this chapter critically examines the workings of space and place in relation to the food waste problem. A spatial analysis can be differentiated from a social analysis in how spatial understanding is the root of knowledge. Knowledge here is represented via a practice-based lens where space is a resource of practice (in accordance with section 3.5.2) in three different ways: In how things and people occupy space with regards to function and design, placement and positioning and presence; in how space is relational whereby performances create and substantiate places; and in how practices are mobile and multi-spatial, performed across different localities. Theoretically this is a pioneering exercise of establishing three different means to approach the spatial analysis of consumption which collectively elaborate on the complexity of food waste at consumer level. This is comprised of discussions of a range of practices and their spatial relations. In these intricacies space is constituted and situated through performative means, uncovering spatial nature of a range of actions both directly and indirectly linked to the passage of food into waste. This was achieved by utilising aspects of both zooming in and zooming out from the data analysis procedure. Specifically this took note of the spatial remit of performances and contextualised associations drawn between practices such as how they reproduce arrangements within and outside the home. This chapter concerns the household and more far reaching spaces as sites of practice such as places of food provision.

Chapter three outlined three key conditioning aspects based upon the workings of the spatial, a reminder of these are given below:

- Environmental cues: Space is taken as the physical spatial requirement of practices. This includes objects, devices, technologies, people and their actions in terms of how these are located and positioned in space. The performance of practices are contextual in how action is scripted and automated within such settings. Environmental cues are the signposting and steering mechanisms that configure, prompt and direct performances of consumption. Performances are conditioned through the nature of their environment.
- Generation of place: Space is taken as a constructive, creative resource whereby the performance of practices make and remake places. This involves the flow of bodies and objects which generate notions of place as performative arenas of everyday action. This is the reciprocal binary of the previous conditioning aspect. Through spatially situated performances, places, as presuppositions of space, are generated and configured.

Performances are conditioned via the process of how places come into existence and are representative of the very fabric, arrangements and norms associated with that place.

- Arrays of performance: The way in which consumption practices are sustained in a multi-spatial manner is addressed here. Practices hold multi-spatial realities with practice-based pathways interlinking different locations. Practices therefore draw upon arrays of spatial characteristics and are not confined to single sites. Performances are conditioned through the multi-spatial nature of practices and the process whereby a performance in one place may be linked to what unfolds in a different place.

The key findings of this chapter are as follows:

- Environmental cues in domestic space:
    - There are a wide range of environmental cues that are implicated in daily food practices which in turn are implicated both directly and indirectly in the wastage of food.
    - Environmental cues are a trigger for performances in how they relate to the deployment of rehearsed, dispositional actions prompted by a settings' familiarity.
    - The design and tacit ways in which devices and appliances are used leads to inconsequential actions that can be seen to generate and prevent food waste. Triggers can be consistent such as how the visible appearance of the amount of food in a fridge is a defective trigger for re-provisioning, or how a salad draw in a fridge can lead to surplus food deteriorating due to internal micro-geographies of this space.
    - Placement of items is important in how practices are accomplished such as how participants draw upon points of locational reference in their flows of performance.
    - The presence of food and its recognition was not an effective trigger to generate a use occasion and prevent food waste.
    - Questions are posed regarding innovations of better designed fridges whereby food is more visible.

- Circularity, capability and a sense of order in the kitchen ‘place’:
    - A circularity of things and people conform to give light to understandings of the kitchen as a place. This spatially performative approach to food practices is shown to be critical in unearthing new findings linked to food waste and food waste prevention.
    - The ordering and sorting of food is an important activity in how households sustain a sense of control and order of their routines. The sense of order variates over the course of the week with the kitchen place holding a particular resonance for meaning, such as for eating as a family.
    - Underpinning ideas of greater organisation at the centre of food waste mitigation guidance is at odds with the ways in which participants lived their lives in conscious acknowledgement of disorder and disarray.
    - A direct connection between disorganisation and generating food waste should be avoided and is not conclusive. It is much more important to develop understanding of how consumers deal the everyday realities of performing food practices alongside their own life commitments and circumstances.
- The practice path of food provisioning :
    - Shopping is an under researched practice from a spatial perspective. Understanding of its spatial remit and how it is interspersed with other commitments offers key insights into the passage or conduits through which food becomes waste.
    - There are a number of sites over which the practice of shopping is configured with participants employing competences and understanding of how and where to shop to co-ordinate re-provisioning the home with work, leisure and family commitments.
    - The food demands of households and their interpersonal relationships complicates the spatial trajectory of shopping and can lead to food waste through over purchasing and over consumption.
- The key implications for understanding food waste in this chapter were as follows:
    - The inner geographies of the kitchen, meaning where appliances and kitchen features are situated, as well as the internal configuration of the fridge, freezer

and cupboard space, can be a contributing factor in how food practices unfold in ways that can lead to, and be preventative of, food waste

- Consumer's lives hold aspects of disorganisation that should not necessarily be equated to being wasteful with food. There are complex interactions unfolding within each household with organisation worked through household members. A full understanding of this is required before making associations between the organisation and management of food and the causality of food waste tied up in household spaces.
- The food related activities that are traditionally associated with how food waste comes about hold a wider spatial remit than just the home. The way in which consumers struggle to manage food alongside the spatial remit of their work, leisure and family commitments is a cause of food waste.

This chapter begins with a discussion of the role of environmental cues.

7.2 Environmental cues in domestic space

Space in this section is taken as a physical resource, as an arena, setting and locality for behaviour to take place within. Here the domestic consumption of food unfolds within a setting of environmental cues that can configure and shape the performance of practices. Cues are taken here as any device, object, appliance or material related to the spatial layout of the home which trigger actions as "essential aspects of the external situation steering performances" (Warde 2016:134). These were accessed by zooming in on the body's movement and ability to configure and be configured by objects in space. Such cues are a critical part of understanding the performance of practices as they relate to the deployment of rehearsed, dispositional actions prompted by the setting's familiarity and the characteristics of the space (Warde, 2016). Three spatially situated facets (tacit use and design, placement and presence) give a unique contribution to food wastage and prevention behaviour.

In reviewing work elsewhere in chapters 2 and 3, it is clear that there is little knowledge connecting spatially significant aspects and food waste behaviours. In general the role of materials and their relations, particularly from a spatial perspective, is missing from practice-based accounts (Shove et al., 2007). Recent work has begun to highlight how aspects of the design of kitchen appliances can be connected with food waste (Waitts and Phillips, 2016) and how "helpful cues" can tackle food waste from a contextual perspective (Hebrok and Heidenstrøm 2019:1437) but this has exhibited limited spatial analysis (Devaney and Davies, 2017). Outside sociology and geographies of consumption, studies in psychology have attributed environmental settings to fabricating taste expectations (Wansink et al., 2007) and influencing portion sizes and calorie intake (Wanskink and van Ittersum, 2013; Wansink and Payne, 2007). The theoretical positioning of space here is limited however to how the physical features of this space may shape food intake (Sobal and Wansink, 2007). A narrative therefore is missing regarding the wastage of food.

A key part of the interview process involved participants illustrating the internal spaces of their homes where they reflected upon the spaces within which practices relevant to food consumption and waste took place. Participants discussed the layout of their homes as well as the things and people that inhabit them. This included spatial characteristics that enabled, modified and disabled their performances. Figure 7.1 gives the spatially significant aspects of the domestic food practices discussed in the study.

Figure 7.1 Spatially significant aspects of domestic food practices

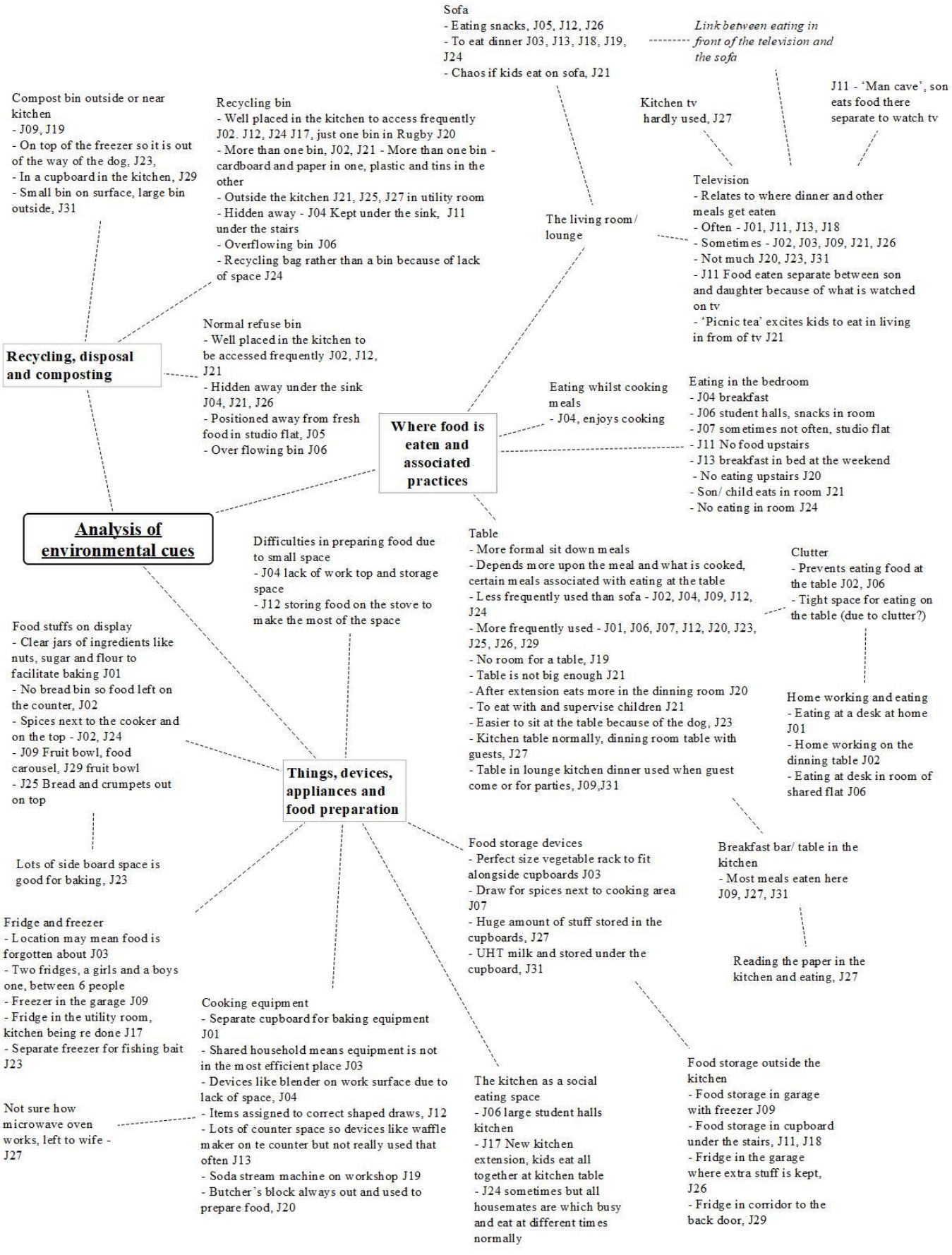


Figure 7.1 displays the wide remit of the physical characteristics of domestic space that were intrinsic to food practices. These extend from the devices and appliances that serve a purpose and are interacted with, to characteristics of the amount, nature and layout of space. For example the first category of recycling, disposal and composting in figure 7.1 is an exemplar of how the position of the bin relates to actions of getting rid of waste food material (discussed below). Participants labelled where food was consumed and how this tied in with practices like watching television. Different pieces of cooking equipment and their placement were present in participant's accounts of their food practices. Participants revealed a matrix of things that had spatially significant characteristics which were implicated in their daily food practices in both direct and indirect ways.

Several of the streams of statements in figure 7.1 are indirectly associated with the transition of food into waste. This means that there might not be a direct tie to actions of disposal or prevention, but such actions can be connected because of being implicit in the wider nexus of food practices. This is justified given that environmental cues are contextual aspects of the performances of practices that lead to food waste with reference to the scripting, prompting, limiting or enabling of actions (Warde, 2016). Note however environmental cues do not have a consistent function in triggering subsequent actions or dispositions. Environmental cues can merge into the mundane background of "a jumble of signs of past and future eating" (Warde 2016:136). This section breaks down the conditioning of food waste and prevention practices via environmental cues into three means: firstly via purpose or function; secondly by placement or positioning; and thirdly by presence.

As a starting point, Michelle tells me how her use of plastic food storage containers of various shapes and sizes facilitates the preparation of lunch for her husband and daughter due to how aspects its design corresponds with what is being prepared. This is shown in figure 7.2 below.

Figure 7.2 Picture taken by Michelle J20 of the use of Tupperware

The different sized plastic pots assist Michelle in using up leftovers and other foodstuffs. Michelle tells me how she has to make her own, her husband's and her daughter's lunch in the morning as well as *"everything else that goes with having children".* She explains that the morning is a stressful time:

> *"I just end up being frazzled so I just don't have any time in the morning at all so I'm off and eating…. my breakfast in between doing other things and I don't tend to have something I've got to sit down for because I just don't know if I'm going to have chance to eat it"* (Michelle, J20)

The plastic containers here are a reference point to aid Michelle's management her morning routine. Michelle however was a participant that was very wasteful with several unused food items being thrown away during the study period. This suggests that although devices such as the container are useful and can configure performances, this only impacts specific practices, here being the preparation of lunch and alleviation of the morning routine. A further example is with Violet who points out how her *"slim line veg block"* is "*the perfect size to fit this vegetable rack*

at the end of the row of cupboards". A device's role in space aligns its function to the physical suitability to do the job and fit in with the micro-topography of the kitchen space. Zooming in on the performances associated with kitchen tools allowed access to this level of detail. Aspects of this micro-topography corresponded with Shove's et al. (2007:10) work that explains how expressions of manufactured design "are actively implicated in creating new practices and with them new patterns of demand".

The fridge and the freezer were significant environmental cues for food waste related action given their design and function. Anna complained that her freezer was too small and that this limited her ability to prevent food waste through freezing. Brenda's fridge was also small which created difficulties when keeping larger quantities of food to cater for guests. In some cases it was the very design of the appliance that generated problems. Beverly tells me about her freezer which she acquired from a pub and was originally designed for ice cream. She complains that *"it's a bit of a pain because you have to dig everything out so I got a basket in there that I try and keep herbs and frozen chilli's and ginger and stuff but everything else you are constantly going through"*.

Arguably here the fridge and freezer are more than appliances involved in the management of food but are themselves key enablers by triggering actions relevant of food storage. Complaints of lack of fridge or freezer space can be equated to having more food than needed. Several participants for example spoke about the ability to freeze food rather than throw it away, but were not certain when this food would then be consumed. Antonio and Christian tell me about some leftover lentil pie: "*we ate this for two days in a row and then we were fed up, three days were too much for lentil pie, but I cut it into two portions and then froze the portions"* and this was still in the freezer at the time of interview. India tells me about some Indian food that had been in her fridge for several months and admits "*it will probably get wasted lets me honest".* Andrew and Jeena admit when freezing some leftover bolognaise that "*there's not really any plan"* of when this would be used and *"it just depends on when we remember".* Michelle also explains that *"I don't know why we go down the whole freeze route because it will just get thrown away at a later point".*

Shove and Hand (2000) as well as Evans (2011) highlighted the role of the fridge in procrastination over discarding food stuffs. The function and purpose of the freezer therefore may offer an alternative conduit to disposal but it is not always a further prompt for this food to then be consumed. The interview process actually acted as a reminder of what was in some participant's freezers' such as in the case of Linda. It could be suggested that consumers are

somewhat erroneous in having the knowledge and tools to properly store and save food, but needing the prompts for saved leftovers or surpluses to be consumed.

In this study the fridge was a valuable visual representation for participants to check or gauge the status of level of food held in the household. Participants commented on how their fridge would reach full and empty points and how this was a cue for action. Raymond for example shopped on the evening before the interview took place and explains that the fridge *"was all empty yesterday, virtually empty and we went shopping last night so it's filled up".* Jason tells me how he had gone shopping deliberately to show me a fully stocked fridge for this study. Sandra notes how the contents of the fridge, and thus its inner geography, changes over the course of the week with the presence of a greater number of food items as the week commences. The fact that a significant amount of reported food waste was due to decayed food being retrieved and disposed of from the fridge shows that as a visual cue the fridge is a somewhat defective trigger for re-provisioning. For other participants such as Julia and Carl, they explain circumventing how waste might be generated from filling up the fridge:

> *"I'm not really fussed because then there's the pressure to do something with it all you know when you go and get all the fresh stuff and then it's like oh no I've got to use it all before it goes off. No we don't tend to over buy when we go shopping"* (Julia, J01)

This suggests that whilst some participants were more aware than others of the link between the contents of their fridge and potential food waste, the function and purpose of the fridge's inner geographies holds significance as an indicator for the level of food held in a household, the need to repurchase food, and subsequently the prompting of actions of food disposal. Michelle's fridge sorting, which was also aligned with her shopping trips, prompted considerable waste, featured in figure 6.5. The full and empty points were part of the rhythm of household routines (discussed in greater depth in chapter 8), with the fridge's spatial status creating a demand for replenishment. One of the factors behind this was how a full fridge was associated with satisfaction and contentment, as Julia explains *"it does look nice well yea there's lots to choose from, yea it is well satisfying".* Another reason was also how performing this practice gave participants' a sense of control that is discussed further in the next section.

Participants explained how their fridges were spatially zoned for specific food stuffs that reflect the normalisation of a micro-geographies of the refrigerator. Jason for example talks me through his fridge noting, as others in the study do, how the vegetables are kept in the bottom in some kind of drawer, how *"several blocks of cheese"* have their specific place as well as butter, eggs, sausages and fruit juices and milk in the door. Participants such as India, Violet and Kalee

that lived in shared or student accommodation displayed reformulated fridge spaces around areas assigned to each person but still aligning to norms around where food is kept being linked to aspects of design and food safety. Placement and usage of items in the fridge also link to household responsibilities for cooking and managing foods which is mentioned in figure 6.4.

General understandings placed meat at the bottom of the fridge, with Katherine telling me that *"normally I would have all my meat down there"* with items like jars and sauces that require less monitoring of their decaying materiality. Linda tells me about her fridge:

> *"I tend to keep this box here with my salad stuff and maybe fruit and that in there and things tend to lurk at the bottom there but I will lift that out if I'm preparing a salad, I will lift the whole box of and I will discover what was past its best"* (Linda, J09)

Later into the interview Linda explains:

> ***"What's that there?***
>
> *It's a mouldy apple, a satsuma that's gotten brown marks on it and some tomato that must have been left over from the curry so it had been in there for many days so that had to go.*
>
> ***And were they in the fridge and you saw them***
>
> *That was, that was in the fruit well I didn't realise because it was that way up and it looked like a lovely apple but then when I moved it I realised I was going to have to cut that off, a while ago"* (Linda, J09)

The salad draw is one design point of the fridge that can initiate both food wastage and food waste prevention depending upon how it is used. For some participant's such as Linda this was an area of the fridge where food "*lurks".* For Michelle the salad draw was an important tool in keeping together items of food to retrieve and use up in the preparation of lunches. Several participants commented on how food would go missing and then go to waste in the fridge. Jade (a recent graduate living alone) noted that she "*made like a couple of mistakes like erm putting vegetables at the back of the fridge and they got spoilt".* Anna told me about her previous home where her *"home help ladies"* would "*squish things at the back and its hidden behind something"* causing food to spoil. Beverly tells me that purchasing reduced items "*clogs up my fridge and I can't see things properly".* Elizabeth also explains that *"I think with the bigger fridge, you do…you're more likely to lose things in the back of it".* Figure 7.3 below shows a picture taken by Elizabeth displaying a packed full fridge (right) and freezer (left). The photo reflects her

comments on purchasing frozen foods to mitigate dealing with any food deterioration and potential wastage.

Figure 7.3 Photo taken by participant Elizabeth J21 of her fridge

As spaces responsible for prolonging the life and freshness of food, fridges and freezers are also cues for both direct and indirect actions that led to food either decaying to a point of in-edibility or food falling into the surplus gap and then being disposed of. Observations have been made previously of how fridge clutter can lead to waste (Hebrok and Heidenstrøm, 2019) but the discussion here has highlighted how the purpose and function of the fridge's inner spatial proprieties are indicators for food provisioning and their zoning micro-geographies. The zooming out of how the fridge is involved in food practices helped reveal the wider implicated role its design played in mitigating and causing food waste. In certain ways the design and tacit ways in which devices and appliances are used leads to inconsequential actions that, when situated in the weekly nexus of food practices in the home, can be seen to generate food waste.

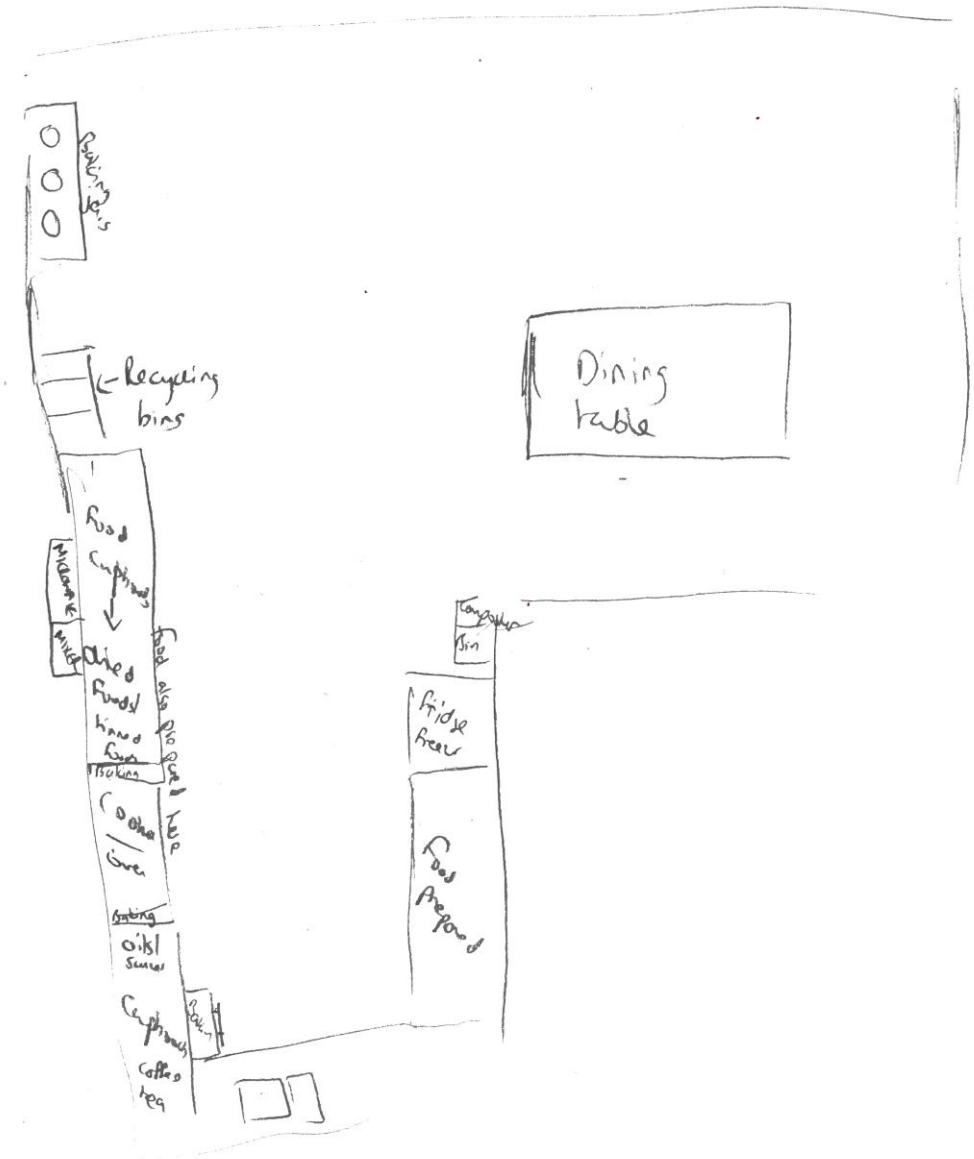
Next the focus moves to placement. Placement here is taken as a conditioning force relevant to the physical positioning of something in space. This might be the placement of food items or areas where they stored, to the placement of devices, appliances and room layout such as how one

appliance might be adjacent or juxtaposed to another. This is important given how dispositions constitute unconscious references to where items are kept and the movements of the body between the placement of things. For example Sam tells me about how she always keeps spices next to her cooking area:

> *"all the things that we use frequently for cooking like closest to where the cooker is where we are actually cooking, like our spices are right next to the cooker and there's lots of things you just sort of grab, grab for when you're cooking and you add some pepper or some whatever it is to what you're making"* (Sam, J09)

Whilst this might not be a significant finding it shows how flows of performance in the kitchen are important in how practices are accomplished. For Sam, part of accomplishing cooking successfully relates to the placement of such items. This is significant given how one of the ways in which Sam prevented food waste in her household was not following a recipe and cooking what was at hand. Other participants also explained how the placement of items facilitates cooking. Julia tells me how she has sufficient space for cooking and practising her hobby of baking. Her different baking ingredients, implements and devices, such as a stand mixer, have their own position whether this be in a draw or cupboard or on the worktop. Figure 7.4 gives Julia's internal household food map displaying the detailed labelling of things baking related. Similar to Sam, Julia was noticeable for preventing food waste via using ingredients up that were in close reach and required eating.

Figure 7.4 The household food map drawn by Julia (J01)



Participant's placement of items was drawn upon in performance as a locational reference. Participants that more readily prevented food waste by using up food at hand and using up surpluses gave a more in-depth description of the placement of things in their kitchen. There were

many different reasons given for how participants justified this locational reference. The previous chapter gave examples of how food placement can be linked to visceral preferences such as how Sandra kept strawberries outside the fridge. Linda also explains to me that *"I do tend to keep things like potatoes and apples and I have found that if I keep bananas in there when they are green they last longer and now and again I bring in the odd one or two".* The location may have been defined by how the living space is shared such as with the three participants that lived in shared or student housing. One of these participants, Violet, mentions that this allocation of space somewhat hampers keeping food items and equipment in a more logical place to facilitate food practices:

> *"I think if it was just me there or if we lived, or we'd chosen to share all the food and the cooking and everything else then I'd probably but different things in different places in the cupboards*
>
> ***Like what***
>
> *I'd, I'd re-arrange where, I probably wouldn't need the vegetable rack because I'd organise the pans different so the cupboards were used better, that kind of thing"* (Violet, J03)

For a kitchen to be an efficient and pleasant place to cook the location of key devices and appliances must be logical, with this 'logic' in Violet's case here being akin to where items are most accessible and usable. Other participants also commented on this underpinning 'logic'. For Jade this was something that proved difficult to relay:

> *"I'm just thinking it makes sense to me. Like this one here I'd have flour, sugar umm oil umm anything kind of like that, I'd also keep my onions and potatoes in the bottom of that, And then I've got like a draw over here which I keep my herbs, spices and spaghetti and that sort of thing in"* (Jade, J07)

Jeena and Andrew however explain how their kitchen is arranged without a clear precept, but locational reference is still present:

> ***When you moved in how did you decide where to put stuff?***
>
> *J: Literally where there was room*

Andrew goes on to explain:

> ***So how did you decide all this?***

A: It just naturally happened after a while I guess didn't it,

J: I unpacked and it went there and we've just not moved it since we've moved. There is stuff that we want to change about but we just haven't. (Jeena and Andrew, J13)

Participant's descriptions reflected a practical conscious of this locational reference which correspond with the usage and management of the kitchen. In households where one person was responsible for preparing meals for others, their demands were also taken into account such as with Katherine who explains:

"Pasta, flour and crap I put up there, then I have all the tins, then we have the nice stuff, then I have the cereal which probably made for [her young daughter] and the things I want her to eat, I will let her have extras to and anything else will be on a higher shelf" (Katherine, J25)

Katherine's daughter was noticeably picky during the study week leaving pieces of nibbled cucumber, chocolate cake, the edges of crumpets and fruit on her plate that was not to her liking, food that was then thrown away. The assigning of a dedicated place just for food that her daughter was more likely to consume was a way to mitigate potential waste.

Getting into the depths of these locations brought out from participants a practice-based purpose of why food items might be placed in certain locations and how this is referenced in the flows of everyday life. In Katherine's example this was the feasibility of dealing with a fussy daughter in the mix of the wider practice projects of work and leisure. Whilst Dobernig and Schanes (2018) note children can cause food waste through over provisioning, the management of their food and the role this plays in their food consumption is also a factor that should be considered. Overall this suggests that the material nature of things and how they configure practices is not just about their tacit use but also where they come to be located and how such positioning is interpreted as reference points in flows of performance. This point is extended further by looking at the positioning of the bin and kitchen appliances.

Bins for normal refuse, recycling and food waste featured as part of discussions during participant's completion of the internal household map. The bin is a device that is frequented in many food related practices. Andrew tells me about how the positioning of the bin relates to food preparation explaining how the bin was positioned near the kitchen counter area to collect offcuts:

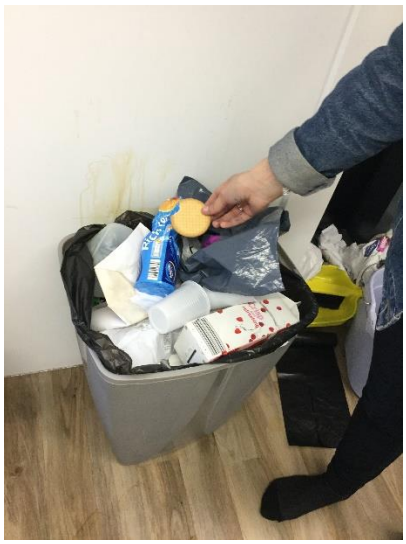
"So with the fajitas when I was chopping up the peppers I'd obviously throw out like, the middle bits like the core and umm the onion skin" (Andrew, J13)

This is also the case for Anna who tells me how she takes off the grapefruit skin and the top of strawberries with her actions indicating how the peelings drop into the food waste bin, *"I just go chop, chop off the top like that"*. Looking back at figure 7.1, the majority of participants situate their bin in a well accessible area in the kitchen, perhaps at one end of the room out the way from food. The position of the bin sets a placement of an area related to dealing and sorting waste and recycling, giving a distinction between fresh and spoilt food as Jason demonstrates:

> *"I don't want the bin next to the food, umm I don't want that stuff yea. And bear in mind this is a studio flat I mean it's not like a laborious walk so I keep that near there essentially to keep that away from the food"* (Jason, J05)

Sam tells me how her refuse and recycling bin are accessible "*because we use them quite frequently because a lot of stuff can be recycled".* Anna spoke about how her bin was placed next to her food preparation area, with Kalee and Kim also setting out an area for the refuse bin in an open and accessible part of the kitchen. India's bin was also placed in a similar manner but was over-following and not kept in the same tidy and organised way as other participants, as shown in figure 7.5 below. India explains that this is because the refuse and recycling bin are a collective responsibility that had to be taken down to a central waste and recycling point.

Figure 7.5 Pictures taken by India (J06) of the bin and recycling in her shared kitchen



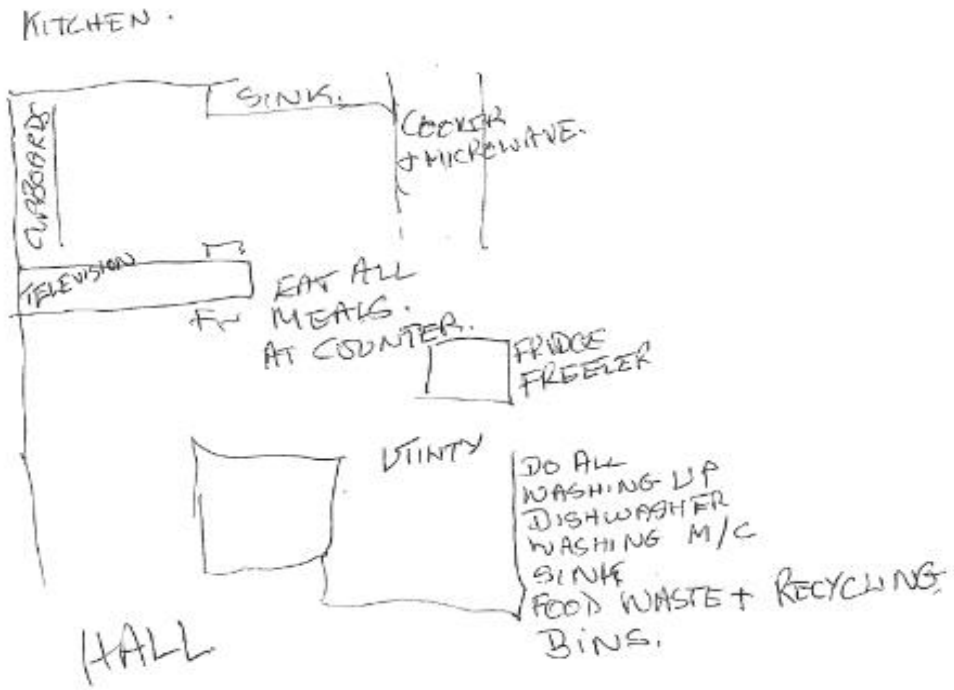
It is more difficult to draw a connection between the accessible placement of the bin for Anna, Kalee and Kim and their food disposal and prevention actions. All these participants employed practices of using up food, such as ensuring any leftovers were eaten, but their reasons for waste vary. This suggests that the placement of the bin may relate to practices of cooking and food preparation, but this does not overlap into food disposal. The findings from India also suggest that there is not a connection between the amount of kitchen space available and the role of the bin in food practices. Kim and Michelle mentioned how they had recently had their homes extended to

increase the kitchen and dining area yet this was not significant with regards to how rubbish and recycling was sorted in the household.

In comparison, others explained how their bin was tucked away. Antonio and Christian had little space available in their kitchen with both the recycling and the normal refuse bin kept under the sink. This was also the case for other participants where recycling was demoted to a different space. Meera says that "*the recycling is under the stairs"* and goes on to explain that this is the place where her son stock piles things: "*he's got the cupboard here with all his booze, he's not an alcoholic but his, when he buys his beer he just keeps it there … in there we've got snacks like crisps".* Sandra also keeps her bin under the sink next to her food waste bin with Andrew and Jeena keeping their bins under the counter spaces in their kitchen.

For other participants the areas assigned to dealing with rubbish fell outside the kitchen altogether. Kalee tells me how a recycling bag is kept by the door because "*we don't have enough room for another bin".* Amanda tells me about how her food waste bin must be kept on top of their freezer so that it is out the way of the dog. Often a separate, nearby room was used, such as a utility room or garage. Elizabeth sorted her recycling in the utility room. Raymond explains the process in his utility room where both the food waste and recycling is sorted as "*everything goes in there and then I take it out and everyday it goes in bags in the garage".* His internal household map identifies the utility space as the area where cleaning and sorting of waste happens, in figure 7.6.

Figure 7.6 Internal household map drawn by Raymond J27 showing lots of detail for waste related actions in the utility room



The examples above show how participants negotiate assigning a space for dealing with the procedures involved in waste and recycling. By zooming in on bodily choreographies and the placement of objects, there is some evidence to suggests that the position of the bin is significant in food preparation performance, such as in cases where its placement is noted as facilitating the flow of disposal actions. However there was not sufficient findings to make a comment on whether the location of the bin was associated with either instances of disposal or prevention. What can be said however is that the location of the bin is a key part of the flows of performances in the kitchen that is readily drawn upon in the movements around the kitchen space. Hand, Shove and Southerton (2007) describe a 'choreography' of things and people that take place through such kitchen configurations. Habits that are present still persist and this does not suggest that a more accessible refuse, recycling or food waste bin could prevent food waste rather that participants held an ingrained locational reference for the area designated for rubbish and recycling which prompted and enabled associated actions. Whether participants went about throwing food away or not they were happy to negotiate their movements around this area regardless of whether the bin was placed under the kitchen worktop, was hidden away in a cupboard or was outside the kitchen altogether.

A final point in this part on placement must take into account the positioning of the fridge which was more significant for flows of food related action and the disposal and prevention of food. Michelle explains how her fridge is not in the best place:

> *"when you're making a cup of tea you have to go to the fridge and then come back again [laughing] so I don't guess it's as best laid out as it could be but because of the space it's the best we could do"* (Michelle, J20)

This is also the case for Elizabeth as *"there's a larder cupboard here which is really annoying because this door opens here and this door opens here. That's why I was thinking it's not very logical, because you have to make sure that that door is closed".* For Kim her fridge is in her utility room next to the kitchen *"which is a pain because I have to walk right in".* The inconvenience due to the placement of a regularly used appliance such as the fridge can disrupt the transit of participants between devices in the kitchen area. This can be linked to the generation of food waste in how a source of food waste for Michelle and Elizabeth (and to some extent with Kim) was the disposal of food that had deteriorated in the fridge. Interestingly participants did not mention any aspect of inconvenience when it came to the placement of the bin, suggesting that the reasoning to why certain participants hide their bin away or locate it outside the kitchen took principal over convenient access for waste disposal.

The third and final facet of spatial conditioning via environmental cues is presence. Presence differs from placement as these are examples where the participant's performance can be linked to the recognition, or non-recognition, of a specific item that then triggers wasteful or preventative action. A good example of this is the overlooking of foodstuffs which participants knew needed to be used but were wasted after deteriorating despite being in direct eye line of sight. This food can be identified as food that has fallen into the surplus gap, as explained by Evans (2011), but the findings here can provide further insight on why the presence of such food is not a cue to act. Examples of this include Antonio and Christian's apples that went to waste despite being placed in open view on the kitchen counter. There were also several examples of participants explaining how food went to waste in the fridge despite being visually aware that the food was present.

Beverly gives an instance of this explaining how her yogurts go to waste:

> *"The one thing that we've thrown away is yogurts. Because we eat a lot of yogurts and the problem is that they get put in the door of the fridge and if you leave the silver on top you don't know it's gone off"* (Beverly, J19)

Previous examples from chapter 6 also feature how participants knew they had food that was present in the household and required consuming but yet it was wasted. Linda discovered that some fromage frais yogurts went to waste, not because they were hidden in the fridge but because:

> *"I kept looking at it and thinking we need to have that but it was just busyness really and just not thinking we need to have that now and then when I think about it its too late"* (Linda, J09)

Arguably such items were yet to fall into the surplus gap, but yet participants were aware that the food items in view required eating and were deteriorating but this was not acted upon. The presence of food then is not always a trigger for its consumption or a 'use-occasion' described as a situation "in time and space where particular food fits in" (Hebrok and Heidenstrøm 2019:1438). This observation corresponds with Warde's (2016) warning that just because items maybe in view and inhabit a space does not mean they are always part of a practice. In the case of Beverly she attempts to blame why the food went to waste on the positioning of the yogurts despite recognition of their presence. Critically this also indicates that each opening of the fridge does not correspond with a rational acknowledgement of all the items it houses but rather only those that are relevant for that instance.

This can also be seen with the presence of devices and appliances and their usage. Andrew and Jeena tell me how they *"have a whole load of counter space with kind of cooking gadgets that we don't use as often as we should, except the waffle maker".* This raises the question again of how the presence of things is not always an indicator for practice. Shove et al. (2007) explains this as the difference between 'having' and 'doing' whereby people have all the materials to meet their aspirations and ideals but these do not take place. This questions conclusions drawn by Hebrok and Heidenstrøm (2019) that better designed fridges where food is more easily visible could potentially lead to waste reduction. Another reading would be that only when practitioners acknowledge the presence of food in a purposeful way can waste can be prevented. For example during the interview with Julia I notice how jars of ingredients are clearly displayed on a shelf in the kitchen. She explains that *"actually part of the reason for the nuts and things is that when we go shopping I don't have to root all through the drawers I can see ok I'm getting low on hazel nuts or whatever".* For Julia, looking at the jars was an action that was part of the practice of baking that also served to prevent any surpluses. In conclusion, the presence of devices and appliances in kitchen spaces is only as significant as the practices taking place (and their spatial properties such as their locational reference).

To summarise, the findings here demonstrate how the working of the practices in domestic spaces, those both directly and indirectly tied to food waste and prevention, can be configured by: their spatial purpose, function and design; placement and positioning; and the presence of devices, appliances and the characteristics of the space itself. In situating space as a container for practices here, the idea that food waste can be triggered or prompted by environmental cues was critically interrogated.

The first conclusion to draw is that there is a wide remit of 'things' that can be linked into food practices that in turn relate to food waste and food waste prevention actions. Domestic spaces hold a micro-geography of tacit materiality that is significant to understanding performances in these spaces. The design and purpose of appliances and devices can configure such performances, such as with the vegetable or salad draw. A focus on placement and positioning showed how food can lurk and go missing altogether in the fridge and also how both the fridge and the freezer hold inner geographies as spaces to be managed.

The placement of food items can act as a potentially wasteful trigger for the re-provisioning of food. Zooming in to focus on where and why participants positioned certain food items in specific places revealed the role of locational reference as part of dispositions within performances. Also whilst the placement of the bin was not significant as an indicator of food wastage, it did show how participants assign an area for wastage and recycling and its reference in food preparation. Finally the discussion on presence questioned measures suggested elsewhere around how greater visibility of food can help prevention food waste. Despite the functionality and placement of food items to a certain extent acting as a trigger, participants showed that the presence of things is not always acknowledged and thus is not consistent in their performances.

Key questions are raised here for progressing towards establishing a domestic space that is able to withdraw wasteful cues and encourage those that are more closely associated with prevention. Practitioner relations with objects, whether this be food stuff itself, the devices and appliances used to manage it, or the fixtures, fittings and physical characteristics of rooms like the kitchen, is complex. It is too simplistic to assume that the new introduction of a time saving device, a new piece of technology or a means of better food deterioration management always leads to greater waste prevention. This undermines organisational devices, such as space saving tools because of the nature of the performances of kitchen practices. As a spatial container for practices, space holds properties that configure performances, such as how and why consumers develop a locational reference of their items, how this is referred to and how the micro-geographies of the kitchen change and are maintained.

This section has greatly expanded the conception of space as a container of practice as discussed by Shove, Pantzar and Watson (2012). By situating space as a container of the nexus of consumption practices that instigate food waste, the contextual aspects of the flows of performances have been explored (zooming out of the scene of the kitchen). It is the settings of these flows and their spatial characteristics that are a key point of continuity in everyday life that can both generate and prevent the wastage of food. The next section turns to discuss space via more creative and configurative means.

7.3 Circularity, capability and a sense of order in the kitchen 'place'

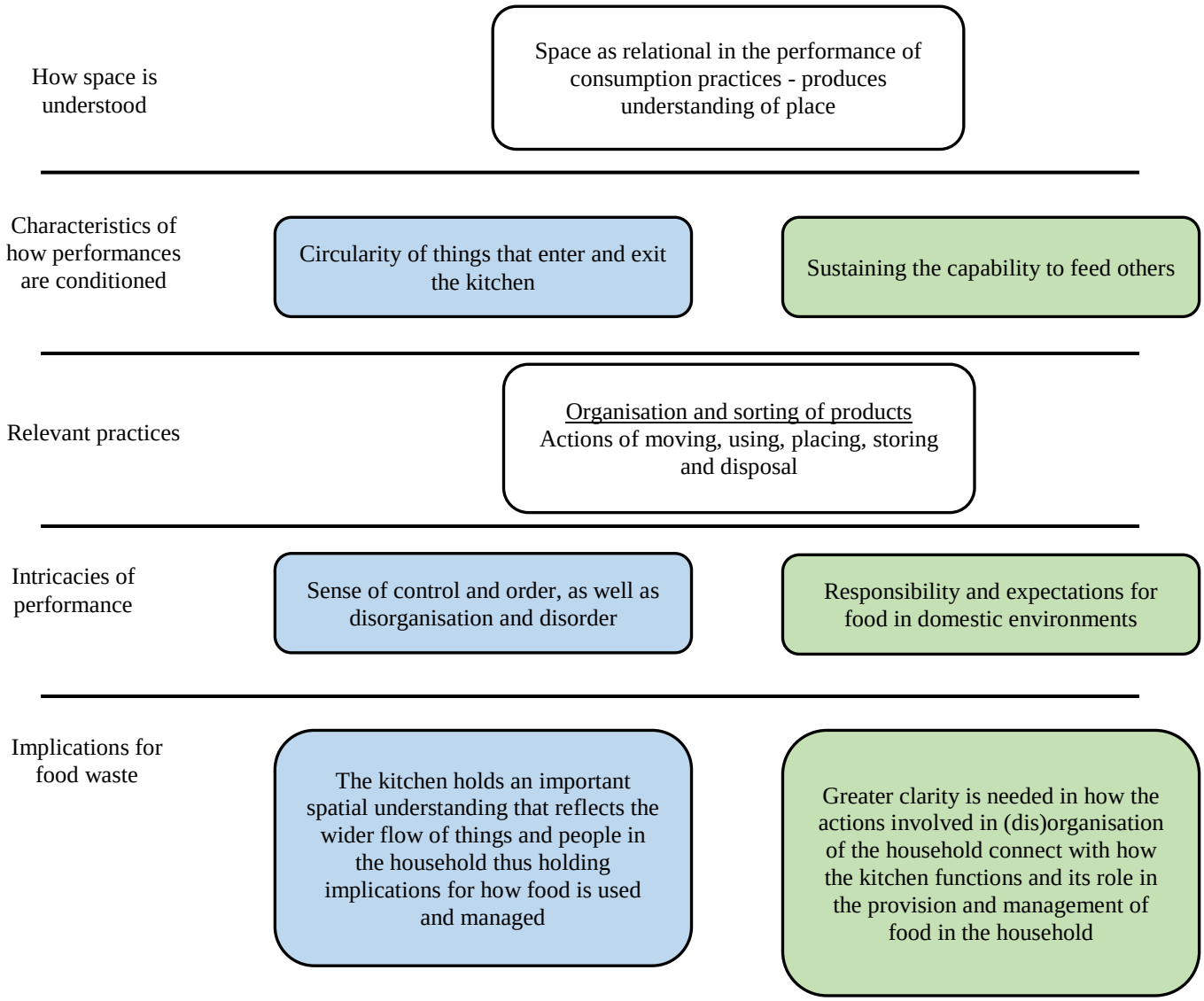
The focus of the findings in this section explores the performance of food practices related to the passage of food into waste and its link to how the kitchen as a place is constituted. Space here is treated as a constructive and performative resource of a practice. In the same way in which food practices are social practices they are also spatial practices, constituting, creating and conforming representations of space. Through the performances of practices 'places' come into fruition as familiar localities associated and identified with specific practices, flows of objects, materials, and the movements of people. Performances sustain such place based representations, with the kitchen holding key spatially related knowledge for studies of food waste. The findings utilised in this chapter were also derived from zooming out of performances in the kitchen. Within the analysis procedure this was framed via a focus societal stuctures and norms that relate to arrangements of order, as noted in table 5.2. A form of spatial conditioning is presented here that was set out in Chapter 3, section 3.6.2 and includes points such as: how the circularity of things and people conform in kitchen; how the kitchen as a place is representative of sustaining the capability to provide food; and the importance of this place in gaining a sense of order and control over everyday life. These conditioning characteristics are underpinned by organisation which is critically examined here in participant's accounts. Key conclusions are drawn with regards to food waste and its prevention.

First it is important to clarify the workings of the conditioning force in the context of these findings. As already established there is a lack of critical analysis of the role of space in consumption practices, let alone considering space as relational to move beyond the static, container based approach discussed in the previous section. This section principally focuses on the space of the kitchen as a place within the household that only emerges when people and goods are linked (Low, 2016), forming spatial arrangements that can be accountable to food waste behaviours. The findings show how place comes about through spatial constitution, making a leap in bridging practice based accounts of behaviour and how behaviour is understood in social and cultural geographies.

Pink (2012:49) clarifies that "localities and things converge in the making of kitchens and selves". The kitchen has been framed as a place or site of ordering and organisation within the household (Hand and Shove, 2004), a locality where food practices are 'worked out' through innovative twists and redirection in their performance. The kitchen is treated as a "site of sensory consumption" (Pink, 2007:64), "determined through entanglement of things, traces, sensations, moralities, skilled practices and more" (Pink 2012:62). Figure 7.7 gives a visual aid explaining

the characteristics of how performances are conditioned and how this can be tied into the theoretical contribution and the study of food waste.

Figure 7.7 Diagram to show characteristics of conditioning where place is constituted through the performance of practices, related findings and implications for food waste at consumer level



First the findings discuss the flow and circulation of materials in the study households. Participants explained how they replenished their fridges after shopping and the process of removing old items and filling the fridge with new ones. Antonio and Christian are used as one case in the previous section of this chapter. Another example is Sandra who replaced her fruit and vegetables according to her visceral preferences. She explains that *"tomatoes I keep out, but spare ones I will keep in the fridge and when they have gone in the bowl outside then I'll put the fresh one's out".* This is the same with the lettuce for Sandra in that is it used until it reaches its bitter middle and then thrown away. Linda tells me how she infrequently checks the jars in her fridge and she "*did find some that were out of date so they had to go".* Beverly talks about doing "*big Tuesday night clean outs"* of her fridge. There is a circularity of usage of how food enters, is kept, used and exits the kitchen that sustains its purpose.

All participants gave details of the actions involved in 'doing the recycling'. This included describing how the recycling is "*always full*", such as in Meera's case, or the process of first putting lighter items in a recycling bag hung on the door, and then moving this to somewhere else once it gets heavier as Anna explains. This practice has its own rules of sorting and ordering and rhythms of filling and emptying the assigned containers over a weekly or bi-weekly period. Explanations of what could and could not be recycled accompanied some participant's accounts of what they get up to in the kitchen such as with Sam:

> *"you put it in a little paper bag so I had to throw away that paper bag as we used up the ciabatta bread and then we threw away the coffee filter as well that we made the coffee from, erm and then I threw away the package that the ravioli came in and also the bag that the spinach came in and I also had some sweets and a banana"* (Sam, J02)

Similar actions of how normal refuse and the food waste (or food recycling) bin were dealt with also reflect how participants discussed and brought about the kitchen as a place. Anna for example describes the importance of separating her offcuts into a separate food waste bin *"I sort of feel guilty tossing it in with everything else that is gucky".* Eric and Joana explain how they have a smaller food waste bin on the kitchen counter which is transferred to a large one outside the back of their house. Linda, Beverly and Elizabeth give accounts of how only certain foods can go in their compost bin. Linda in particular discusses the process of the compost upkeep in detail. Collectively the recycling, refuse and food waste bin were forms of sorting and ordering food, waste and by-products such as packaging. These materials flow into and out of the kitchen maintain a kind of equilibrium of what should happen as an everyday 'doing' of waste. This equilibrium was part of participant's understandings of the kitchen and to a certain extent

normalised over purchasing as well as actions of dealing with food surplus as performances that continually remake domestic food places.

Secondly the findings move to breakdown how organisation is performed and its relation to the kitchen. As section 2.2 in Chapter 2 points out, organisation may underpin many of the assumptions held by food waste mitigation campaigns which fail to reflect the everyday realities of how people live and sometimes consume resources in an unsustainable manner (Pink, 2012). Organisation is also explored here. Organisation is separated from its positive connotations of how a household should 'work' in a competent manner, showing how disorganisation can also spatially constitute the kitchen place. In emphasising the context of everyday actions, participants spoke about how they organised their lives, with food playing a key part to give a sense of order. The majority of participants did not make a direct connection between how organisation may have led to food waste, particularly before the food reached a point of deterioration (with the exception of Julia and Carl). This aligns with comments made by Hoolohan et al., (2018) on the 'impervious' nature of unsustainable resource use.

There were examples in the study where participants displayed annoyance when the circularity of food was broken or diverted where food was not used correctly or new food entered that went against organisational practice. Katherine for example conveys her annoyance when her son orders pizza. She lists several meals as possible options that could have been made in the kitchen:

> *"there was eggs, there was beans, there was cheese. So you could have had an omelette, you could have had cheese on toast, you could have egg sandwiches. He could have had dippy eggs and soldiers. He could have had beans on toast with grated cheese on top. There was lots of things he could've had. There's tins of beans in there, you could have made yourself a nice bean casserole"* (Katherine, J25)

For Katherine the fact that the kitchen was not able to meet the food demands of her son was a point of contention. This seemed to personally reflect on her in terms of how her own organisation makes and sustains a kitchen that is adequately provisioned to meet her family's food needs, with food from alternative sources causing disruption to the kitchen's representation. Katherine tells me in detail about her ways of being prepared and organised such as saying *"I will buy packets of things like a chilli con carne mix or something like that, I would never buy a jar".*

For other participants this process of sustaining the capability of the kitchen to feed the household revolved around specific performances of ordering that were often scheduled at certain times. Michelle for example explains that she sorts out the food in her fridge at weekly periods.

This is part of the rhythms of organisational practices that structure the week (discussed in greater detail in section 8.2 in Chapter 8):

> *"The weekdays are definitely more structured, even though we know what we're eating, at least one meal on a Saturday, at least on a Sunday because that will have been planned for. Either a Sunday lunch or whatever, then the rest of the time it's a bit hit and miss. So it's like sandwiches or soup or. It's not as organised"* (Michelle, J20)

The sense of control Michelle held over food differentiates over the week which is aligned with the organisation of other commitments. Some of the actions that Michelle undertook to maintain the circularity of food, that underpinned such a sense of control, were wasteful and caused disputes. Michelle shows persistence in not wanting to keep any food that was past its expiry date, despite her husband's disagreement with this as shown in the following quote:

> *"If he catches me throwing, I throw bananas away that are slightly black and all that kind of stuff but he will, he goes no, no you have to leave it but if he's not there I just throw it away"* (Michelle, J20)

Michelle's visceral appraisals were utilised to justify her actions in how she worries about anything that looks *"funny"* or has *"gone a bit watery"*. Sandra also explains how she derives order and control at the start of the day by getting *"the meat out ready for night time".* Being organised and capable is sustained through the kitchen as she explains:

> *"So a lot of the time I decide in the morning what everyone is having for tea. As long as I know that everyone is home for tea I can then get the meat out so you have to be organised, you have to be. It's only some days I've not been organised"* (Sandra, J26)

For many of the families involved in this study the kitchen is the setting where family life is organised. Holding a sense on control over the organisation of food gave participants a greater sense of control over their lives. This can be seen in how time is allotted and negotiated in the kitchen, as Sandra continues:

> *"Friday just gone was a prime example, time just flew by and we went shopping didn't we and I was going to do chips for tea but by the time we got back from food shopping it was quarter to 8 by the time I had just come out from Morrison's and I thought I'm not cooking a chilli now, I'm not cooking it, here's fish and chips or pie and chips"* (Sandra, J26)

Participants spoke of kitchen practices to recover time and a sense of organisation. Chapter 6, section 6.4 has already featured the example of how Michelle had limited time to eat together as a family and how the resulting meals were often altered from of what was on the meal plan in order to save time (amongst other reasons). The stress that she feels in the busyness of her life can be linked to food. Meals are scheduled between her family commitments as she explains "*I have to get out of here, go home, put some stuff on a plate then go back to the swimming baths",* going on to note that "*I think we waste less because you haven't got time really to sit down to a meal".*

Further details on temporal dynamics of practices are explored in the next chapter but a brief point must be made here regarding how the constitution of the kitchen place differentiates temporally. As shown above the performances of organising and ordering food are not consistent and thus the sense of order and structure associated with the kitchen changes. Practices are performed differently according to the rhythms of the week and wider practice demands. This shows that whilst the performance of practices help constitute places, they are also "constituted in time" (Low 2016:106). However it appears that the place based constitution has an important resonance.

Sandra explains how her family only ate together two days a week but yet also accounts how her kitchen is an important family place, showing how the place based properties of family eating resonates against the normality of inconsistently eating together. Sandra also tells me how she sits with her husband and son at meal times so "*nobody eats alone"* as it is *"horrible eating on your own".* This reflect Pink's (2012) ideas around 'place-events' in how as a site of practice the kitchen is constantly shifting but can be linked to specific performance-instances as mentally relevant events that constitute representations of space. This can also be tied to Massey's (2005) work on space whereby relational understandings of space hold aspects of duration.

The third part of the findings of this section pays greater attention to the disorganisation and disorder. Participants were not always seeking to achieve order in their lives and therefore an account of a place should include instances of disarray. Rather than seek to link specific instances of disorganisation here to why food waste might occur, the findings show how important it is to acknowledge and include elements of disorganisation in the normality of consumer's consumption performances. Jeena and Andrew were one case that organised and monitored their food with much less regularity than other participants. Their kitchen also seemed sparse and underutilised with Jeena telling me that they *"generally eat on the sofa".* Jeena explains that one of the reasons for their food waste is that when Andrew does most of the cooking he is "*less likely to look up a recipe and try something new"* which she connects with how he is "*generally worse*

at throwing stuff away". Discarding food was completed at more impromptu times, such as how they throw away food after returning from shopping, and even during the interview they threw away several items of deteriorated food.

India was a further example with the findings already including several of her wasteful actions such as how she freezes food and actively acknowledges that it most likely will not get eaten. With both these households disorder was accepted as a subtle background. To give a further case, Sam says that *"we don't even own a bread bin so we just leave things, bit of a messy kitchen, not very well organised in some respects".* She explains how her studying sometimes causes such mess and meals to be eaten on the sofa.

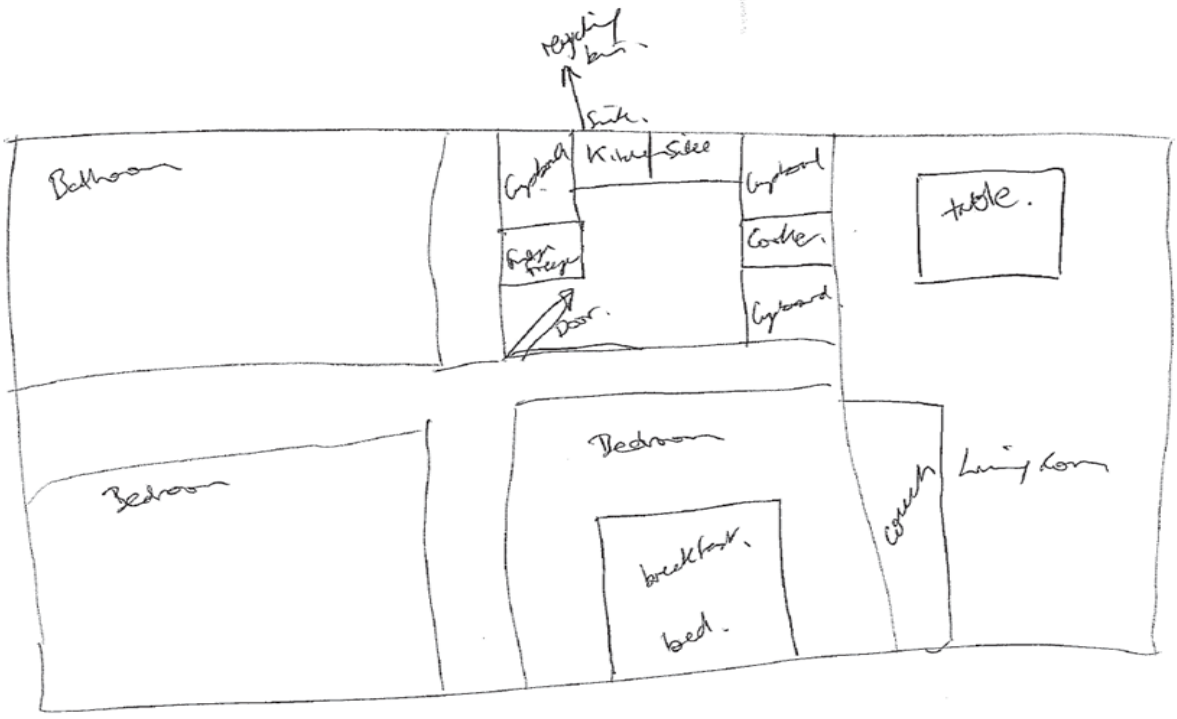
> *"We've got a little table here, this side we've got a erm a dining table, although it tends to be a little bit cluttered because I tend to sit there to study, there isn't really another other place for me to do that so sometimes there's a lot of books and stuff on it which makes it hard if we want to eat there"* (Sam, J02)

Recalling Sam's food practices, she was not very wasteful, enjoying cooking, spending lots of time in the evening preparing meals and improvising recipes to use up surplus ingredients. Sam's account suggests that whilst the management and transformation of foodstuff into meals may overlap with the commitments of other life projects, such as work in her case, food waste prevention actions can be achieved independently because of their association with place. Linking back to Andrew and Jeena, their kitchen was not a space for 'hanging around' with all their meals being eaten in the lounge on the sofa or at the table. They did not enjoy cooking and therefore they did not enjoy making and sustaining a kitchen place that was somewhat representative or associated with food waste mitigation actions, like using up surpluses whilst cooking. Sustaining aspects of disorganisation and disarray in participant's lives did not mean they were more likely to waste food, rather that they were less likely to undertake prevention actions given how the kitchen was representative of a degree of order and control of the materials, people and their relevant projects.

A further example to explain this point is Antonio and Christian. Their household was interesting as they maintained a norm of cooking meals from ingredients which meant negotiating the limitations of their small kitchen. They explain that they may be ineffective in how they organise their kitchen and actively sort and move items to ensure they have space to cook. When visiting their flat to undertake the interview I was struck by how small the kitchen was, the smallest room in the two bedroom flat layout, as shown in Figure 7.8. Christian tells me about how he finds space on the worktop to prepare food noting that *"it depends which one is free*

because lots of stuff appears on some of them and I might panic that there is nowhere to do something, so you have to quickly move something around". Christian accepts that they have *"a very small kitchen"* resorting to strategies such as placing items on the stove when it is not in use and explaining that as long as a small space is available for food preparation it is *"not bad".*

Figure 7.8 Household food map drawn by J04, Christian and Antonio



Not having sufficient space and having food items not correctly stored was very much part of the everyday realities of performing food practices in their kitchen. It is not that this disorganisation occurred during a specific instance here or that there was a disruption to the circularity of food but that disarray was part of their daily performances in the kitchen. Antonio and Christian's example, as well as comments by others in this study, show that whilst there is some degree in how organisation of food can be related to the order and control of the routines and habits of life, food and other household items can exist in a status of disorder which are lived around. It is too easy to connect such disorder with the generation of food waste and instead consideration should be made for how performances constitute the kitchen place as a much more valuable way of understanding what goes in the kitchen and its link with the passage of food into waste.

To summarise, the findings here provide several valuable considerations in the application of a spatial conditional lens in exploring how the performance of practices make and sustain the

kitchen as a representational place. Through participant's food practices a key characteristics of the kitchen is its ability to sustain a material flow whereby food and packaging enters, is stored, maintained, used and sorted to then exit according to certain rules of order. The zoomed out lens reveal how the arrangement of performances in this way gives an accountability to how participants manage their kitchen space. Participant's spoke about how the kitchen provided an important sense of control through such ordering practices. However for some households ordering and sorting food was a point of contention which, despite generating food waste, was maintained. The kitchen also exists through its capability to feed household members, with potential disruptions being controversial for practitioners such as Katherine whose actions are responsible for the provision of food. Finally the way in which disorder and disorganisation was reflected in participant's accounts suggests that this is part of everyday ways in which people live with food and that linking individual instances of disorganisation with the wastage of food is somewhat short-sighted.

In terms of implications for the problem of food waste, the section has made a clear case that the settings that practices produce are critical for understanding consumer's behaviour. While it may be claimed by some that space is a loose, representational term that is hard to pin down, this section has shown it is useful in opening up new avenues of practice understanding. The kitchen is an anchoring point for how things and people and their performances are interconnected with food. The way in which organisation, and the antithesis of this (i.e disorganisation), is discussed here has critical implications for how the meaning aspect of practice is analysed.

We must accept that people live in disarray and disorder and not obscure this from research. It is somewhat of a false fallacy that all consumers are targeting more organised lives and that food waste prevention will follow on from this. In taking notice of space as a relative and representative resource of practices more detailed accounts of performances and their intricacies can be given. In considering space and place in this way provides information on how food circulates in households and how this is part of a mesh work of practices that are influential in how food becomes waste. This can overcome ideas around how some people are organised and do not waste food and others are not and waste lots. Instead it is more beneficial to adopt a perspective whereby every household and its members have their own way of organising themselves which is embedded and sustained in a sense of place. Further research might look at the different circumstances surrounding the ups and downs of disorganisation and how this is linked to ideas of messy and tidy kitchens and food performances. Overall this is a topic that is ripe for future research.

7.4 The practice pathway of food provisioning

This final section of the spatial conditioning chapter addresses how practices unfold over different spaces as a conditioning aspect. As set out in chapter 3, section 3.6.2, practices are not confined to single sites but have multi-spatial realities representative of different localities. This aligns with Warde's (2005, 2011) comments on how consumption takes place and is sustained in multiple moments. The question posed here is how does this condition the performance of practices, and what implications does this have for the wastage of food. Through zooming out to analyse practice's associations across spaces, this section centres on the practice bundle of shopping and (re)provisioning for food to show firstly how performances are multi-spatial in their remit and secondly how shopping is entwined with wider commitments. Full analysis is offered of the practice pathway of shopping for participants in the study as well as outlining the array of characteristics over the multi-spatial arena that condition their performances.

The findings reveal how participants hold multi-spatial understandings and competences in how shopping is carried out. An array of characteristics that condition the performance of shopping are examined including knowledge of where to purchase certain items, meeting the demands of the household, the tensions exerted through shopping relative to interpersonal relationships in the home and also how shopping is negotiated alongside work, leisure and family commitments. Implications are offered including how food waste might be prevented via greater consideration of the spatial remit of shopping practices, such as accounting for how re-provisioning the home is a practice that is not contained to the store, as well as better management of the demands of different household members to avoid overconsumption.

Before explicitly outlining the findings in this section it is important to clarify how the terms 'practice pathway' and 'array' are being used. A pathway is a way of viewing the spatial remit of a practice. This draws upon Schatzki's (2010) work on teleoaffective structures to signify the settings over which the performance of a practice transcends to achieve its purpose. The term array relates to this in being the array of characteristics that condition such performances, where these characteristics have a multi-spatial nature. The literature review highlighted how shopping is a particularly relevant example given that as well as the supermarket, a number of other sites are linked to the trajectory of shopping such as actions that begin in the home such as writing a shopping list, travelling to and from the store and other actions related to how shopping is interspersed with other activities.

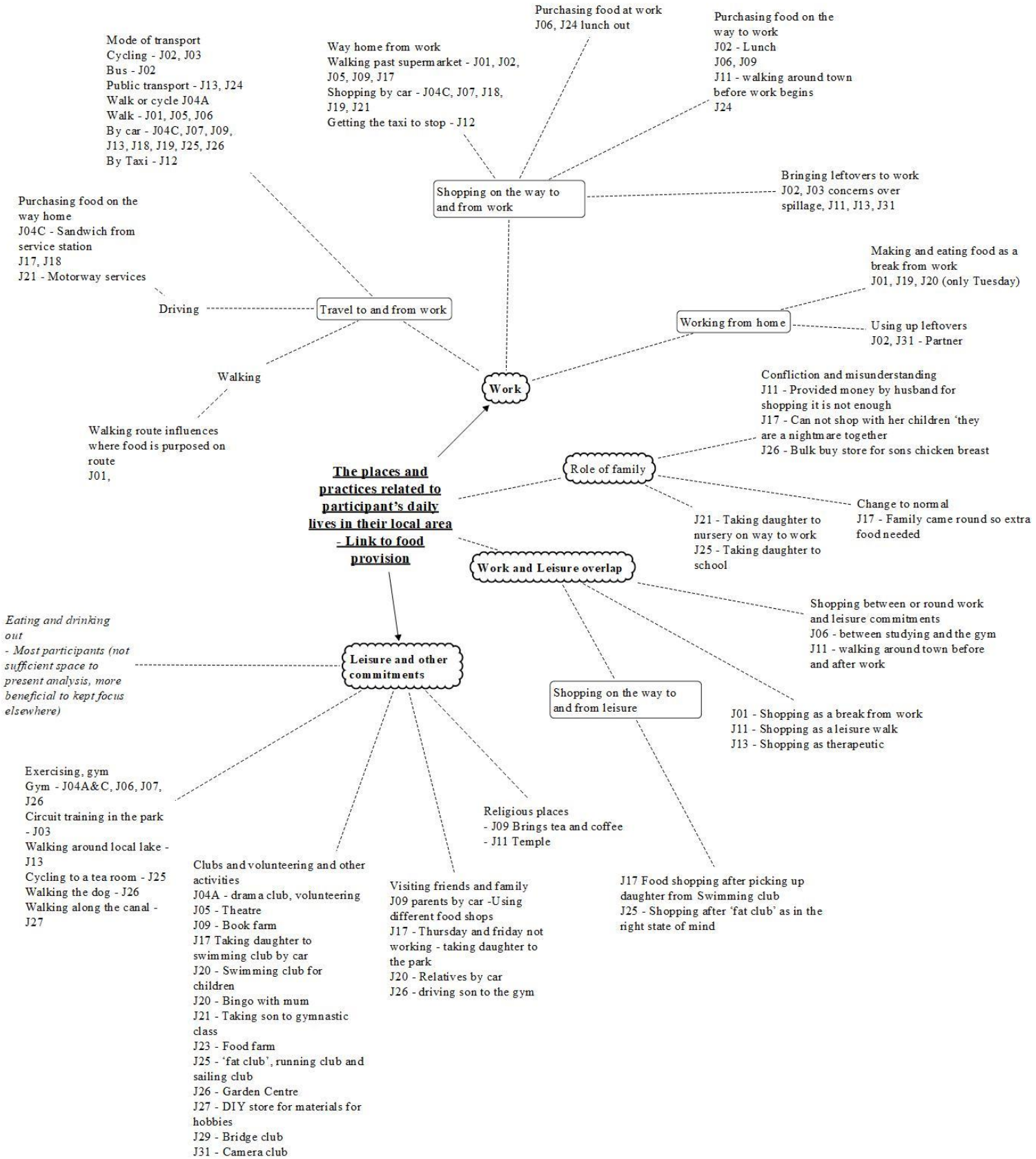
Current research seems diluted as shopping is typically covered as part of a collection of food waste actions in studies (Hebrok and Boks, 2017). Shopping is not as simple as going to the store and returning home with food and the implications for the wastage of food. In this study,

participants explain how shopping is continually negotiated in a range of different moments. There is a significant depth to 'doing to the shopping' which is explored here, from the underpinning knowledge of how to shop and where to procure certain products, to meeting the food demands and negotiating the relationships with others in the household, and finally situating shopping alongside wider commitments. These three points form the structure of this section. This section furthers work by Evans (2011, 2014) and others that have identified a link between different ways people shop and the wastage of food by providing a multi-spatial perspective of associated performances.

This is achieved by first giving an analysis of the practice pathway of shopping for participants in the study and how an array of characteristics within this multi-spatial arena configures how shopping unfolds. For participant's in this study, shopping was organised around, and was itself a central organising activity to, the routines that accompany work, leisure, and looking after the family. As a means of commencing the process of untangling the practice pathways of shopping for participants, two figures (7.9 and 7.10) are now given, followed a discussion of these findings. This exercise was informed by how practices have been represented graphically elsewhere, such as Higginson et al. (2015) and Shove, Pantzar and Watson's (2012) work, but here the focus is on the characteristics of the performance rather than the individual elements of the practice, reflecting the theoretical positioning of this thesis.

First figure 7.9 displays a diagram of the places and practices related to participant's everyday lives and their connections to food provision in their local areas. The figure shows how accounts of travelling to work by different modes can be linked to shopping on the way to and from work as well as purchasing food to consume at the workplace. Participants gave details of several leisure activities with their own practice pathways which also in some cases overlapped with food shopping. Katherine as one example explained that she liked to go shopping after 'fat club' as she was *"in the right frame of mind to be healthy"*. Shopping was also performed as a leisure activity and integrated with spending time and looking after the family. Figure 7.9 reveals the complex practice pathways that feature a number different places showing how re-provisioning the home is contextual to both the ongoings of everyday life and the sites over which it is conducted. This raises important questions for the spatial remit of what is and is not of concern to researching shopping as a consumption practice. Food practices such as shopping exist and are configured by other practices and arguably previous accounts have viewed shopping as somewhat isolated from its context.

Figure 7.9 The places and practices related to participant's daily lives in their local area - links to food provision



As noted previously in the findings, there were clearly several indirect links here. Indirect in how shopping maybe scheduled and be subject to the pursuit of other commitments that in turn may have had an impact on how food shopping unfolds and subsequent implications for food waste. This is expanded further in figure 7.10. This diagram presents the practice pathway of shopping and the arrays of characteristics for each site giving details of how participant's performances were configured at each stage.

Figure 7.10 The practice pathway of shopping/ food provision practice and the array of characteristics that configure the performances of the practice across multiple sites

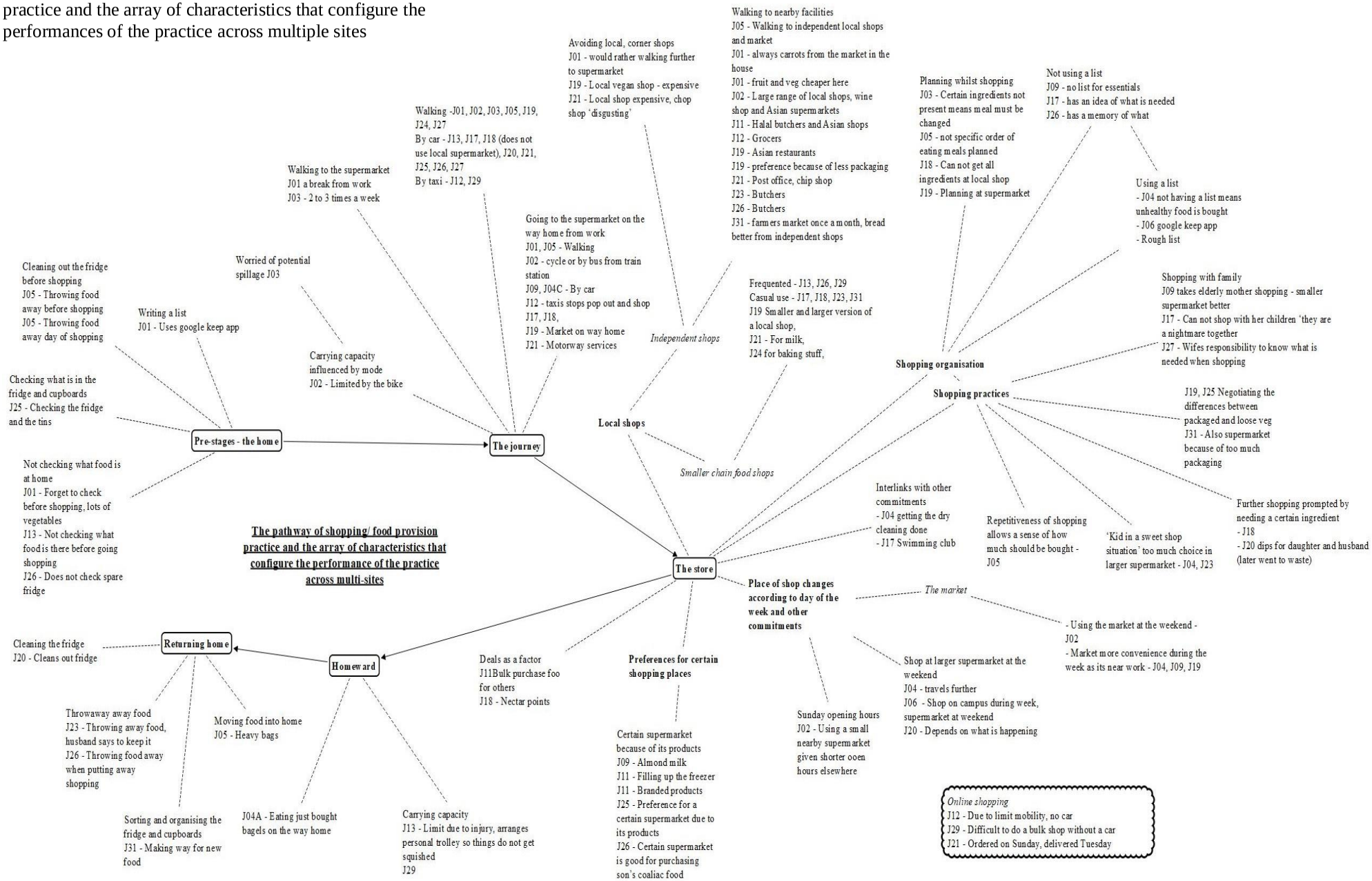


Figure 7.10 begins with actions that took place before leaving the home. Participant's described making a shopping list and checking the cupboards, however also in some cases participants spoke of throwing away food. Jason explains that "*if I was going to throw things away it would usually be the day of or the day before shopping because then I'll, because then I'll think I'll need to go shopping".* Remembering to bring a list and bags were all part of how participants identified how the practice of shopping commenced which were important in preventing over-purchasing. The next stage of the practice, the journey, differed according to whether this was a larger shop at a supermarket, or just a trip to their local shop. Changes between different modes and how this interlinked with purchasing food on the way to and from work were also recorded. This created difficulties for participants such as Anna and Brenda who did not have a car and must use a taxi as they had limited ability and capacity to carry food. This was less of a problem for Kalee, India and Sam who despite having no access to a car frequently passed shops on their way to and from work.

Moving to the space of the store, a great variety of different instances of shopping in various different ways were featured in the study. This included shopping in supermarkets and accounts of shopping experiences. Linda explains how she takes her elderly parents shopping, and Kim tells me about the difficulties of shopping with children such as how she says she cannot take both her children in the same trip:

> *"I can't do it together because they mess about, so I'd go when I've just got my little one and even that's a nightmare because she doesn't sit in the trolley and runs off"* (Kim, J17)

Participants also spoke about actions of planning and organisation that accompanied the shop, particularly for participants that do not use a list. Violet and Georgia say that their dinner plans sometimes change when shopping if a certain ingredient is not available, and others say their meals plans are formed whilst walking around the supermarket, such as in the case of Beverly. Linda, Kim and Sandra explain how they have a rough idea or memorise what they need which is then recalled upon when shopping. Local and independent stores were also a feature of participant's accounts. Participant's spoke about how they walked to a wide range of shops from grocers to butchers to specialist shops and farmers markets, some avoiding these shops and others having preference for them over mainstream supermarkets. The place of shop also changed according the time available to travel such as how participants, such as Antonio and Christian as well as Michelle, would travel further or shop in different places at the weekend.

Finally figure 7.10 features details of leaving the store and returning home. Antonio tells me that he often purchases a snack whilst shopping to eat on the car journey home, with the limited carrying capacity again influencing Anna and Brenda. Upon returning home participants explain a processes of renewing, cleaning, sorting and organising. Michelle, as well as Eric and Joana tell me about how they clean the fridge with Amanda and Sandra, as well as Andrew and Jeena, throwing away food to make room for new products. Collectively figure 7.10 shows that shopping as a practice has an array of intricacies: Firstly in terms of the performance of the actions within each of the stages that require co-ordination and employment of competences and specific understandings; and secondly in terms of how the actions in these different stages relate to each other and are configured by wider practices and associated interpersonal relationships relative to family, work and leisure. Further discussion now follows.

Similar to other studies, participant's held understandings of different food provision options from shopping places available to them. However the findings also showed how these understandings existed across shopping sites and in turn how participants integrated each shopping place into the ability to meet the demands of their shopping performances. A key factor participant's expressed was how certain supermarkets provided specific products. Jeena and Andrew for example explain that "v*ery occasionally we go to Sainsbury's because we get our cat litter there and I also get my Sterident for my brace"* with Aldi the supermarket visited normally. Georgina tells me that *"there are certain things we would buy at one but not the other"* in comparing Aldi and Lidl, Michelle says that "s*ometimes we go to Lidl as well and there is things from Lidl that you can't get so we bought the leeks from Sainsbury's"* and Kim talks about one instance during the study week when she visited a further supermarket as "*they didn't have the coffee she liked".* Sandra tells me about her preference for Asda's ham over Morrison's and goes on to explain how she must visit Tesco because they provide the best range of coeliac products required by her son. Linda, Meera, Anna, and Georgina also discuss how deals on certain items were important for their place of shop. Eric and Joanna, as well as Brenda also note that they preferred to purchase items from local independent shops. Overall participants gave numerous examples of expressing understandings of where and how to shop cutting across product taste, value, materiality, product range and availability, knowledge that proved multi-sited.

The multi-sited nature of shopping was integral to participant's competences of how to best re-provision their homes with food. Amanda explains that "*the reason I quite like Aldi is because you can only buy like one brand of one thing so you're not really looking at the packaging. If I go to Tesco, then I am like walking around and it's like a kiddy in a sweet shop 'cause there's not just one type of yogurt, there's twenty".* This suggests that Amanda was somewhat aware of how

her place of shop shaped her actions in store as well as revealing underlying shop based dispositions and unconscious behaviours linked to over-purchasing; points that are beyond the remit of this study.

The "*kiddy in a sweet shop"* analogy highlights how shopping is purposely performed in certain ways to avoid over purchasing. Christian acknowledges that *"when you are in the shop you think oh I can have whatever you like because it is all here and you can just buy it".* Supermarkets can be situated as spaces that are not just part of shopping routines but influential in how consumers negotiate provisioning via the different stores available to them and the hedonistic experience of shopping within them. The findings here are not that food waste is caused through too much choice, but rather the greater number of shopping sites the greater number of potential connections and configurations of shopping performances that potentially start conduits of food waste through over-provisioning.

Underpinning the practice of shopping was purchasing food to meet the demand of the household. Demand here signifies the reasons for why participants purchased food stuffs. For participants much of these demands originated from routinised norms of the sorts of food normally eaten, ideas around healthy eating and the sorts of food that were good and bad. Participants held a 'standard' as a performance based judgement for how meals compared with those eaten previously. This aligned with cooking practices, comparing those that like to experiment such as Jason to participants like Jeena and Andrew that repeatedly prepared and ate similar meals. Lifestyle and leisure interests also played a role on purchases such as in the case of Sandra who prepared protein rich lunches for her sons who regularly attend the gym. As Evans (2014) has also explained through this process of meeting demand, shopping performances feature tensions whereby participants negotiate and co-ordinate their relationships with others through performances of food re-provisioning. This can be seen as a part of the array of characteristics that shape and configure the performance of shopping over a multi-spatial context. The data analysis procedure specifically brought out tensions through its zooming in process and zoomed out to revealing how such tensions are combative with other practices.

Michelle reflects on the demands that her husband and daughter communicate highlighting contentions. Michelle purchases food for them such as how they "*always have dips like hummus or coronation chicken"* however these often *"get thrown because there was a bit of that they weren't going to use".* This is also the case with coleslaw, she tells me how she buys this for her daughter *"we buy a big coleslaw and probably use 3 teaspoons out of it and obviously it gets thrown away then",* and she also tells me of her annoyance when all the sugar snap peas get eaten as *"even though we went shopping ….they've gone already and we obviously need them for the*

rest of the week". For Michelle providing for her family involved purchasing food that she knew might be wasted, and furthermore the frequency and requirements reflects their desires. Evident here is how the food shopping provision is present across moments from the household to the store and in between reflecting the responsibilities of care towards others in the household (Popke, 2006).

To give a further example Georgina also explains how it is difficult to manage the frequency over which shopping is practised. Georgina explains that how often her and her partner go shopping "*changes all the time"*. She goes on to explain that this is the result of trying to match the food required and how it is used:

> *"We did try to sort of aim for the end of the week, Thursday, Friday because what will happen is, we wanted to prep for the meals on the weekend and then eat those through the beginning of the week but sometimes it goes out of sync because Monday comes and [her husband] wants to make something that we haven't got an ingredient for so then we have to go shopping"* (Georgina, J18)

For Georgina instances of shopping continue to come about through how food comes to be used. Requirements for ingredients for specific meals prompt further trips. This shows how shopping is a practice that can be prompted in different ways in the home. She goes on to tell me how her partner "*does the food shop by his work*" and will still make further trips for specific ingredients, even avoiding a local shop in walking distance as they *"don't stock fresh coriander"* which her partner "*isn't very happy about"* . The ability for food places to meet demand, captured in understandings and enacted in dispositions, is negotiated through such relationships. Georgina knows that the re-provisioning actions of her partner *"isn't very good for the environment"* but seems to just accept that this is the way that things work in their household. This is the way that food demands are best fit in terms of the way in which they live and travel over the work and leisure places frequented in their local area.

Further examples of how the responsibility of food is negotiated in a multi-spatial sense includes Meera's household. Meera tells me how she will *"go to the shops everyday, I'm a shopaholic"* she likes to "s*ee what's on offer"* and "*if anything is reduced".* This corresponds with making her way to and from her two jobs in different areas of the city, either by walking or by taking the bus. She passes the time between starting and finishing jobs, as well as her lunch break, by walking around the shops. Meera justifies this type of top up shopping is necessary by finding fault with how her husband and son carryout the food shopping:

My son does it once a month, I've got the receipt here and all it is is booze, booze, booze. Because the booze was on offer so. And then, when was it on, its Friday today, my husband picked my son from work and on the way back he did the weekly food shop and he spent £30

Ok that's good

No no because he comes back with nothing, you know he thinks he's helping (Meera, J11)

Meera's case was one of several that exemplified how co-ordination between household members was not working in the sense that someone in the household felt that the home was not being provisioned sufficiently. Meera tells me how the £50 that her husband allocates per week is not enough *"food all four of us"* as *"he doesn't realise when I'm going in I'm topping it up".* Meera therefore feels the need to shop on a daily basis to make up for her husband and son's inadequate shopping to fill any gaps. From the interview I also get the impression that she enjoys finding bargains. This is a good example of how responsibilities for food shopping unravel across the practice pathway of shopping whereby different competences come into contention with each other. As a final example of this we turn to Beverly.

A factor that can be drawn from the examples of Meera, Georgina and Michelle is that there are underlying competences unique to each household of how food should be re-provisioned, and it is how these competences are continually negotiated and co-ordinated in the local area are interspersed with work and leisure commitments that can caused tensions. As suggested earlier there is a standard by which shopping is carried out in an acceptable manner which takes into account ways of 'doing the shopping' across different sites. Beverly's example of how she discussed her daughter's experience shopping with her boyfriend's family illustrates this. Beverly tells me how her daughter spends lots of time at her boyfriends and the way they shop is very different to what her daughter is used to:

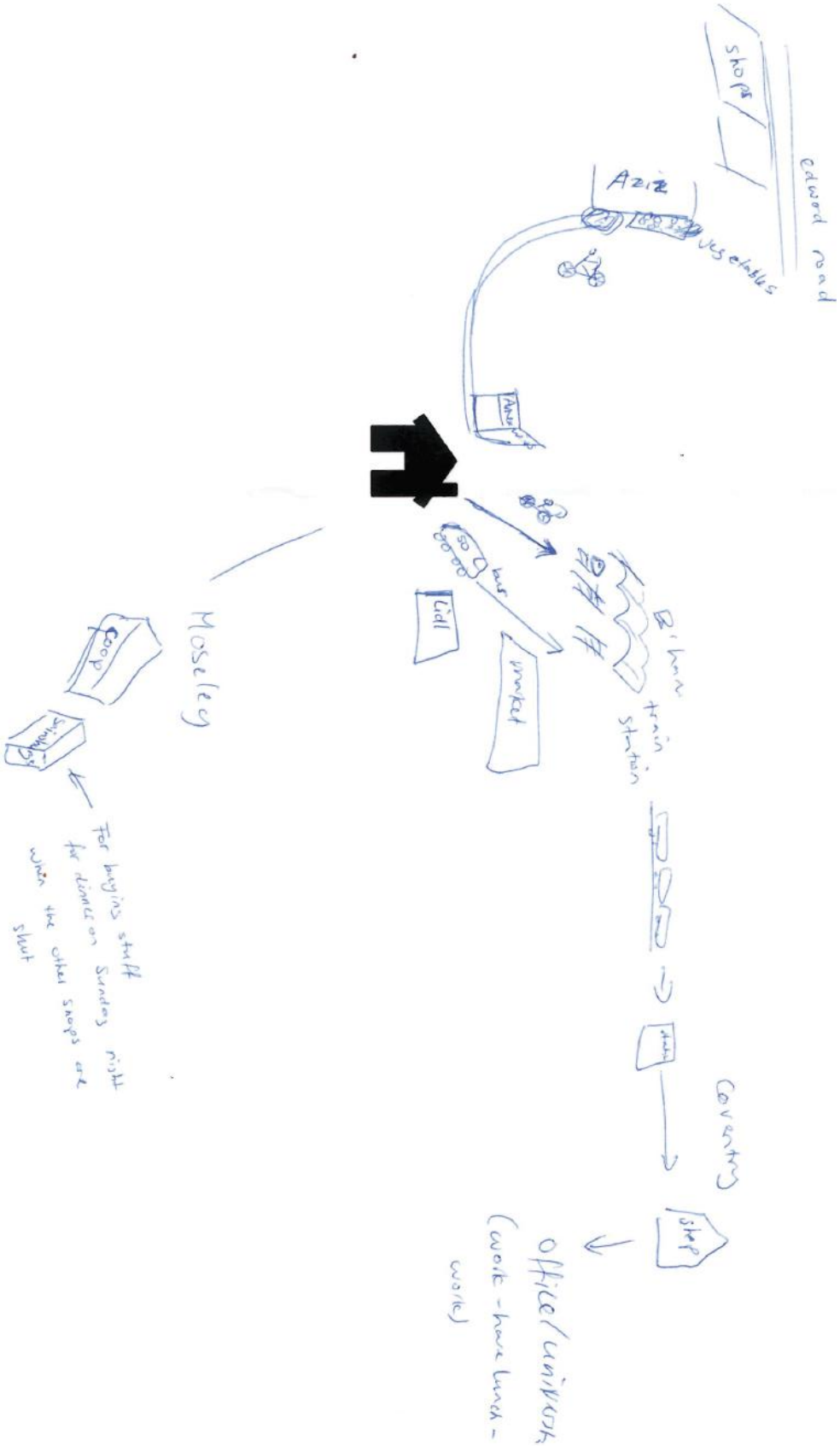
"She spends quite a lot of time there err in their family the dad he does all the shopping and he only shops at Waitrose or Sainsbury's, he doesn't look at what he puts in. When [her daughter] first went shopping with him, you know they didn't do the reduce section and she was saying reduce to clear, we haven't checked and he just puts things in he doesn't look. And she has been raised differently, she looks for bargains, she looks for 3 for 2s, you always be careful on the 3 for 2's as it's not a bargain if you don't need it" (Beverly, J19)

The quote shows common competences that Beverly highlights her daughter has been "*raised"* with. This contains both a way of shopping regardless of supermarket, such as looking at the reduce section and being careful with deals, as well as singling out a marked difference

between the more expensive supermarkets and the ones their family typically uses (Aldi, Lidl or the co-op). These competences condition the way in which shopping is approached and how it is underpinned by understandings and knowledge developed in household units. This can be linked to research by Collins (2015) who highlights how shared familial values that take hold of complex pathways are an important focus to understand routines and their implications for sustainability. A link here can also be drawn to food waste in how Beverly's household were very much willing to plan and make food on an impromptu basis, often purchasing and preparing a meal from that food on the same day. This therefore aligns with the aspects of thrift present in the households shopping competences.

Finally to round off this section a few examples are given specifically on how participants inter-weaved shopping with other commitments. The way in which participants fitted the practice pathway of shopping around other commitments, such as work, was a means through which shopping as a practice was configured in different ways. On a base level, routes to and from work were modified or diverted for shopping. Sam tells me how she exits the bus early on the way home from work and "*can get off right at the Lidl like literately opposite it. Pop in, get some stuff and then I have like a 5 minute walk home".* Local and independent shops were important to Sam, given her lack of a car and frequent use of public transport via bus and train with places of shopping positioned in passing. Her local area food map in figure 7.11 below shows the connections between cycling and taking the bus to the train station and her shopping trips.

Figure 7.11 Local area food map of Sam (J02)



The implications of how Sam's practice pathway was configured were that there was certain types of food that were more easily available to her than others, that she had to shop more frequently, and that certain perishable items such as apples did not last as long and were more likely to be wasted as she notes *"sometimes you buy some apples and then like within a few days you think oh god the apples have kind of gone off a bit".* For others the ties between configuring shopping around work and the implications for food waste were more pronounced. Kalee's account is similar noting how she typically uses local shops given her lack of car as well as her use of supermarkets close to her tube stop on the way home from work. Georgina's account above of how her husband shopped on the way home from work and either over purchased or did not purchased certain items that then lead to further shopping trips was an example of this also. So too was Meera. This raises an important point of how the spatial trajectory of both shopping and wider work (and leisure) commitments can push consumers into situations of overconsumption.

The findings in this study suggest that shopping to and from such commitments can place consumers in a situation whereby they hold surplus food that must then be managed as a result of over or under purchasing. Frequent shops can prompt over purchasing, however so too can infrequent shopping where consumers may over purchase in anticipation of a significant period until the next shopping trip. This surplus food and how it is used is of course circumstantial meaning that it does not always end up in the bin. In order to further illustrate this point Elizabeth is used as a final example. Elizabeth tells me about how she and her husband go about the shopping, explaining a way in which they co-ordinate the re-provisioning of food whilst taking into account how the spatial remit of their leisure and work routines:

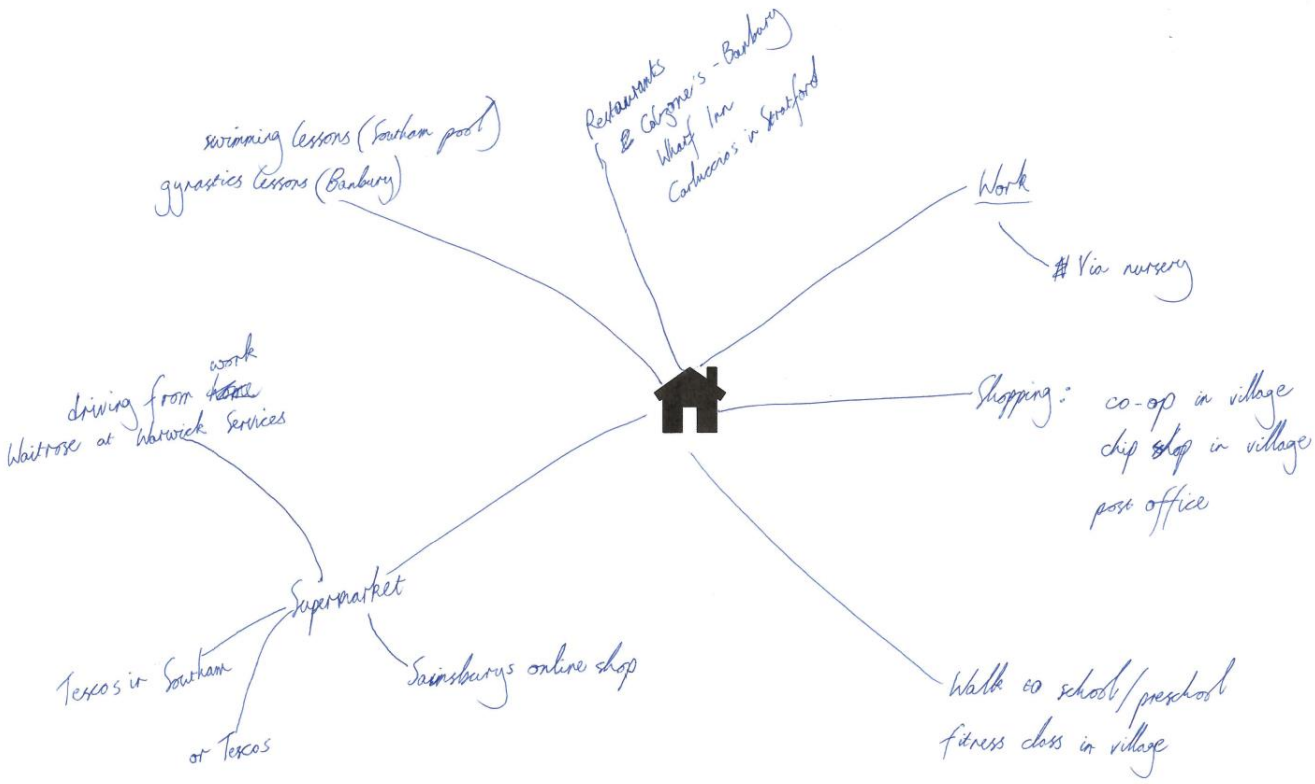
> *"We kind of alternate, so if I'm shopping, normally I would do an online shop and so I would do the shop and order it to come in a couple of days' time and then emailed a list to my husband to see if he can think of anything else that we ought to add to it. If he's doing a shop, he would tend to just go out…well, he would ask… so we've got Anylist[5] on our phones that is like a shared shopping list thing, but we don't use it very… don't necessarily use it"* (Elizabeth, J21)

On the surface this seems a somewhat organised and planned way of ensuring food demand is met for themselves and their children whilst navigating the spatial course of their weekly routines. However, what was surprising in Elizabeth's interview was the amount of food thrown away as surplus leftovers during the study week, this included leftover pizza, salad, chillies and yogurt also old looking potatoes, meat leftover from a roast that was not used, half-finished crisps,

[5]Anylist is an app that allows users to create and share a shopping list and also organise recipes

a microwave burger that had expired, mouldy banana bread and dried up birthday cake. The end of the quote hints at one of the reasons for this, that the way in which Elizabeth explains she plans, using a list, does not always come into fruition, echoing the findings around the practice of planning from chapter 6, section 4. Elizabeth's local area food map is displayed below.

Figure 7.12 Elizabeth's local area food map (J21)



Elizabeth explains how she undertook a number of responsibilities from the start of her day where she describes her mornings as *"quite busy"* which involves; ensuring that her children have had their breakfast and undertaking the shopping around trips to and from work and various leisure activities. Elizabeth explains that "s*ometimes if we're driving home from work, I might go… so the Warwick services is on the M40 when you come down the M40, so it's just about five minutes away from us if you're driving here from work. So that's somewhere that you might pop in and get food".* She also tells me how her husband might go to the supermarket on the way back from taking her son to gymnastics class. The mass of food, particularly frozen meal options, is the result of this 'top-up' type shopping whereby the family may plan but the constant shopping trips mean it is hard to keep track of what exactly is needed and when it needs to be used by, as shown previously via Elizabeth's full fridge and freezer in figure 7.3 earlier in this chapter. This is reflected in how Elizabeth tells me there is no set time for when shopping is undertaken:

> *"Actually we just do shopping…there's no set time when we do shopping because we do shopping when things are low in the freezer or fridge basically so we probably do a kind of milk and bread and fruit shop at least once a week and then a bigger shop, we might do every ten days or something as well. So if I do it, I would quite often order it on a Sunday morning to get delivered on a Tuesday 'cause I'm at home on Tuesdays"* (Elizabeth, J21)

For Elizabeth's household the online shop seemed to be the basis of re-provisioning the staples but as she explains further shopping still takes place. There are few mentions of online shopping in this study. Anna tells me about her online shopping which is important for her as she has limited mobility. Meera, Eric and Joana also mention doing on-line shopping but this was not significant in the data collected from those participants in the study week. Coming back to Elizabeth, she and others such as Kim that led busy lives illustrating how the practices involved in sustaining food purchasing can lead to food surpluses and food waste. This echoes comments made by Warde, Welch and Paddock (2017:30) who claim that "the scheduling and location of working practices, for example, strongly determines eating practices". This is of course significant to the wastage of food also, whereby the nature of shopping and its co-location alongside wider commitments influences the conduits through which food enters the home, is used and subsequently disposed of.

To summarise, this section has addressed the under researched topic of how shopping unfolds across a multi-spatial context and the implications for the passage of food into waste. Diagrams 7.9 and 7.10 gave the spatial remit and trajectory of shopping practices illustrating the range of sites over which it is practised. This opened up shopping and food re-provisioning as a practice that has greater depth, particularly when considering its spatial context, than is currently considered in studies that link food waste and shopping. Three different ways were then discussed regarding how this array of characteristics can configure the practice of shopping. Firstly how participants held understandings and competences of preferable places from which to purchase items that included details of the nature of products in terms of their materiality, quality and also form of store, with some participants differentiating smaller independent stores from different types of supermarkets. The discussion of understandings and competences emphasised how factors further than just shopping routines, which has been the focus in literature elsewhere (Lee, 2018; Dobernig and Schanes, 2019), are critical to understanding shopping practices, such as how consumers formulate ways of shopping and how these are performed.

The section then moved to examine how interpersonal relationships and contentions between household members can be linked to how shopping is carried out. Tensions were shown between

household members in how the demand for food in the household is sufficiently met. In cases where household members had different competences of how to best re-provision the household, such as in the case of Meera and Georgina, further top up shopping potentially generated food waste. How the shopping practice is fulfilled was shown to be a conduit to food waste in how participants co-ordinated and negotiated how shopping was undertaken between different household members.

Finally this section gave examples whereby the practice of shopping has a practice pathway that is interspersed with wider work and leisure commitments. This again was linked to how food waste may be generated indirectly through how shopping is completed on the way home from work for some participants. Overall the re-provisioning of the home with food was shown to be a practice that had an array of characteristics that conditioned how consumers navigated its completion. This multi-spatial context was positioned as being critical in revealing a further level of knowledge on shopping practices, such as the importance of understanding how shopping is integrated with wider work and leisure and family commitments.

Overall the key implication of this section is an emphasis on the importance, and intricacies offered, by considering the multi-spatial remit and trajectory of a practice. Employing the zooming out data analysis procedure has provided an additional level of depth to shopping practices. Similar to Paddock (2017) who explains how food is a central organising activity around which life is lived, shopping can be claimed as an organising mainstay that bridges and intersperses work, leisure and family activities. In employing the conditioning framework here, the findings highlight how much can be gained from such a practice theoretical development. The multi-spatial context utilised here provides a much needed move beyond research that gives simple observations of shopping behaviours (Ponis et al. 2017) to instead signify and identify an array of characteristics that are involved in configuring the re-provisioning of the household with food. Also noted in the previous chapter, caution can be applied in proposing a more spatially complex appreciation of practices. However, as Schatzki (2010:200) explains, proposing a research direction where the multitude of sites over which practices are performed is more critically taken into account can reveal the "continuously evolving relational configuration of interweaving entities over time", taken here as the conditioning force of the spatial remit and trajectory of a practice.

Both practitioners and academics should be more aware of the importance of the spatial remit over which practices are performed. Practices take place and demand actions across different sites, and therefore it is only through knowing the performances across these sites that practices can be really understood. In terms of tools to mitigate food waste, guidance, leaflets and other food waste

mitigation devices should look to account for how consumers live their lives over a series of different sites; how consumption is not just determined in the home; how shopping is not just determined in the store; and the configuring role of wider work, leisure and family commitments. The practice pathway diagrams holds further potential as a tool to help consumers identify points in their weekly routines that lead to overconsumption, prompting a practice based behaviour change process, such as that described by Hoolohan et al., (2018).

There are also key implications for the role of places of food provision and how they can be aligned with wider commitments to aid the path towards more sustainable forms of consumption. Interventions for example may seek to challenge the prevalence of top up shopping and better integrate ways of shopping into how shopping threads through journeys linked to work, leisure and family activities. Arguably a change of the status quo or dominant paradigm of food provision to mitigate food waste requires acknowledging the need to better accommodate consumers spatial remit of their practices. This for example might involve better linking shopping with spaces outside the store, such as how smart technologies are helping consumer plan, as well as better manage of how household members fulfil re-provisioning demands.

7.5 Conclusion

In conclusion, the findings presented on the spatial conditioning of consumption performances was a valuable exercise in revealing new intricacies of knowledge with regards to both the spatial operation of practices and insights into the causes and potential mitigations of food waste at consumer level.

The chapter opens by analysing the environmental cues via which food waste and related actions maybe prompted. This first section was underpinned by an understanding of space where it was positioned as a container of practices. Insights were given into how domestic space holds a micro-geography of tacit materiality that is significant in conditioning performances. This was discussed via three means: The first explained how the design and purpose of appliances and devices can configure performances; the second examined the placement and positioning of food and kitchen items and also explored their links to food wastage with regards to performative dispositions and locational reference; and the third looked into how the presence of things can prompt, and fail to prompt, performances. The section contributed towards practice workings by revealing how space can condition performances via its contextual nature. This is shown by zooming in on how flows of performances related to consumption and the continuity of everyday life both generate and prevent food waste through the settings within which they take place.

The second part of this chapter discussed the circularity of food in and out of the home, as well as participant's capability in sustaining sufficient food to feed the household. This was captured within an understanding of space that was more constructive in comparison with the previous section, whereby the performances of practices produce notions of 'place'. Through a data analysis procedure that placed the kitchen scene as the zoom focus, it was shown to be a place maintained via a process of material flow that involved how food and packaging enters, is stored, maintained, used, sorted and disposed of. Disorder and disorganisation were shown to be an important part of the processes by which the everyday workings of the kitchen were maintained such as the way in which people live and manage food. This section deduced that a critical part of understanding the working of practices is how their performances make and remake notions of place, as this in turn has implications for how practices are configured. The section put forward a challenge to current notions of organisation in consumer food waste prevention material, suggesting the need to overcome the binary notion of organised and disorganised consumers.

The final section of this chapter addressed the multi-spatial nature of shopping practices and their link to food wastage. This section opens with an in-depth analysis of the array of characteristics that were seen to condition the practice pathway over which shopping was performed. The discussion moved to explain how understandings and competences utilised by

participants during shopping had a multi-spatial context. Further to this shopping was undertaken between commitments of work, leisure and family activities which was shown to be a point of contention for some households. Within family units different ideas of how best to re-provision the home were seen to lead to overconsumption. This section brought up some important points with regards to how interpersonal relationships are negotiated and co-ordinated over the different sites involved in weekly routines and how shopping was accommodated around these wider commitments. Key implications are raised regarding the importance of viewing shopping as a practice that does not just take place in the store but is actually present across sites in different moments of consumption. Questions were also posed regarding how more sustainable places of food provision need to ensure they are better integrated into the variety of commitments in consumers lives.

From considering these findings that have arisen from the spatial conditioning aspects, the implications for understanding the generation or mitigation of food waste are that firstly the inner geographies of the kitchen is a contributing factor to how food practices unfold, and therefore indirectly influences food waste. Secondly consumer disorganisation should not (always) be directly linked with being wasteful with food. Household organisation and how it is worked out with its members is complex and can be indirectly associated with food wastage as much as food waste prevention. Thirdly the indirect links of how food practices plan out as conduits of food waste span a wide spatial remit beyond the home, such as how work, leisure and family commitments overlap with the provisioning and management of food.

With regards to the rationale of the conditioning aspects of consumption employed in this empirical chapter, employing different conceptualisation of space has provided a critical lens in understanding the conduits of food waste. Each of the three sections produce novel understandings of the ways in which food waste comes about and can be theorised as variable ways in which space and place can be interpreted for the benefit of informing sustainable consumption. This chapter was a theoretically pioneering exercise in its application of a spatially derived analysis of practice-based consumption research. Critically it shows how both academics and practitioners should not marginalise the role of space in sustainable consumption research. Further to this space is an extremely valuable and all too often ignored resource of practice that is able to reveal intricacies that are key to finding solutions to unsustainable arrangements of consumption, such as the problem of food waste at consumer level. The chapter makes a critical contribution when considering how little space is theoretically developed in key texts utilised by academics employing practice theory, notably Shove, Pantzar and Watson (2012) ‘The Dynamics of Social Practice’ materials, competences and meanings framework.

The findings presented here can be viewed as an opening for further research to pursuit space, practices and consumption in a similar fashion. Such work is critical in developing interventions that go beyond just providing knowledge to educate consumers but to go further to consider practices, things, and the environments within which they are embedded to build solutions that can directly challenge consumer's behaviour. As Warde (2016: 138) explains "people deploy what they have learned not primarily by consulting a stock of knowledge and deliberating, but rather through automatic implementation of sequences and previously rehearsed response to clues made available in familiar settings which generate fluent practical action". It is these settings and the different ways in which space can be theoretically pursued via a practice approach that will an important part of making headway in both delivering greater understanding of the nexus of consumption practices and in developing solutions to problems such as the wastage of food. The next findings chapter explores the temporal conditioning of consumption practices.

Chapter 8

The temporal conditioning of consumption practices

8.1 Introduction

This chapter outlines the findings aligned with the temporal conditioning of practices which presents and discusses the workings of time and temporality. Chapter 3, section 3.6.3 established that there are both objective and subjective ways in which time can be addressed in a practice approach. The former is well documented when it comes to consumption, featuring work that has described how consumers use and schedule their time available. The later serves the sensed duration of time during the doing of practices. The in-time, in-performance nature has implications for how practices are performed in how participants made temporal articulations that had implications for food consumption and food wastage.

This gives a new avenue of knowledge of food waste behaviours through using a practice based temporal lens. Critically this moves beyond descriptions of how participants use and allocate time to practices to account for their in-time experiences of performing practices and the implications this has as a form of conditioning. This chapter zooms in on the time and tempo aspect featured in the data analysis procedure as well as looking at a distance how subjective time can produce worries and concerns. Specifically this chapter illustrates how the performance of consumption practices are conditioned via two temporal aspects set out in Chapter 3 section 3.6.3, sense of performance and personal rhythms.

The first of these is addressed in section 8.2. Here findings are presented around how performances are influenced by their temporal context. How participants experience time revealed the influence of wider non-food practices through drawing on the experiential nature of performances. For example situations that feature a high intensity of practices trigger substitutions performances that lead to food waste. The temporal tools of tempo, intensity, complexes and projects are employed delivering greater knowledge around the role of time in the performance of practices.

The second conditioning aspect explored how participants shape their own rhythms to navigate the demands of everyday life. The nature of adapting and managing routines has an influence over performances. As a subjective interpretation of time, personal rhythms express how routine food practices are differentiated in their performance due to this navigation process. In this chapter this is used to explore how performances can be subject to change as well as what happens in moments of disruption. This chapter argues that further insight is possible from enquiring about the time based relations of performances.

A reminder of the two temporal conditioning aspects developed in chapter 3 are as follows:

- Sense of time: Participants make temporal articulations based upon their in-time sense of the performance of practice. For example the performance of a practice is sensed in a more stressful way meaning time and how it is experienced is sensed in a certain way. Performances are conditioned by how such temporal experiences shape and influence the performance of a practice.

- Personal rhythms: The way in which practitioners navigate their personal rhythms of time usage against collective rhythms of the routines and schedules embedded in institutions and households. This shapes and influences the performance of practices in the organisation and sequencing of practices in daily and weekly occurrences. Provides a tool to further understand the implications of disruptions to routines and the responses by consumers to adapt and change. Performances are conditioned through the personal temporal strategies consumers employ to navigate the sequencing of their practices in light of their in-time experience.

The key findings of this chapter are as follows:

- Temporal sense of performance:
    - Iterative changes to food consumption performances can lead to food waste through how participants deal with a high number of practices simultaneously within complexes such as the morning.
    - High tempo and high intensity situations influence how materiality is considered and how competences are deployed in performances.
    - Food waste mitigation is shown in deploying a practice intelligibility to plan ahead for upcoming high tempo and intensity situations.
    - There is a need for a greater focus on how food practices are practiced alongside wider life complexes and the implications of this with regard to sustainable consumption.
- Personal rhythms and disruption
    - Relational ties between the practices play out in performances and shape food consumption and subsequently food waste.
    - They way in which the home is re-provisioned with food is contextual to how shopping is either organised around other practices or how these practices dictated shopping.

- The disorganised reality of consumer's routines are under acknowledged in food waste and wider consumption research.
- Material degradation can act as a rhythm around which shopping is undertaken.
- Participants adapted their food consumption in points of disruption changing how practices are typically sequenced.

- The key implications for understanding food waste in this chapter were as follows:
  - The fallout of how high tempo, time pressured renditions of practices initiate time poor versions of key food practices. These are more likely to lead to poor management of food and food waste.
  - The strategies that consumers adopt to cope with time poor experiences re-direct well rehearsed performances of food practices that can lead to waste. Disruption to consumer lives can cause food waste in how time is re-allocated from proper food management or provision (in a way that prevents food waste) to more urgent priorities.

The chapter begins with a discussion of temporal sense performance.

8.2 Temporal sense of performance

This section reveals temporal relations relevant to the problem of food waste through the sense of performance conditioning aspect. The findings unveil how food waste can result from the mesh-work of simultaneous happening that caused in-time experiences of strain and stress and busyness. Participants are shown to alter how they treat the materiality of food in these time pressured situations, ultimately leading to waste. Practices such as planning are shown to be performed in a means by which food is retrieved from the freezer to defrost and eat later without the full competence of planning out how exactly this food will be used.

The form of conditioning in this chapter was outlined in section 3.6.3 of chapter 3 with a brief reminder given here. Sense of performance refers to how experiences of time feature within the performance of practices. These experiences are investigated in terms of the pace of the performance, zooming in on the characteristics of tempo and intensity. Tempo refers to the interchanging of different practices as part of a bundle of similar practices (such as preparing breakfast). Intensity refers to how these different bundles make up a complex. Where a complex is a specific time period compromised of several related bundles of practices such as making breakfast or getting ready for the day. The term project is also used to refer to wider aspects of social life that are not the feature of one practice but have a wider scope.

The premise put forward is that intensity and tempo are used as tools to understand the temporal articulations participant make. This means that experiences of time in performances have an impact on how practices play out which in turn reflects wider complexes that make up a participant's day. A distinction is made between autotelic practices that are clear and achievable and heterotelic practices which do not have directly achievable goals and feature across different practices to connect bundles (Welch and Yates, 2018), complexes and projects. The zooming in and zooming out data analysis procedure helped decipher this distinction, with heterotelic practices holding greater associations with other practices. Whilst this conditioning aspect has seen the most existing theoretical development, its application to the findings below demonstrates how it is extremely valuable in accounting how wider factors shaping the wastage of food.

To begin, we draw upon Linda's morning routine to illustrate how temporal articulation plays a role in shaping her performances.

> *Urgency to get up and get going - busy day ahead. Things to prepare before I catch the bus at 8.00am. Car to be loaded before husband leaves at 7.15am. Wondered if I should [do] 10 minutes exercise today but did it - glad it was a 'flexibility session'.*

> *Packed car while porridge cooled down and found change for bus. Ate Porridge. Husband leaves at 7.10am with car packed. I took meal for everyone to Nottingham as daughter has a new baby. Feeling calmer - wash up. Check emails and forecast - photograph lunch to take. Going to be a beautiful day - feed birds - get washed/ dressed go out for bus.*
>
> *Felt rushed as needed to prepare a lot for the day. Felt fine after everything had been ticked off.* (Linda, J09 - Description of morning routine)

Linda's account of her morning shows a complex that is representative of a number of bundles of practices and a project that has implications for her performance with regards to tempo and intensity. Firstly the wider heterotelic project of preparing for a trip to see her daughter's new baby structures and orientates the ordering of the autotelic bundle of practices related to food. Seeing her daughter conditions the tempo of the normal weekday departure for work. Linda has several different things to get done before leaving at 8am, with her reflection on feeling rushed showing that this is a higher intensity run of the morning routine than usual. She tells me that usually she *"lays the bowls out the night before"* for her breakfast so there is less to do to make her almond porridge in the morning. The bundle of food practices that Linda performs involves both aspects related to the morning, such as preparing porridge, and performances linked to the wider project like packing the prepared meal.

She also engages in the practice of exercising as well as actions that relate to working and normalised procedures such as checking the forecast for the day. Here the conditioning force is evident in the higher tempo of practices related to food preparation and the increased intensity of the number of bundles of practices being undertaken at the same time. However within this complex of practices, apart from feeling rushed, arguably there was not an actual change or substitution to performances that might have led to food going to waste. Despite this, Linda's account does reflect, as Woermann and Rokka (2015:1494) explain, that "temporal experience does not depend on isolated influence factors, but rather on the way the divergent elements that make up a situational embedding hang together". It is through taking account of the mesh of ongoings, such as the time frame of the morning, that iterative changes to performances and their implications can be understood.

The participants with young children are a good starting point to show such iterative changes. These participants, Michelle, Kim and Elizabeth, stated they felt *"frazzled"* as Michelle put it which reflects the experience of their morning routines in having to deal with several different practices at once. Michelle, Kim and Elizabeth all performed similar practices within the complex of the morning. For these participants the morning was a time period that involved not just getting

themselves ready for work, but also their children and in some cases helping their partners as well. Michelle for example explains that her normal morning routine involves the *"need to do lunches then do my daughter's hair, then make my breakfast and eat while she's doing her stretches"*. The switching of one bundle of practices to another was common for these participants as they negotiate their morning performances as Michelle sketches out: "*So I get up at 6.54 and then we generally have to be out of the house by ten past, quarter past eight. So during that time I have to have make 3 lunches, eaten my breakfast, my daughter has to do stretches every day for her swimming. So we do stretches in the morning as well in between all that and it just gets a bit crazy".*

These three participants speak about how eating breakfast, and the preparation of food for the rest of the day, as something that happens alongside other non-food related actions. This has implications for both the performance of practices and the nature of the items involved in these practices. For example, to draw upon Michelle's wasted noted in chapter 6, she tells me about how she throws away "*work meat"* which is her husband's "s*andwich meat for his work that had gone out of date".* She also tells me about throwing away some "*bread that he wasn't gonna use"* and how "h*e chops carrots on a Sunday for the week and puts them in a bag"* going on to note that "*any they don't use they obviously get thrown away".*

These food items and their materiality are considered differently because of the way they are used within the morning period. Chopping carrots might seem time saving at the time but the embedded work of preparation is overlooked. Whilst chapter 6, section 6.5 has already detailed how the viscerality of food inherently conditions performances, here there is also a temporal factor evident. The rushed nature of the morning means Michelle negotiates this complex by considering the materiality in a more absent minded way that aids how the busy morning period is negotiated. The weekend is then the time when a proper evaluation is made of the items in the fridge to then throw away what is no longer edible and start the process of preparing for the next working week.

Participants were seen to deploy a practice intelligibility in performing practices in a certain way to facilitate the temporal context, for example here in the case of how the materiality of food is considered. Whilst how participants plan ahead and how this relates to mitigating waste has already been discussed, there is a further aspect of planning in terms of avoiding high tempo and high intensity situations. This can be in a subtle way such as how Raymond tells me he purchases *"a 5 kilogram box of shell on prawns and we take some out on a Sunday morning and have them for lunch on Sunday and Monday and … make them into a sandwich"*. To more explicit examples where the performances related to the materiality of food can be connected to sense of performance in a temporal context.

Accounts of the bundle of food practices performed in the morning featured actions related to preparing and planning the evening meal. Kim tells me how she freezes leftovers such as "*bolognese or chilli"* for subsequent dinners. She explains that "*like today I've probably got something out from two weeks ago … it's quick to get out the fridge when I get home from work. I got it out this morning".* For Kim having a plan of action for the evening meal was something that relinquished the pressured nature of the morning routine. She tells me that "*I don't decide in the morning because I've got like two kids to sort out and I've got to be at work for eight, so I sort it out the night before".* Arguably the act of retrieving a food item from the freezer in the morning (or the night before) is associated with food planning as it is a way of contending with the morning routine. This is the knowledge that a food item will be available to use later after slowly defrosting. Kim's actions here aids the ability to deal with the intensity of the busy morning period, not wanting to be subject to a higher tempo in relation to the bundle of practices that relate to food.

Kim, and also Elizabeth, recount how the busy nature of their evenings are also assisted through performing food practices in certain ways. The evening can also be a high intensity complex of practices as Kim illustrates: "*evenings are busy because the kids do like swimming, gym, both at work till 5 o'clock, so by the time you get home, pick them up from nursery and that it's quite … they want their dinner".* This was also the case for Elizabeth who explains the need to *"give something to the kids quickly"* during the evening where *"it's a lot easier if you've planned what you're going to do"*. She tells me that her children typically eat something *"that's not a lot of prep".* These quotes show how evening meals are conditioned given the temporal context, and how, such as in the morning, planning in advance facilitates how these meal times happen.

What is of interest here is what is described above as the 'absent mindedness' of how, because of the time strained circumstances, performances are modified. Take Kim's case of retrieving food from the freezer and its association with planning. Defrosting is a well recorded food waste prevention strategy (Hand and Shove, 2007; Shove and Southerton, 2000) with well-established ideas around how freezers are 'time machines' that can help aid food planning under the pressures of everyday life. The contribution here however goes further in appreciating that retrieving items from the freezer is part of how participant's managed the temporality of everyday living. At the surface it is clear how participants used the freezing and defrosting of food is a food waste mitigation action and how this can play an important role in managing busy schedules as Kim shows above. However when looking deeper into the temporal articulation of the performance of defrosting of food, more elaborate temporalities are evident. Performances of practices can hold

different meanings as a result of how they are experienced in time. At points of high tempo it seemed more challenging for these participants to think thoroughly through what exactly they are going to eat later, they just understand that it is important to ensure there is food readily available to feed the family.

For these participants the actions of defrosting food are not wholly linked to fully planning out in detail the meal that will be prepared and eaten. Participants can be seen here to exercise a practice intelligibility in differentiating their performances according to the temporal context. This a form of conditioning exercised not only over the current in time moment, here having to deal with a busy morning routine in Kim's case, but also looking forward to act in advance and avoid a high tempo, high intensity situation later in the evening. This links to the discussion in section 6.4 on how practices are resolved up until the point at which they are performed meaning that planning in advance to mitigate food waste is not just about using resources wisely and keeping others happy but also a means of avoiding having to think about too many things at once. This means avoiding dealing with a 'thicker' bundle of food practices operating inside a high intensity complex where lots of things are happening at the same time.

There are of course examples in the study where the defrosting of food is used successfully to mitigate food going to waste, however it can be argued here that a further factor contingent for its success is the nature of the temporal articulation in performance, described through tempo and intensity. Beverly's morning routine illustrates an example. Compared with the cases of Michelle, Kim and Elizabeth discussed so far, Beverly's morning is relatively slow paced. Her older children are able to deal with themselves and do not feature in her account. She explains to me that she wakes up between 5.30 and 7.30am *"but the morning routine is always the same, put on the computer, put the radio on, put the kettle on, feed the cats".*

Beverly's food practices were interesting due to her smoking habit. She tells me that "*I don't usually eat until late morning early afternoon, because I smoke so I consume large amounts of tea and fags".* At the time of the research she was *"anxious to make up writing time",* typically eating leftovers from the night before such as "*potato salad with sweetcorn and some gravy for breakfast".* Beverly's mornings had a slow tempo, with little change between the two days during the study week when she worked in the office and her other three days when she worked at home. Even in the evening she explains that "*we would still eat about the same time but it would be either [her daughter] who would have gone ….. to get veg …. And if that hasn't happened we'll go up the co-op and see what's going on".* She goes on to note "*we do freeze a lot of stuff, I think it's just that the girls are in and out so it's just me, I'm quite happy to have whatever is left from the day before, I'm quite contented to do that".* Beverly's household reported wasting very little

during the study week. A link can be drawn here between the tempo of the morning (and dinner) routines in how there is no sense of a rush in how they are performed and the organisation and ability to regularly practice the consumption of leftovers.

A further factor to consider which somewhat separates Michelle, Kim and Elizabeth from other participants is how food practices are coordinated. This is not just considering the number of practitioners involved in a practice, but rather how the sense of performance of a practice relates and is attributed to others. This aspect of coordination between practitioners is important, as figure 3.3 shows, in how the greater number of carriers of practice in the morning complex mean a greater number of practice pathways to be fulfilled with associated performances. Zooming out to understand the food waste mitigation actions for such busy households highlights the importance of members of the household working together, with a conduit for food waste originating from instances of breakdown. Elizabeth for example tells me in a confident style that *"my husband is not really very good like for your research because anything that was left he takes for work the next day".* Michelle also tells me about times when her husband *"will be really good and he'll defrost it [a meal] in the morning and have it for tea, but not very often".* She explains to me that because her and her husband are busy they often *"come home from work and we'd say 'what we having for tea' and we don't know what we were having for tea and we hadn't defrosted anything and we just end up having a takeaway so".*

This shows that any discussion of who may be responsible for food practices in the household must be accompanied by an understanding how such practices are performed. Michelle for example tells me that her husband rather than herself is more responsible for the cooking but yet is equally affected by her husband's forgetfulness. In such cases it is then a process of substitution and adaption to ensure food is not wasted and a meal is prepared as Amanda, a lady in her thirties living with her partner and her dog, tells me with regards to her food plans in the morning: *"I'd get it out and defrost it, and if not, if I forget then just make it… swap things around so I have things…probably need stuff that needs to come out of the freezer and then if I forget, like today, we should've had the pork chops but I'd forgotten so I'm just going to swap something round and we'll just have something that doesn't need stuff from the freezer".*

As a final point here it is worth taking a greater look at the time pressured contexts that participants reported they experienced. As shown above, a sense of performance that is frantic is more greatly associated with food going to waste due to mis-management and modification in how a practice is performed under such a temporal context. It is fruitful therefore to pay greater attention to nature of situations that participants reported on. Sandra is a good example. With her husband working away, she is very busy looking after her two grown up sons every morning. She

reflects in her morning routine sheet that "*my days are very busy. I am always looking at the clock so not to be late for work. Getting back home to walk the dog and get tea ready for the family. I feel frustrated that I never have time for myself at the moment".* Sandra tells me that "*I know it sounds awful but I haven't got time to worry about what they* [her sons] *throw away and I haven't because …. I don't think about it".* Further tensions are also evident in Meera's account of how her husband does very little in terms of the cooking as well as comments from participants like Sam who hints that the balance of performances in relation to food are out of step. She tells me that during the morning *"I prepared two cups of tea and toast for me and [her partner] and was annoyed because he just sat on the sofa".*

Similar to Michelle, Kim and Elizabeth, for some participant's accounts of their days are a complex of overlaying performances as this further quote from Sandra shows. Here she is talking to her son and accounting for her movements for one day during the study week:

> *"I take you there and then come back, get tea, then come and get you, then we have tea, and then I'm preparing their lunch for the next day, it's that… I mean I don't often sit down much before what 9ish is when I tend to sit down at night time, busy yea it is well I haven't actually put any cleaning in there as well because I you know walk the dog and well actually I am going to put cleaning in here as well. And that would be every day because I can only do a little bit at each time, I don't do a whole day, I don't have a whole day at the moment where I don't do anything"* (Sandra, J26)

Overall there is an under appreciation of the role of temporal articulation of how performances of practices are sensed and how anything food related is lived concurrently to other things going on. The time pressure context of practices are contextualised with regards to how others use their time and how for some households the share of 'food work' is not always equal, such as in the case of Sandra and Sam. The wider projects that participants were dealing with during the study period give a further intensity to the complexes around which food practices are performed. Sandra tells me she made several trips to see an ill family member in hospital during the study. Sam spoke of concerns over Donald Trump's entry into politics and the need to act. Beverly was in the process of finishing her PhD. Linda explains to me how she feels the need to ensure she continues to do exercise and her daughter just had a baby. Elizabeth was moving house during the study and handling the process of exchanging contracts. The everyday mundane nature of food is lived within this and inevitably this has implications for the performance of food related practices. This is perhaps best summed up by returning back to Michelle. Michelle uses the word *"disposable"* when asked how she manages food in relation to her busy life and goes on to note "*I guess you do have to throw it away, you know, we wouldn't eat it all in that week".*

In conclusion this section makes a key contribution in understanding how temporalities of performances might lead to food going to waste. A reason for why food waste comes about can be directly accounted to how participant's performances of practices were conditioned temporally. The section showed that participants made temporal articulations of how experiences of feeling busy and strained for time in their morning routines, and at other points, can lead to food going to waste. This was shown to take place firstly because of there not being sufficient resources to align to the number of different bundles of practices being attempted and secondly because of this how practices were modified in their performance. Two explanations were given such as how the role of materiality was exercised differently in Michelle's busy mornings compared with at the weekend; and also how the practice of planning food via defrosting can be become disassociated with competences of fully thinking through what exactly will be eaten as an evening meal. Finally points were given around how coordination played a role in the temporal sense of performance, with aspects of both partnership and tension noted and connected to food waste mitigation and food wastage actions.

In terms how this has implications for food waste prevention strategies, the section already hinted how a consideration of the performance of practices in-time problematises the way in which consumers are best adopting reduction and prevention strategies. This shows that, similar to the section on how planning is resolved, it is not just a question of participants employing prevention strategies, rather a consideration of the temporal context within which practices are performed is needed. Figure 3.3 illustrated the complexes within which food, and other practices, exist within when performed. This highlighted that food practices are just one bundle amongst others that demand resources in a busy period such as the morning, alongside wider projects. Participants such as Michelle that generate more waste than others displayed morning instances that had a higher tempo and multiple bundles of practices being dealt with that had knock on affects to how her food practices were performed. Prevention strategies therefore should be inclusive of the time pressured situations of participants like Michelle, a family with young children, noting how food planning, amongst other prevention strategies, should be employed in a time sensitive manner to have the most impact.

It can be concluded then that why food can go unused, uneaten and wasted is due to the busy and stressed experiences sensed within the performance of practices. Whilst academics have noted that there are "decisive moments within everyday practices where there" are opportunities "for interventions to stop practices causing food waste" (Hebrok and Heidenstrøm 2019:1437), there is somewhat of a failure to consider the everyday in-time reality of what the performance of food practices look like and how they are so entwined with everyday 'goings on'. Whether this be other

practices that overlap morning routines or the influence of wider projects that reign across temporal complexes, it is difficult to understand how a single practice might be reformed or introduced without it having implications for others. The zooming out data analysis tool aided this pursuit and it can be argued here that seeking to draw out individual practices from which complexes are composed of can only have a limit impact in both understanding and seeking solutions to how food waste comes about at consumer level. This therefore critiques studies such as Hebrok and Heidenstrøm (2019) that whilst on the one hand provide a useful breakdown of intervention points to mitigate food waste, fail to consider the practical temporal context and the sense of performance within which these practices actually exist and play out.

Next this chapter discusses where the wastage and prevention of food fits into how participants carve out personal rhythms in their routines as well as the implications caused by disruption.

8.3 Personal rhythms and disruption

The second part of this chapter addresses the rhythmic nature of how practices are performed. This concerns how participants in the study employ personal temporal strategies to shape their own rhythm in negotiating their way through the weekly cycles of work and leisure time. This section gives insight into the complex routines within which participants perform practices and how this has critical implications for the conduits through which food waste comes about. In comparison with the previous section this is a departure from an intricate momentary focus on the sense of doing performances in-time to instead focus on the sequential and routinised in-time nature of performances, specifically how practitioners negotiate and navigate their routines.

This section begins by outlining how practices related to food, such as food provisioning, can be seen to be differentiated according to the nature of routines in such weekly periods. The personal temporal strategies that participant held and negotiated are highlighted within regards to food consumption behaviours and the implications for food waste. This is then complemented by a discussion exploring what happens when routines are disrupted in terms of the temporal strategies employed by participants. This was derived from the zooming out process in terms of associations between practices and their mediated implications as the connections unfold. This section draws upon the personal rhythm conditioning aspect set out in chapter 3.6.3. To begin a discussion entails the findings unearthed when this tool was used to analyse shopping and the reprovisioning of the home with food. Participants in the study displayed different temporalities in their performances of shopping practices with three different aspects highlighted.

Firstly shopping was a practice that was scheduled, shaped and sequenced around wider commitments which had implications for its performance. Elizabeth tells me that *"there's no set time when we do shopping",* she explains how shopping is undertaken *"when things are running low in the freezer or the fridge"* with a bigger shop then undertaken every 10 days. As explained when drawing upon Elizabeth in previous sections, she was a busy mum that must feed and look after her daughter and son as well as work. Performances of organising and sorting food, with shopping being a central point of this, were a way of coping with the number of different overlaying practices Elizabeth has to deal with that aggregated at points in the day to give the sense of busyness. For example Elizabeth outlines one Tuesday afternoon during the study week:

> *"I pick up the kids, I pick up my little girl from preschool at two o'clock and my son from school at 3:30 so that means that we've got a little bit more time to do… to eat with them and kind of plan what we're going to have a bit more, so that Tuesday, we had the chicken wraps because I knew I could feed them at half four and five o'clock"* (Elizabeth, J21)

For Elizabeth it is important to have the shopping sorted and organised to know that in such circumstances the food is already there to feed her children. This however has negative implications when it comes to food waste. In knowing that a new shopping delivery is arriving on a Saturday morning, Elizabeth recounts clearing out the fridge the night before the delivery and throws away food, shown in figure 8.1 below, that she describes as going "*squashy"*.

Figure 8.1 Image taken by Elizabeth of the food thrown away as a result of her fridge clear out

The rotation of food in the fridge, prompted by the re-provision of food, was driven in Elizabeth's case by how shopping was a practice performed within a myriad of other practices during the week. Unlike other participants, shopping was not performed as a practice whereby time was dedicated and made for it, rather shopping was fitted around other commitments driven by ensuring there is sufficient food for time pressured situations. The quote above shows one such case, with Elizabeth also noting other instances such as returning home from taking her son swimming late in the evening mid-week.

Both Katherine and Sandra were similar in how shopping fell in the personal rhythms of their week. Katherine speaks about how she undertakes one main shop and a further four or five top up shops in a weekly period. Katherine, similar to Elizabeth, presents week days as being a

complex of several household practices such as cleaning, taking her younger child to school, helping with paperwork for her husband's business, meeting her friends for tea, exercising, going to a singing social club and shopping to re-provision the home with food. In some ways these practices complement each other as Katherine tells me she likes to do her weekly shopping after her weight watchers class as she is "*in the right frame of mind".* However there were instances where Katherine gave long explanations of what she had been up to on certain days, with my field notes reflecting the sense of busyness that she portrayed. During the interview she feels the need to justify to me that her fridge is normally much more organised explaining that "*I'd probably just been shopping and shoved it all in … just whacked it all in there and then I would have sorted it out".* These moments of disorganisation were inherently linked to time pressures and how shopping, and the activities linked to shopping such as restocking the fridge, were positioned in a sequence of practices. This is a unique incite given that aspects of disorganisation are very much opposed and absent in food waste mitigation guidance.

A further participant that also illustrated how shopping is integrated and negotiated within several other practices was Sandra. Shopping was undertaken every Friday as a reset for the weekend to re-plan and organise food for her husband and two grown up sons. Sandra, much in the same way as Elizabeth and Katherine, scheduled shopping alongside the flow of other daily practices. Sandra for example recounts how her evening routines after work typically involve cleaning, walking the dog, ironing, cooking dinner and preparing her son's lunch for the next day with Friday also the day that she did her shopping. For Elizabeth, Katherine and Sandra, shopping was a practice incorporated within the sequence of several practices that were collectively ways in which the everyday was managed. This raises questions around how the practice of shopping should be focused on given that the rhythmic way in which it is repeated is so contextual.

The three examples above show how the performances of shopping practices are conditioned through how shopping is integrated into everyday organisational routines. There were also more subtle examples whereby shopping had more specific relational ties. In the case of Michelle she recounts how her daughter's attendance to swimming club structures the week with Michelle doing the shopping whilst her daughter is swimming at the weekend. For Michelle this securely allocates time to shop. Meera also gives a similar example, explaining how she shops in between work shifts every day in the centre of her town because when her son does the shopping "*he comes back with nothing … he thinks he's helping".* This extends work elsewhere on how time is squeezed and how this has implications in terms of wider factors that shape consumption and waste at consumer level (Southerton and Tomlinson, 2005). Time is made and unmade for

shopping around these organisational routines, such as how the predictability of Michelle's daughter's swimming routines.

Michelle and Meera here show how more specific relational ties can temporally connect the performance of practices. Given how these connections are important in how shopping is fulfilled, they are also a critical factor in determining food waste. Michelle for example tells me that despite actively using the freezer to help plan meals around her busy routines she admits that *"I don't know why we go down the whole freezer route because it will just get thrown away at a later point".* This shows that whilst there are technical affordances that are linked to how devices such as the freezer are used in routines, their performances, and ability to mitigate food waste, are conditioned by where the practices fall into routines. This furthers points made in the previous section in how the act of using the freezer is not always necessarily part of a well formulated practice of planning. What also can be said is that a consideration is needed of the circumstances within which this practices is placed. This is the 'in-time' nature of the performance of the freezing food and how this performance reflects the personal rhythms via which practitioners deal and cope with busyness in their everyday renditions of their practices.

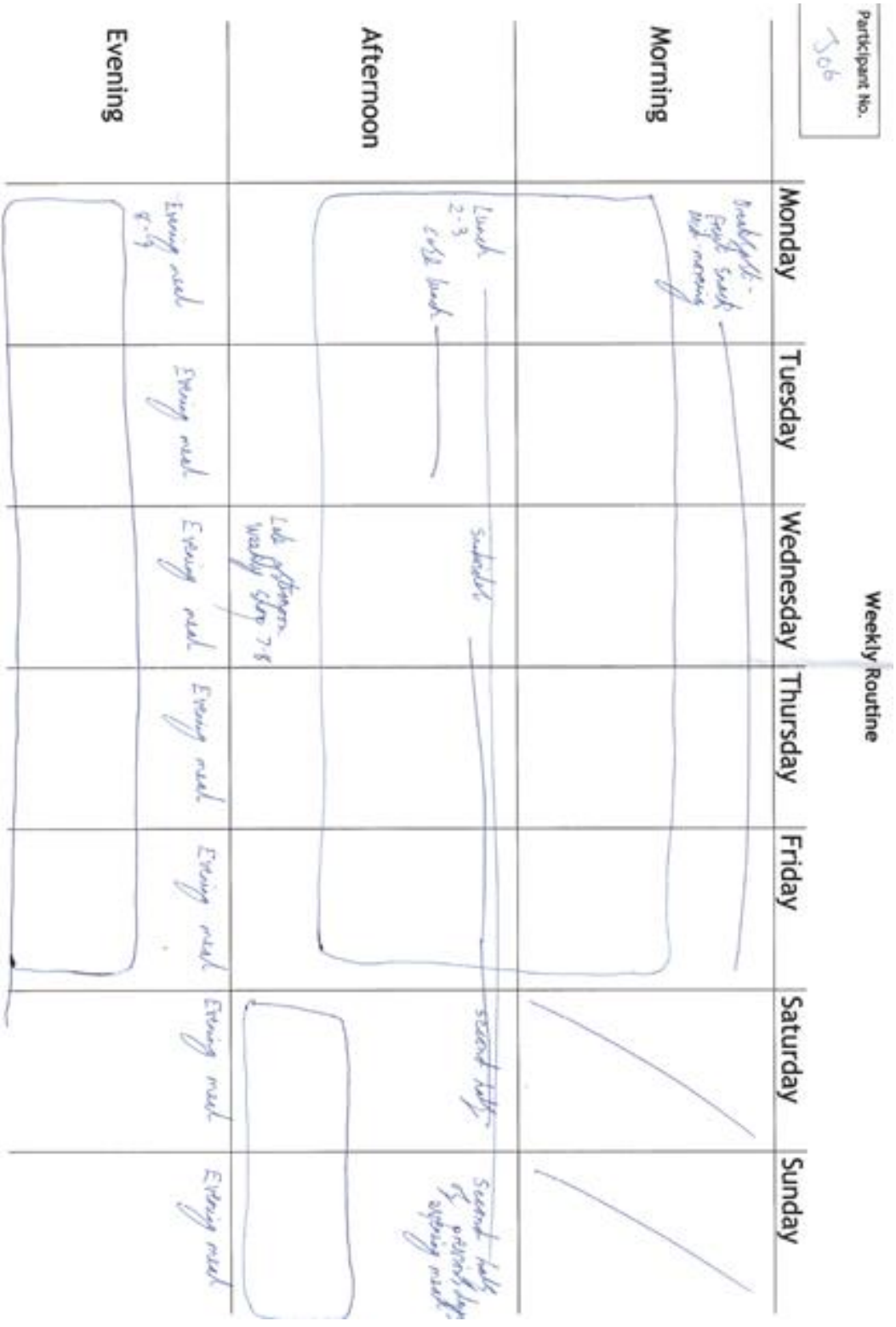
These examples so far display the degree of 'messiness', of disorganisation and the reality of the tangled nature of performances. Participant's ability to dedicate time to a practice and organise its performance in a periodic manner was very much was related to the demands of other practices and how their performances were situated in sequences. Arguably there are certain ways in which food practices are sequenced that are more or less likely to lead to food transitioning to waste. With this being clear in busy situations. This however does not necessarily mean that periods of highly sequenced and inter-changeable practices can be singled out as being principally attributable to the wastage of food.

The shopping routines of Beverly were intriguing given that they were not so closely integrated into a sequence of practices such as the examples above. For example, to expand upon the slow paced nature of Beverly's everyday routines outlined in the previous chapter, she tells me how she shops at a local market on the way home from work as well as a larger shop on either weekend day around 5pm as well as daily visits to the local stores to look for bargains. Without the need to actively look after and plan food for her grown up children, shopping is a much more segregated practice and its performance is not sequenced within a series of organisational practices such as in the case of Elizabeth, Katherine and Sandra above. There still however was an element of how shopping was periodic and performed according to a weekly frequency. A temporal strategy via which she navigated both the day and the week was still present despite the absence of the driver of being prepared, via the reprovisioning of food, to manage stressful

moments. This shows that the sequenced performance of practices can still have temporal requirements over which they must be completed even if one performance, such as shopping, is not being placed or scheduled in the context of several practices.

The materiality of food also plays a role in participant's temporal articulations. Participants such as Jason explain how the intervals of their shopping falls according to the length of how long food lasts. Jason tells me that *"I might pop to the Spar* (a local convenience shop) *in between things to just top it up but now I havn't done that in months now I've got it. I know the sort of amount per week that I will eat and I've sort of got a rough guide".* Jason, in the same way as Beverly, had great flexibility of when he exercised shopping given that he was a single male studying for a PhD with little other commitments. He still shopped generally the same day every week noting that "*I usually go shopping on a certain day of the week"* but he "*doesn't treat this as something that is set in stone"* where shopping triggered as *"there usually isn't much left but occasionally there will be the odd vegetable".* Figure 8.2 shows Jason's weekly routine diagram displaying that there are few concurrent and inter-related practices being performed on a daily and weekly basis but yet there is still a sense of regularity in how cooking, eating and shopping is organised.

Figure 8.2 The weekly routine table of Jason, J05



For Jason, as well as India, the length of time food items indicated they could be consumed within, as well as the degradation of the materiality of food, were important aspects in the periodic frequency over which shopping was performed. Examples in Chapter 6 featured the waste generated by India due to not using food in time, purchasing food with no real sense of regularity in her shopping. Whilst with Jason, although he wasted little food, he often spoke about his shopping according to how long it would last for explaining that pasta sauces that will *"last a couple of weeks"* or the tuna mayo and egg mayo sandwich fillers that last *"usually between half a week and a week".* These food items held a weekly frame of how long they would last and therefore how they might fit in with future shopping. There is a visceral connection here in how the regularity of shopping can be connected to the indicated life of products.

With India and Jason in particular in this account here, this is very much a return to the regularity of shopping being much more closely associated with the materiality and usage of food, rather than shopping being performed in line with other practices. There is a visceral element here with regards to how the regularity of shopping relates to the indicated life of a food product as well as how participants made visceral appraisals of the life of food (see chapter 6, section 6.3). Furthermore a key reason for this with these participants is that rather than having household based commitments of looking after other activities around which food practices are arranged. India and Jason's personal rhythms of how they negotiate their daily and weekly routines revolved around studying. For Jason being able to set out and dedicate time to his PhD was an important structural force. This can also been seen with India's scheduling of her time such as how she indicates arranging meals around periods of time in the library and her lectures. These participants indicate how shopping facilitates organising food around the rhythms of student work with the frequency of shopping being sequenced according to the materiality of how long food lasts, rather than any periodic timing that related to other events, such as how Michelle shopped while her son attended swimming classes.

Moving this point on personal rhythms and the materiality of food further, the role of top up shopping is also a factor to consider. Several of the participants already mentioned in this section note how they undertook top up shops, four or five in a weekly period in the case of some participants such as Katherine, in addition to their normal weekly 'big' or 'main' shop. This of course adds complexity in how further shopping trips must be managed alongside the performance of other practices, with top up shopping trips often undertaken in passing such as during commuting or transport to and from other places, as shown in section 7.4.

Georgina was one participant that spoke about how top up shopping influenced her routines. Georgina tells me that despite how her and her partner "*try to sort of aim for the end of the week,*

Thursday, Friday [to shop]*.... to prep for the meals on the weekend and then eat those through the beginning of the week"* this sometimes *"goes out of sync because Monday comes and* [her partner] *wants to make something that we haven't got the ingredients for so we have to go shopping".* Because of this Georgina's daily routines related to food are interspersed with her husband's trips to the shops such as how "*he'll just grab something when we need it, so he might go to the supermarket three or four times a week ... he'll literally go to the supermarket for coriander".* This means that what is eaten varies and planning can be somewhat uncoordinated as her partner "*probably plans when he's at the supermarket just depending on what he sees".* Georgina did not have children, and from her weekly routine table there are clear days dedicated to work and to study with little indication of how shopping is sequenced within other practices. She tells me that "*because there's only two of us in the house, we don't always go food shopping every week"* with the week she carried out the study "*a particularly low food week so we decided to go and we did our food shopping".* Overall the second aspect of materiality here emphasised how the temporality of food has a relation to shopping which in turn plays a role in how participants manage the regularity of their shopping.

The final routinized conditioning aspect explored here is the way in which participants marked out when shopping would be scheduled for specific time periods. Georgina mentions the preference for shopping on a Thursday or Friday, firmly informing me that "*we don't go like to go shopping on the weekend if we can help it".* Georgina gives two reasons for this, first that she wants to keep her weekends free as during the week she works two days and the other weekdays she is undertaking a PhD. She tells me she never works past 6 in the evening and when her partner gets home from work she *"doesn't want to work anymore"*. The second reason is that her partner *"gets really cross because he works all week ... and its really busy at the weekend, it puts him in a bad mood".* Georgina went on to explain that she had only recently moved into her new house a few months ago and that during the study week her weekend involved "*boring jobs like painting door frames and doing the washing and cleaning".* Georgina was notable in segregating the types of practices, including food practices, that she performed between the week days and the weekend and tells me that her and her partner have *"got quite structured weeks".*

Here Georgina displays an active strategy of scheduling her practices in such a way to avoid shopping at the weekend. One of the reasons why she is able to do this is because she spoke little about time pressured situations. In relation to the wastage of food, despite there seeming to be little temporal conditional aspects holding a performative influence over how food is managed, Georgina gives one example where some cheese was wasted as a result of one of her partners' unplanned trips to the supermarket. She recalls the situation: *"I don't think we even finished that*

[the cheese] *and I had to throw it away and I just had to say to him* [her partner] *sometimes, just when we feel like having it we will … we don't have to have things that we like every week".* A final point to note here about Georgina on her routines was that there was very little individualised or differentiated performances relative to the provision of food between her and her husband. They held collective food rhythms which was a key enabler in being able to set aside time

As a final example of this third personal rhythm based conditioning aspect is that it is important to note how Georgina was somewhat of an outlier, contrasting her experience of shopping routines with Antonio and Christian and others such as Michelle. Christian for example tells me that *"generally we only do it* [the shopping] *at the weekend but … we might pop into the shop during the week".* He goes on to tell me how shopping at the weekend is more convenient and how this is a practice that is a reference around which others are sequenced. For example he says that *"Saturday morning I would go to the gym and then depending on what we are doing that weekend is how we fit in the shopping".* Antonio also explains how the weekend is the time when he goes to drop off and pick up his suits for dry cleaning and that because of this they often end up shopping as Morrison's the supermarket has a dry cleaning service.

Considering the weekly routine diagram Antonio and Christian completed, and the previous discussions that noted why they wasted food, whilst participants with young families manage a sequence of practices that included shopping during the week, Antonio and Christian scheduled shopping at the weekend within a series of practices such as doing chores, Antonio's volunteering commitments, going to the gym and 'going out'. Similar to Georgina, Antonio and Christian were an example of a household that clearly differentiated their routines between the weekday and the weekend evident in how their food shopping was scheduled in this way. They wasted little which it can be argued is linked to the sufficient time available and how their performance of shopping practices was positioned as a key reference point around which other practices were distributed. Michelle also spoke about shopping at the weekend and related this to converging points within the week whereby the weekend was a time to reset and sort things out for the start of the next week. Overall the third aspect of scheduling here highlighted how participants employed personal rhythms through which they made time, or exhorted preference to align practices with specific times during the week.

The last part of this section turns its concern to disruptions. Whilst the research tools were actively designed to consider and collect data on the routines of participants, an unintended consequence was insight into instances of disruption. This was because either the study week happened in include moments of disruption, or participants accounted for instances of disruption when talking about the normality of their routines. The positioning of disruption in relation to the

narrative followed so far in this section around how personal rhythms negotiate and navigate routines is valuable in offering explanation of another dimension of the realities of how practices are sequences and performed.

There is a normality of practical understandings in the normal running of everyday life (Phipps and Ozanne, 2017), and whilst the conditioning aspects in this thesis show fluctuation and variance in behaviour between a practice and its performance (such as disorganisation and disarray), this does not take into account moments of complete disruption. These are instances where the normal sequences of practices are broken or diverted, specifically the points of reference around which daily and weekly routines are organised, with the regularity of re-provisioning the household with food being a critical one.

Participants displayed ways in which they adapted their food routines in cases of disruption. On a base level this might have been an expected disruption to routines. Michelle tells me about how her food routines in the summer are disrupted because of her daughter first spending more time at home and then going away. She explains that her and [her husband's] "*meal planner will be completely different when* [her daughter] *is not there"* and this *"will change the landscape of what we eat".* Julia and Carl also note a change in the way they would normally shop and the need to *"wind down what's in the fridge"* because of going away on holiday. Kalee also mentions before she goes on holiday she would "*probably get a ready meal because I won't wanna leave stuff in the fridge or buy stuff that's gonna get wasted".* Brenda also tells me how she keeps "*a couple of ready meals in the freezer but they are sort of for emergencies"* such as if "*I come back from holiday and I haven't got anything".* These are ways in which participants noted they adapted their behaviour to prevent the negative implications of a situation that is outside their normal routines when they maybe expected. This was a form of preparedness for disruption, an ability for their food routines to be resilient to instances where the normality of routines is absence, such as how the regularity of shopping provides security in knowing what food is available at home.

Disruptions clearly had an impact on how participant's managed their food and subsequently how food might have then ended up being wasted. Linda for example notes "*I don't like it when my routine is thrown out".* She tells me about how at the start of the week she had to make a trip to Nottingham which meant that "*towards the end of the end of the week I was forgetting things .....that sort of threw me out a little bit".* For Linda there was a degree of safety and ease when it comes to her normal routines attributed to shopping: "*I'd rather as I say if I can do that Asda shop and get everything then that's better for me".*

The most prominent example in this study was the experience of Sandra who had a rather unfortunate experience during the study week. Sandra explains that:

> *"that week my Dad went into hospital and it was absolutely chaotic and I had to take [her husband's] dad to hospital as well so there are bits of the week where I've had no dinner, no dinner, no dinner. Tea was like a bowl of rice crispys or a cheese and pickle sandwich so it's been a little bit"* (Sandra, J26)

As well as not having a proper meals herself, the disruption to Sandra's normal food routines had implications for her two adult sons and husband in how food was organised in the home. She details the impact that this disruption had:

> *"I would prepare tea every night but because I work, I was working during the day and then I would literally pick my mum up and then we would go to the hospital and then I wasn't getting back sometimes until I don't know 8 o'clock or something, so the kids then had to fend for themselves"* (Sandra, J26)

Her sons engaged in unfamiliar performances of cooking and managing the food in the household, something that they are not usually responsible for, as a result of Sandra's absence. There were little implications for food wastage however. This was a short lived change to routines and Sandra was strategic in how she managed the situation, still preparing food when possible and returning to normal procedures. Chappells and Trentmann (2019:198) argue that "disruptions give us short momentary glimpses of the fabric of 'normality'". This can work in both positive and negative ways with regards to the precedents of food waste. In Sandra's case it exposed how integral Sandra's role was in food provisioning and how this was a key point of reference around which the household was organised, potentially leading to food waste generation in the long term. Disruptions can reveal "the patterns in which practices and infrastructures are woven together" exposing where food is wasted unintentionally as a result of the routines and the personal rhythms through which we negotiate them (Chappels and Trentmann 2019:198).

A final form of disruption to note here is where routines were interrupted intentionally by participants. Katherine for example spoke about how food waste is integrated into routines reflecting that "*loads of people just buy the same every week and they don't think about what they throw away".* She tells me about two of her friends that are *"naturally"* organised people, how they get their shopping delivered on the same day each week and are able to stick to a meal plan. In making a comparison to herself, Katherine says that:

> *"I'm quite good at being organised and then every so often, I just get a bit bored and it just goes out the window and I think oh sod it, like tonight for tea, I don't know what they've got… they'll probably have sausage rolls 'cause I've got some in there but I didn't think about tea tonight 'cause it's Sunday and I'm relaxing and it's my weekend so I just don't think about it"* (Katherine, J25)

The 'in there' refers to the food stuff available for her family to cook and eat that evening. There are clear dynamics to how this changes during the week with the kitchen being less capable at feeding the family on the weekend when Katherine 'relaxes' and is not employing the same practices as a normal weekday. Katherine's response can be related to the discussion in section 6.4 as there are times participants *"didn't want to cook*" (Meera) or were *"feeling a bit tired and … didn't have the energy"*(Anna) or did not have "*the imagination to think of what to make so I had takeaway pizza"*(Violet). The idea that routines can be disrupted intentionally poses questions around the nature of practices and how they can be understood given that their 'routineness' is a founding factor upon which practices are based. When the routine, rhythmic nature of practices are disrupted a similar process as above of adapting personal rhythms is drawn upon. This means that such disruptions infer and bring about performance of practices in new and adaptive ways. Whilst the discussion here cannot be conclusive in the implications for factors that bring about food waste, it is evident that it is a critical area to further research given how disruptions can bring to a stop and breakdown practices that hold together the makeup of routines in terms of both daily and weekly flows of happenings.

In conclusion, this section has drawn out a number of findings and discussed the conditioning aspect of personal rhythms. Approaching time via a subjective means to seek experiential understanding of the in-performance nature of doing has reveal further critical points in expanding this to concern how participants managed their routines through a process of navigating and shaping the personal rhythms they employ to deal with the temporal demands of everyday living. Shopping practices were first discussed and how as a commitment they can be both placed within a mesh of everyday practices, and how others shape wider practices around regular occurrences of shopping. Questions were then asked around whether shopping should be researched and considered in an independent frame given that their performance was so influenced by their placement within wider demands and commitments. This has implications for the wastage of food as the placement of certain sequences in practices were more likely to lead to food waste in how participants dealt with busy periods.

The section then moved to explore how the material degradation of food was a rhythm around which participants scheduled shopping. Finally points were made on disruption showing how

normal rhythms were adapted due to unforeseen circumstances as well as times when rhythms of food consumption were broken intentionally to have a break from normality. Consumers do not lead lives that are perfect circuits of regular practice occurrences. Zooming out to establish and follow the mediating role disruption plays over how practices are ordered and associated enabled such insight. The section brings out that this can be understood because of the factors that shape and influence the performance of practices. It must be noted that disruption was not an area that this thesis set out to explore but yet it is ripe for future research. This section has provided some initial insight into how consumers manage and adapt their routines to filter temporal textures of busy periods. Regularity is what is holding together ways of consuming as well as wastefulness and therefore instances where these routines are broken must be a key point of interest. Research questions can be posed around how representative were points of disruption for consumers such as the extent to which points of divergence make up weekly or monthly food consumption routines.

Also there is a need to further understand the 'can't be bothered moments' as chapter 6 points out, and the drivers of consumers changing their patterns of practice to provide insight into movement away from unsustainable behaviours. These are intricacies of the circumstantial and contextual nature of the temporal organisation of food practices and how they are framed showing how powerful a time based practice theoretical lens can be. There is a need to unopen up these temporal articulations and points of reflections as Kupers (2011:103) explains: "It is through those moments of perturbations as disruption of discovery in the day-to-day activities that practice announces itself as an explicit theme for thought and thus calling for to shift of relevancies. It is then that practitioners step back from their involvement and reflect on their practice". The chapter now concludes.

8.4 Conclusion

In conclusion this chapter opened by exploring how time is sensed in performances in terms of the implications for food consumption and waste. In times of being busy when participant's found themselves in high tempo and high intensity complexes, participants went about performances in modified ways. This included inconsistent employment of competences and differences in how the materiality of food was considered. Participants were also shown to actively plan in anticipation of situations when they would have to think about too many things at once. This first section revealed how the performances of practices are sensed in how they are wrapped up in temporal relations and demands such as how wider projects overlap in how participant's dealt with complexes such as the morning routine. This was shown to have implications for how consumers and households can best adopt food reduction and prevention strategies. New mitigation strategies for example may not be successful if they fail to properly allocate time and understand the process by which consumers change their food consumption practices because of being busy and having to manage several things at one time.

The second section of this chapter took a greater look at personal rhythms and disruption. This was a move to look at how the in-time sense of performance shapes how practices are organised and scheduled. This gave insight into how participants navigated their routines through personal temporal strategies. First shopping practices were shown to be shaped around wider commitments. This has implications for how participants, particularly those with children, undertake shopping to manage time pressured situations. Critically there are ties between how practices are sequenced and how their connections can shape their performances. The chapter's findings were derived from the temporal aspects of zooming in combined with zooming out to take note of the associations drawn between practices.

In terms of the conditions of consumption employed here, they expanded the current theoreisation of the temporalities of practices. The two aspects both sought to access the in-time aspects of temporal articulation. This was not another time based analysis tool that focuses on descriptive means, but rather a mechanism that accounts for how temporal realities can shape performances. The rationale for these aspects therefore aligned with the performance based focus of this thesis. Furthermore this revealed another access point to the themes of context and circumstance.

How food consumption falls and is navigated around the ups and downs of everyday day to cope with the tempo and intensity of complexes can lead to food waste. Some of the ways in which food practices are sequenced are more or less likely to cause food to go uneaten. Examples were given such as how shopping might be organised around other practices to avoid stressful

moments or cause disorganisation. Whereas others were shown to shape the rhythms of their day to scheduled practices around shopping. Points are also made on how the material degradation of food can act as a rhythmic factor shaping the regularity of reprovisioning. The section drew to a close by revealing how personal rhythms are negotiated in times of disruption. This mean that certain sequences are broken or diverted thus having a knock on influence over the organisation of food and the mitigation of food waste.

Overall this chapter significantly expands knowledge of the circumstances of food waste behaviours. Firstly it helps provide a lens through which to approach the reasons why practices fail, food becomes disorganised and foodstuffs go uneaten. Expanding points in section 6.2 on how practices are resolved, an understanding of the time based sense of the experience of being in a time stressed situation is given. This gives an idea of why consumers fail to keep on top of things as being a potential driver of food waste. Furthermore this emphasises the often hidden feature of disorganisation in behaviour studies that goes unreported. Consumers are not entirely rational and therefore seeking to employ more sustainable behaviours policy makers should not expect a progression to consistent performances. The temporal conditioning tools are able to open up the complexity of what participants were dealing with to explain disorganisation and disruption, a topic that is barely touched upon by traditional attitude and motivational food waste behavioural research.

From considering these findings that have arisen from the temporal conditioning aspects, the implications for understanding the generation or mitigation of food waste are that firstly food waste is more likely to indirectly result from time pressured situations that cause poor renditions of food related practices. Secondly that the strategies that consumers employ to cope with time poor experiences and disruption can cause food waste indirectly in how effort and time to manage food and provisioning are diverted to more urgent priorities.

Moving forward it seems misguided for campaigns to mitigate food waste to ask consumers to make time to introduce more organised practices. Any new regime of initiatives can only be as successful as the ability of the practitioner to; 1) manage their current load of practices and the relational ties within with food consumption practices are temporally arranged; and 2) being able to adapt the actions involved in new initiatives to their own strategies of navigating their personal rhythms. Interventions to mitigate food waste then are ways for consumers to better temporally manager their lives. The thesis now moves to the final concluding chapter.

Chapter 9

New findings and new theoretical insight: The social-spatial-temporal conditioning of consumer food waste behaviour

9.1 Introduction

Food waste remains a global challenge that must be addressed to transition towards a lower carbon, more environmentally friendly world. The wastage of food however is a problem that remains embedded in today's capitalist and neo-liberal society, an outcome from the social, spatial and temporal arrangement of consumers' modern 21st century lives. This thesis has highlighted the need for further understanding of the factors that are influencing why consumers are wasting so much food. Specifically the need to appreciate the complex everyday lived realities of consumption behaviours and how these, and the wider demands of work, leisure and family life, have implications for the conduits through which food is wasted. This is a thesis that has shown the need to retire overly individualistic behavioural approaches, such as the theory of planned behaviour (Sniehotta, Presseau and Araújo-Soares, 2014), and instead advance behavioural knowledge to address context and circumstance.

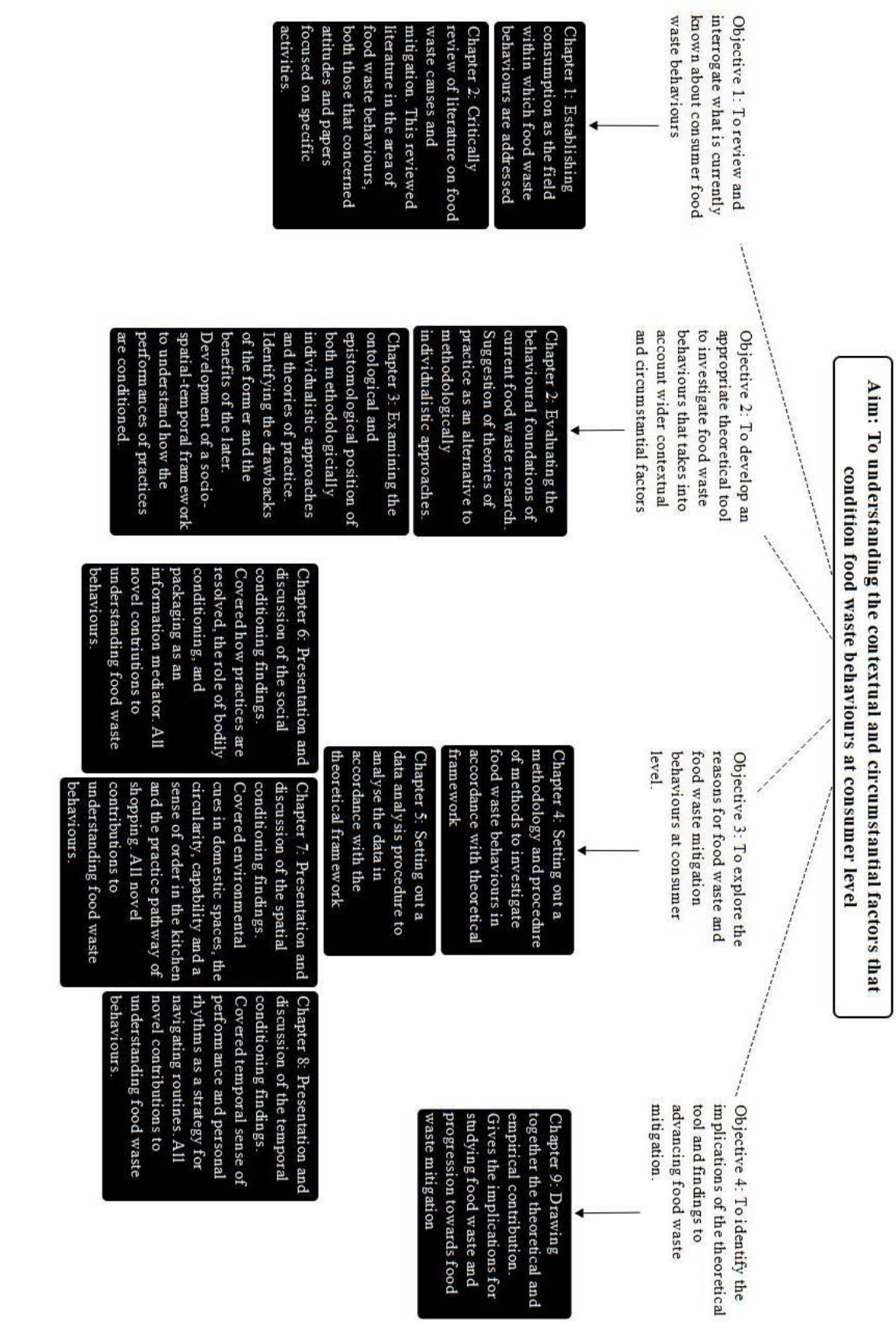
This thesis makes a clear case that the priority of societal transformation towards more sustainable consumption patterns can only be achieved through such approaches, demonstrating the strengths of a theories of practice approach. The socio-spatial-temporal framework is shown to provide extensive new knowledge of what conditions why food waste comes about at the consumer level, offering a theoretical advancement in the potential application of this framework to other consumption behaviours. This goes beyond current scholarship in both the understanding of consumer food waste behaviours and the significance of theories of practice to achieve more sustainable patterns of consumption.

This chapter brings this thesis to a close. The conclusion first states how the aim and four objectives of the thesis were met. Next a summary is given of the theoretical contribution. This details the different aspects of the socio-spatial-temporal framework, drawing together how this is a major breakthrough for behavioural understanding. Following this the chapter gives a summary of the empirical contributions by abridging the findings from chapters 6, 7 and 8. Implications for tackling the problem of food waste are then presented from this theoretical and empirical insight. The implications raise a number of points challenging current waste mitigation measures and raising new areas that require attention. A future research agenda is then offered. The conditioning framework developed here is a pathway towards the wider adoption of a theories of practice approach given the merits of a greater focus on performances and what conditions them. Ideas are offered to where researchers should turn next in expanding understanding of consumer food waste behaviours and potential solutions.

The overall aim of this thesis was 'to understand the contextual and circumstantial factors that condition food waste behaviours'. This was underpinned by four supporting objectives. The

discussion below outlines how this aim and the objectives were met by recounting the content of each chapter. Figure 9.1 gives a diagram that graphically represents this.

Figure 9.1 Diagram to show how the content of each chapter met the four objectives and overall aim of the research



The first objective was ‘to review and interrogate what is currently known about consumer food waste behaviours’. This was met in chapter 1 and 2. Chapter 1, the introduction, set out the problem of food waste and positioned this thesis in the area of consumption. Chapter 2 critically reviewed literature on consumer food waste behaviour. This revealed inconsistencies with papers that focused on attitudes, motivations and choices of consumers. Studies that looked at consumption activities such as shopping, planning and cooking provided greater detail on why food is wasted. The chapter then moved to interrogate the behavioural foundations of food waste studies raising the problematic focus on consumer’s agency. Three key critiques were established showing limitations in terms of how the problem at hand was grasped, the attitude-behaviour gap and how this has led to weak sustainable consumption interventions. The chapter then introduced theories of practice as an alternative approach, discussed how it has been utilised in the area of consumption and reviewed studies that employed it in the area of food waste behaviours.

In assessing relevant literature, the thesis showed that whilst there is a burgeoning research area that has sought to explore the nature of food waste behaviours, their drivers, reduction and mitigation behaviours consumers employ, knowledge is missing on the wider influences of why food is being wasted. What is currently known about food waste features contradictory conclusions given by studies that call upon consumer’s cognition for explanation. Studies of consumption activities have moved further in establishing details over the pathway through with food becomes waste in households. However there is a lack of knowledge on the contextual and circumstantial aspects that influence consumption activities that are leading to waste. The chapter made an argument for theories of practice as a rewarding pathway that has opened up the area of sustainable consumption with further mileage its application to the topic of consumer food waste behaviour.

The second objective was ‘to develop an appropriate theoretical tool to investigate food waste behaviours that takes into account wider contextual and circumstantial factors’. This was met through chapters’ 2 and 3 in two ways. After reviewing literature in chapter 2, theories of practice presented itself as a good candidate that both overcame the short comings of individualistic approaches and was able to capture contextual and circumstantial aspects of consumption. To fully interrogate and develop its suitability to develop a theoretical tool, chapter 3 examined the ontological and epistemological position of both individualistic and theories of practice approaches. Confronting the philosophical underpinnings of methodological individualism further entrenched the inconsistencies raised in the literature review. Taking a further look into theories of practice proved beneficial in delivering further understanding of the process through which knowledge is built, with preference justified for a social constructivist research approach.

Chapter 3 then developed a theoretical tool. This extended the theories of practice approach in order to understand what shapes the performance of practices, through conditioning, and developed the social, spatial and temporal domains within which practices operate. This theoretical avenue advanced the application of theories of practice to consumption to facilitate consideration of contextual and circumstantial aspects. Eight aspects of conditioning were developed as ways in which performances can be shaped. The rational for these particular conditions of consumption was how they best demonstrated the potential in further empirical gains in understanding a consumption based issue, like that of the problem of food waste. The eight aspects are summarised in the next section of this chapter. Overall chapter 3 was comprehensive in examining the philosophical grounds of theories of practice in consumption research and constructing an extension that not only allows investigation of food waste but could be applied elsewhere in the consumption nexus of food, water and energy (Foden et al., 2017, 2018).

The third objective 'to explore the reasons for food waste and food waste mitigation behaviours at consumer level' was met through the three finding chapters on the social, spatial and temporal conditioning of practices relevant to the food waste behaviours. The findings bring to light a number of further intricacies of aspects that shape the conduits through which food comes to be wasted. Key connections are made between the platform of the body and its visceral, material and interpersonal reactions. The role of environments is explored such as what can trigger wasteful sequences and how the flow of food into and out of the household is connected to representations of domestic space. Time and temporal relations are presented as an influential factor in diverting the trajectory of food consumption performances due to the in-time sense of feeling busy and stressed. Section 9.3 in this chapter summarises the empirical contributions.

The fourth objective 'to identify the implications of the theoretical tool and findings to advance food waste mitigation' is met in this chapter, in section 9.4. This section brings together comments made in the conclusions of chapters 6, 7 and 8 that considered the significance of the findings. The implications for mitigating food waste are various. This includes how current ways in which practices such as shopping and planning, and the role of the body, space and time are misrepresented and misguided. Campaigns overlook how consumers live their lives in disarray and that organisation is an omitted element central to food waste mitigation guidance. Eleven implications are given in total. The chapter now summarises the theoretical contributions.

9.2 Theoretical contribution summary: A social-spatial-temporal conditioning tool to study consumer behaviour

Context and circumstance were established as key themes in this thesis. The review of literature in chapter 2 highlighted that whilst food waste studies have started to apply practice approaches these were somewhat limited to a domestic context (Evans, 2011a, 2011b). Chapter 2 justified a need for a more extensive framework to guide a practice lens that is able to take into account wider factors. The social-spatial-temporal conditioning tool was developed as the contribution put forward to meet this theoretical gap.

The mechanism of 'conditioning' was focused upon to extend current practice theoretical work in order to uncover the factors that order, shape and configure the performance of practices. A focus on performance means looking at how practices unfold and happen in real time. Practices cannot exist and be acknowledged as shared understandable entities before they take place and are performed. To meet the second objective the conditioning tool accounted for the factors that are influencing the performance of food waste related practices. The tool was able to reveal why these practices were constrained or were diverted in their enactment in wasteful ways helping to account for unconscious hidden behaviours. These was shown to be contained within processes of negotiation of how consumers navigated the lived reality of their everyday lives.

A series of conditioning aspects were set out across the domains of the social, spatial and temporal. These domain areas were chosen because they are all entwined in the theoretical workings of practice theory (Schatzki, 2010a). The social and the material is already well established as being of direct concern to interpreting behaviour through a practice lens. Practices require space to be performed and these performances were shown to be integral to understanding of place (Löw, 2016), such as the kitchen (Meah, 2014). Finally all practices must be allocated time to happen and practices themselves can shape the timing of when related practices are performed and sequenced (Southerton, 2012).

As figure 3.2 showed, aspects of intelligibility and dispositions overarched these practice domains. Intelligibility referred to a sense of what actions are appropriate in a certain circumstance, a trained practice instinct. This replaces ideas of consumer's deliberating over action, and instead put forward that a procedural memory is drawn upon in the flow of performance. Dispositions referred to the actioning out of practice intelligibility. When practice knowledge is translated into performance a degree of negotiation and improvisation take place dependent upon the circumstance. As Warde (2014) explains, this reconfigures and presupposes the shared understanding of a practice in its performance. This is noted as having a coordinated

role in how practices unfold over a non-scalar practice realm (Schatzki, 2011). Three tables, 9.1, 9.2 and 9.3 are now given to summarise the theoretical contribution made. Further points are drawn out regarding what the conditioning aspects mean for the field of sustainable consumption.

Beginning with the social, this domain was established as the principal domain within which practices are created, performed, change, intersect, amalgamate and cluster, and also dissipate and cease to exist (Warde, 2016; Shove, Pantzar and Watson, 2012). Practices were framed as social as the knowledge they hold is distributed between people, the body (as a reactive site of performance (Polanyi, 1958)), and visceral responses to materials (which script role of objects (Evans and Miele, 2012; Latour, 2004)). This also concerned the purposefulness of practices and how the outcome of a practice is achieved (Welch, 2017; Schatzki, 2010a). In terms of the data analysis procedure, zooming in and out highlighted the interactional order of practices, bodily choreography, materiality and how practices are mediated through objects and tools. Social conditioning was defined as the processes located in the social domain that shape, coordinate and order the performance of practices and their constituting elements. In the same way as the spatial and temporal domains, the term 'aspect' is used to delineate different means of conditioning. Table 9.1 gives a summary of the different aspects covered in the social and how this contributes towards understandings of consumer behaviour as a theoretical contribution.

Table 9.1 Summary of social conditioning aspects and application to consumer behaviour

Social conditioning aspect	**Theoretical contribution to understanding consumer behaviour**
Resolving of practice	- Acknowledging that consumption practices have a purpose which is socially negotiated in terms of how achievements can be met through performances. - Understanding of how consumers 'resolve' their practices and how consumers negotiate and configure their performances in the moment of action. - Uncovering the gap between the shared understandings consumers hold on the form a practice takes, and the nature of their actual performance. - Contributes knowledge on how consumers understand the most appropriate ways to go about practices, how these are actually resolved in their performance and factors that constrain or inhibit an ideal performance.
The body as a platform of practice	- Understanding of the role of the body as a pre-cognitive reactive site that influences the performances of consumption practices. Articulations as trained responses to sensory inputs. - Revealing how the body is tacit and automated as a personalised and dynamic platform of practice. Influence over performances of consumption through sensory feedback and reciprocal dispositions between the body and materials. - Understanding of how the body and materials script performances of consumption practices.
Materials and materiality	- Tools, objects and technology as a mediator between bodies and viscerality. Materials hold aesthetic qualities that influence how they are engaged with. - Understanding of the role of the body in visceral interactions with materials such as food. This can condition performances in terms of the visceral reality formed from how food is sensed. - Understanding of how the body conditions the performance of practices through its visceral responses which can interrupt, change and divert courses of action.

The first of the social conditioning aspects, the resolving of practices, gives an explanation for why consumers may be locked into unsustainable behaviours (Jackson and Papathanasopoulou, 2008). All consumers are negotiating their performances and how they are

resolved in their everyday lives, it is just that they are rerouted and diverted away from a sustainable end point. This can help answer questions around how consumers come to be stuck in unsustainable routines. This also gives light to a new practice-performance gap. Here consumer held understandings of a shared practice, such as organising and managing food to prevent waste, is at odds with the reality of consumer's performances. This means that practices are redirected and substitutions made (Mylan and Southerton, 2017). There is a discrepancy between the meanings associated with a practice as an entity and how it unfolds as a performance given the conditioning forces.

The ingrained nature of bodily movements helps provide explanation for why consumer's behaviours are not always easy to understand in sustainable consumption research. The visceral feedback and the articulations that the body initiates as a form of agency helps explain the twists and turns in the performance of practices. Moving towards more sustainable consumption practices must recognise the role of the body which is often overlooked in current research (Wilhite, 2012). It is a dynamic platform upon which practices are translated into action. This thesis reveals further understanding of this translation or negotiation process whereby practices are re-formulated in their performance.

Finally, the social conditioning aspect of materials and materiality has implications for the field of sustainable consumption in how the relationship between objects, their use and the body draw out a form of aesthetic understanding (Schatzki, 2010b). This leads to things (such as kitchen tools, appliances and other objects) to be used in different ways than their intended use. This shows that, whilst technology may be heralded as solving problems of consumption (Spaargaren, 2011), it is only through appreciating how devices and appliances are used in how consumers navigate their everyday life that researchers can comprehend the capacity of such solutions. Overall the social conditioning aspects opened up the possibilities to theorise and research the twists and turns of practices and the role of our bodies in how consumers confront and grapple with consumption on a daily basis.

Turning to summarise the spatial conditioning aspects, this thesis contributed theoretically in providing a workable means to consider the role of space and place in practice theories' application to studies of consumption. A contribution is made in covering different ways in which space can manifest and operate through the performances of practices. Space and place are dynamic concepts that are much more than a background for consumption (Löw, 2016). The work of space is shown to have a shaping and attributing role in the performance of practices. Space is a productive situating force with place considered to be the product of the workings of space. Place is defined as being representative of the presence and entanglement of practices. The

performances of practices therefore are part of what makes and remakes settings or sites of consumption (Pink, 2012). These sites however are recursive whereby the materials, people and objects within a place shape performances, but at same time the performances of practices can give light to understanding of place (Löw, 2016). The zooming in and zooming out analysis process here was led by a focus on the spatial remit of practices, how they reflected bodily movement and the tools involved as well as contextualising the tensions between practices. Table 9.2 gives a summary of the three spatial condition aspects and their contribution to understanding consumption behaviours.

Table 9.2 Summary of spatial conditioning aspects and application to consumer behaviour

Spatial conditioning aspect	**Theoretical contribution to understanding consumer behaviour**
Environmental cues	- Understanding of the spatial requirements for practices come to light through their performance. Expanding understanding of space as a container of practice beyond widely adopted practice frameworks used in studies of consumption such as Shove, Pantzar and Watson's (2012) three element framework. - The nature of the environment and its layout within which performances are undertaken can condition behavioural outcomes. The location and placement of bodies and objects causes consumers to deploy their practice intelligibility in certain ways. - There are certain cues within the environments of performances. A sensory site that can trigger rehearsed actions. Emphasis of the automated flow of performance rather than a consumer deliberating before acting.
Generation of place	- Acknowledging the productive force of space in consumer behaviours. Understandings of place are brought into being through performances. - Understanding how places are made and remade in performances and the flows of people and materials. Implications for places of consumption. - Viewing the sites within which consumption takes place as places constructed through performance. Places of consumption as performative arenas of action defined by the people, objects and goings on within them.
Arrays of performance	- Consumption as multiple movements across the performances of practices. Practices are multi-sited. - Acknowledging the limitations of focusing on specific consumption practices in single sites. - Consumption can be understood through practice pathways that unfold across settings. Practices demand action across different settings that can only be known by understanding performances. These multi-sited demands condition the performance of practices.

Theoretical consideration of space here is an important step forward in extending the practice analytical lens. The first aspect of environmental cues shows the value in moving beyond considering space as a just a container of practice (Shove, Pantzar and Watson, 2012). There are intricacies and dynamics of space that play a role in how practices are performed. This includes

the location and placement of things and people and the consequences for practice intelligibility. For the field of sustainable consumption this gives a new way of exploring the spatial domain in seeking understanding of why people behave in unsustainable ways due to how sites of practice trigger or cue performances.

The generation of place conditioning aspect showed that performances can also be configured through how spaces are constructed via what goes on within them. This means that representations of domestic places, such as the kitchen, are constructed through repeated performances within that space. This process has an active transformative presence in behaviour and should not be ignored (Löw, 2016; Valentine, 2001). This aspect gives a means of taking into account the productive force of space in sustainable consumption with respect to behaviour. This is an attempt to re-place consumption as a performative means in how it gives light to understandings of place and how this process can shape practices.

The final spatial conditioning aspect of arrays of performance brings to light the multi-sited nature of practices. This is a very much under researched area and poses questions on the credibility of consumption studies that have typically focused on single sites such as the household. Consumers perform practices across spaces and therefore a consideration of this pathway is needed. Missing are the behavioural elements of domestic practices that take place outside the home. This conditioning aspect shows how consumers negotiate their performances because of this multi-sited context.

Overall the theoretical contributions of considering how space conditions the performance of practices gives the ability to appreciate how space as a contextual force plays a role in the outcome of behaviour. This raises important points around the everyday background that is often the backdrop of practice based studies. This background is constantly changing because of how spaces and the formation of places are in constant construction, in the same way that practices only continue to exist as shared understandings through their reoccurrence (Schatzki, 2011).

The final conditioning domain was the temporal. This explored how time is configured, ordered and experienced and how this is a force to condition the performances of practices. This moved beyond studies that have documented the changing account of time devoted to consumption activities (Southerton and Tomlinson, 2005). Instead this moved to address how time is sensed and articulated within performances. Similar to space, time is a resource required by practices for a successful performance. However with practices competing in busy periods, experiences of time become strained. A rushed or stressed experience having implications for the pace of performance in terms of tempo and intensity. The zooming in analysis process concerns aspects of time and tempo when applied here and how subjective understandings of time can

produce worries and concerns. The zooming out lens was applied in the form of establishing the associated role between practices and to show the process of how disruptions mediate the rhythms of routines.

The term complex is introduced to refer to a series of practices, or bundles of practices, tied together in a temporal framing, such as the morning period. The term project is introduced to refer to practices that have a wider performance remit that may involve undertaking a series of actions over the course of a week or a month. Drawing upon Welch and Yates's (2018) work, projects can be 'autotelic' meaning they can have a clear and achievable means, or they can be 'heterotelic' meaning they have no clear end goal. The temporal conditioning aspects also concerned rhythms in how practitioners hold a temporal articulation of how to best sequence their engagement in practices. Table 9.3 summarises the temporal conditioning aspects

Table 9.3 Summary of temporal conditioning aspects and application to consumer behaviour

Temporal conditioning aspect	**Theoretical contribution to understanding consumer behaviour**
Temporal sense of performance	- Understanding of temporal relations that come to light through experiences of time in the performances of practices. Consumption behaviours are circumstantial to experiences of time. - The temporal dynamics and characteristics of a performance can help understand consumption behaviours. These dynamics feature insight into tempo and intensity. Complexes and projects are used to described how practices are temporally tied together over specific time periods or are more distributed over longer periods. - Consumption behaviours differ according to temporal experiences such as with consumers being rushed or hurried. The temporal experience of one performance can have implications for subsequent performances.
Personal rhythms and disruptions to routines	- Consumers generate their own means of navigating their routines which conditions the rhythms over which practices are performed. - There are relational qualities between performances. Consumers hold a temporal articulation of how to manage, navigate and negotiate the sequences of practices that make up their lives. This provides a means to explore the nature of consumption behaviours with regard to how consumers manage their routines in everyday life.

What the temporal sense of performance conditioning aspect provided was a way to consider how the lived experiences of time plays a role in how everyday life unfolds. This is a further factor of behaviour to consider, enabling a means of acknowledging and describing periods of what the flow of performances feels like, through characteristics of tempo and intensity. For the field of sustainable consumption this is not another way of identifying how time is used, rather how time is understood through how it is anticipated by consumers as another dynamic to how consumption unfolds. This contribution furthers ideas around how time in life is constructed through how it is lived and the role time plays as a resource of both practices as entities (as Southerton, 2003, 2006, 2007, 2012 has explored), but also in their performance.

The second aspect of personal rhythms furthers this idea of moving the appreciation of time in consumption practices beyond descriptions. Rhythm is a means of understanding how consumers navigated the thickness of times of high and low tempo and intensity and how these are managed through personal temporal strategies. Unsustainable consumption practices can be seen to originate through certain handling strategies, such as where a sequence of practices are diverted and reconfigured because of a lack time or feelings of being rushed and hurried. Via the

same means as previous points, this shows that there is a need to consider not just the sense of performance consumers hold from one practice but how this temporal sense transitions between practices and causes a configuring of bundles or sets of practice sequences.

Overall work on time has significant theoretical mileage as there are endless situations and directions to grasp in accounting for the circumstantial nature of practices. These points of temporal conditioning also show that whilst it may be possible to gain an in-depth understanding of the social and spatial dynamics of practices, it is all contingent to circumstance of performances in-time. There is a flow to practices that holds a thickness of temporal experience, such as being rushed, strained, pressured, or relaxed that has implications for seeking more sustainable patterns of consumption.

In conclusion, the theoretical contribution offered in the thesis allows access to a better understanding of the circumstance, context and overall workings of consumption practices and their performances. The contribution continues to acknowledge that consumption is mundane, automated and embedded in everyday practices but also sharpens and further expands this practice lens. By looking at how the performance of practices are conditioned, further insight is offered on the mechanisms of how practices operate. This included the role of the body, how practices are resolved, how space is both a trigger and also constructive in practices, and that temporal sense of performance exposes more elaborate practice based understanding. This further revealed what is possible within the domain of the social as well as bringing spatial and temporal appreciation of practices as a critical theoretical contribution. This thesis is make a contribution through co-ordination of three different domains as well as furthering insight into how consumers co-ordinate their lives. The chapter now summarises the empirical contributions.

9.3 Empirical Contribution Summary: The factors that condition food waste behaviour

This section provides a summary of the empirical contribution of this thesis. Through outlining the key findings from each of the three findings chapters (6, 7, 8), below summarises the further insights into food waste and food waste prevention behaviours that this thesis offers. This section demonstrates what was gained through the employment of the practice theoretical conditioning tool. Three tables, 9.4, 9.5 and 9.6 summarise the principal points made in each findings chapter. This section shows how a broad range of findings were unearthed that give accounts of food waste behaviours offering new knowledge in the form of a consideration of context and circumstance.

Firstly chapter 6 presented the findings from the social conditioning aspects. This was discussed over three sections. The key contributions of which are summarised in table 9.4.

Table 9.4 Social factors identified that condition food waste behaviours

Section title - means of conditioning	**Empirical contribution of what conditions food waste behaviour**
Resolving the practice of food planning	- Uncovers that planning is more elaborate and complex than previously stated in studies of food waste behaviour. Rather than seeing planning as part of food waste prevention, it is shown to be a point of reflection in how food stuffs are used and how these points intersect and coordinate with other practice commitments. - The practice of planning is resolved in different ways up until the moment of the meal depending upon temporally dependent factors. Different forms of planning can take place which intersect with other practices embedded in daily and weekly commitments. - Temporal independent factors also play a role such as how consumers exercise organisational thinking space, competences of food preparation, standards by which food practices are understood, food preferences, the ability to match required cooking time to the time available and co-ordination with others in the household. - Shows a mismatch below the promotion of planning as a culturally shared practice and the reality of the variance in how planning is actually performed. - Food waste can result from how planning is convoluted within the organisation of the household. Plans to prepare food fail to be resolved leading to food surplus and potentially food waste. - Planning is negotiated through a process of re-direction and discontinuity. Planning was found to be more informally

	practiced as a mental account of a flow of action. Rather than its traditional association with a shopping list or meal planner.
Bodily conditioning, visceral appraisals and the materiality of food	- The body, through its visceral appraisals of food and subsequent bodily articulations, conditions performances of the preparation, organisation and disposal of food. - Food can be kept in unconventional ways justified through bodily appraisals. Consumers do not always adhere to food safety in how food is kept. - Food can be wasted through the interplay between bodies where different articulations of taste and smell conflict. Roles in the household assign responsibilities for visceral engagement in food to make an assessment and manage its materiality. - Food can be disposed through how the body shapes consumption practices. Articulations of taste direct and interrupt flows of action. Consumers hold trained articulations to respond to visceral input such as knowledge of when certain material properties of food are edible and non-edible.
Packaging as an information mediator	- Packaging has an inconsistent role in food waste behaviour in how it informs guidance around food safety. - Packaging material is mediated in its use, such as how it is used as an indication of freshness. This has implications for how consumers judge the edibility of food. - The boundary around food being edible is negotiated between different product types according to visceral engagement. - Packaging can script actions with consumers throwing food away without any visceral engagement in food expiration. Labels for stock rotation and management used by retailers are being drawn upon disingenuously by consumers to assess product life. - Other participants were shown to disregard packaging information and exhort a concerning disregard for food safety guidance.

The key contribution from the domain of social conditioning is how further detail is delivered on how consumption practices exist, are lived and negotiated through being re-directed in how they are resolved and the role of the body in configuring their outcome. Specifically a contribution is made in opening up the practice of planning, a practice that whilst well researched in studies of food waste, has been taken for granted. The findings showed that planning is predominantly mentally exercised in the context of busy lives and is not as simple using a shopping list. Andrew and Jeena's household were shown as an evident example where a lack of time meant aspects of

circumstance and context caused planning to diverge. This showed how planning comes to be resolved in different ways up until the moment of consumption as shown in figure 6.2.

The body is shown to play a key role in considering how food comes to be wasted. The body can re-direct different consumption practices, such as how food is stored, prepared and eaten. The interchange between household members in how their bodies give different articulations of edibility leads to food waste. The way in which Sam intervened in her boyfriend's cooking was an example of this, showing how the articulation of competences of cooking in competing ways influences the outcome of meals and thus whether waste is generated. This was one of several examples of how the body is a dynamic platform of practice that can shape food consumption practices in such a way that food is likely to be deemed inedible and lead to waste. This is not an exact science of knowing what is and is not defined as edible, rather the role of the visceral means the body holds a form agency in its sensual reaction to food. This leads to a negotiated process of how the body responds and employs dispositions that can lead to food waste disposal.

Materials were shown to be a mediator in practices to describe the relationship that practitioners hold with the objects, devices, appliances that are involved in practices. The textural nature of these things gives rise to performing practices in certain ways, such as how packaging as a 'skin of commerce' is meant to mitigate food waste by allowing it to last for longer and providing information on how it can be best used. Participant's performances showed how this information was consulted and adapted, causing food waste in instances where consumers' reliance upon date labels over their own visceral engagement in food expiration, such as in the case of Michelle. The way in which packaging has become acutely associated with modern forms of food consumption means that the way in which food is used, and wasted, is integral to it.

Secondly chapter 7 on the spatial aspects of conditioning produced findings that reveal how food waste was a behaviour constituted through how consumption unfolded across different spaces. This was a theoretically pioneering exercise and produced new knowledge summarised across three areas in figure 9.5.

Table 9.5 Spatial factors identified that condition food waste behaviours

Section title - means of conditioning	**Empirical contribution of what conditions food waste behaviour**
Environmental cues in domestic space	- Appliances, devices and other objects trigger and cue performances in ways that are implicated in daily food practices that can be both direct and indirectly linked to food waste. - The design of objects leads to tacit ways in which they are used that can generate food waste. Recognition of food that requires eating is not an effective trigger to generate a use occasion and prevent food going to waste. - The placement of items are an important part of practices. Consumers hold locational references in their flows of performance of how objects are adjacent and juxtaposed to other things. Performances that include dispositional unconscious references to where things are kept and placed. This plays a role in the everyday management of food and how food transitions to a surplus or disposal state. - The spatial zoning of fresh and spoilt food and management of waste and recycling as being part of the movements around the kitchen of how food becomes waste. A more accessible bin does not mean less food is wasted.
Circularity, capacity and a sense of order in the kitchen 'place'	- The circularity, movement and performance of practices that involves both things and people give light to understandings of the kitchen as a place. This involves the sorting and managing food in the home as well as its disposal. - Aspects of disorganisation and disarray in consumer's lives did not mean they were more likely to waste food rather that they were less likely to undertake prevention actions given how the kitchen was representative of order and control of the material degradation of food. - The sense of place derived from the kitchen in the home was associated with the organisation of food in the home. Rather than connecting disorder with food waste, instead it is more valuable to look at the consumption practices that are representative of a space and its link to the passage of food into waste. - Questions the relationship between organisation and food waste mitigation.
The practice pathway of shopping	- Shopping is under researched from a spatial perspective. Shopping is interspersed with other commitments that configures food provisioning and in turn the passage of food into waste. - Shopping as a practice has a multi-spatial context that holds an array of characteristics that shapes and configures its

	performance. The spatial trajectory therefore is not simple. Shopping is configured around other commitments for some, however for others shopping is a key weekly routine that is a grounding for the organisation of other practices. - Competences of shopping employed in different ways at different sites for different types of shop. - Providing for the family involves purchasing food that consumers know maybe wasted. Responsibilities of shopping unravel across practice pathways that mix work, leisure and family commitments. Fragmented shopping can lead to food waste through over provisioning - Tensions are apparent in shopping practices in meeting the demands of the household and how certain members are able to provision the household better than others. Further trips lead to over provisioning. - Inconclusive whether smaller more frequent shops or more infrequent larger shops lead to more wastage. Rather the ability to perform shopping in an organised manner and position it alongside the wider circumstantial and contextual goings on is a greater measure of food waste prevention.

Looking at environmental cues in domestic space showed that objects can be triggers for the deployment of rehearsed dispositional actions. This can lead to both food waste and its mitigation such as how Linda describes surplus food 'lurking' in the salad draw and Beverly's tendency to purchase reduced items that makes it difficult to navigate her fridge. Considering how things are placed in the environments within which food practices take place gives light to the micro-geographies such as the layout of the fridge, recycling and the bin. The physical positioning of food items in how they are kept plays a role in the flows of performance in the kitchen and therefore how food can become waste. This positioning however is complicated by the routine and dispositional nature of how appliances and objects are used, such as how Beverly lets yogurts spoil despite the food stuff being in a prominent position in the fridge. This contribution shows that environments and the things that occupy them can script food consumption practices in different ways that can shape how food transitions to becoming surplus and disposed of.

Considering the circularity and capacity of the spatial remit of practices showed how food waste was an ingrained part of how the kitchen is understood. Places come to light through the practices undertaken within them with sites of domestic food consumption haracterised by the management of organisation of food in order, disorder and disarray. The study showed clear examples where participants maintained their households in statuses of moderate disorder which

was integral to how food was managed and used, such as in the case of Christian and Antonio's small kitchen. As an empirical contribution this section offers explanation for how the wastage of food is embedded in the organisation of the kitchen and also challenges the link between how greater organisation means less food waste. Rather every household and its members have their own way of organising themselves that sustain a sense of domestic place.

The practice pathway of food provisioning exposes how the multi-sited remit of food shopping has indirect links to food waste. Consumers negotiated their shopping around wider commitments and held competences of ways of shopping in certain circumstances. Tensions between household members can lead to top up shopping and multiple shopping activities. Shopping is found to be a complex, flexible and emotional practice in its performance with difficulties in stating whether shopping in smaller or larger stores leads to food waste. Meera's account of browsing for deals in between her working shifts alongside her expression of annoyance of her son's shopping practices was one example. The findings showed that renditions of shopping are both negotiated between household members and the spatial remit of work, leisure and family commitments that overall have implications for what food enters the household and how it is managed.

Thirdly, chapter 8 on temporal conditioning highlighted how food waste behaviours are configured according to how time is sensed in the performance of consumption practices and the affects this has in diverging sequences and normalised action. This brought forward new insights into the lived experience of how consumers navigate their routines and its knock on effect to how food is managed. Table 9.6 summarises the empirical contributions of the temporal factors that shape food waste.

Table 9.6 Temporal factors identified that condition food waste behaviours

Section title - means of conditioning	**Empirical contribution of what conditions food waste behaviour**
Temporal sense of performance	- High tempo high intensity situations trigger substitution performances that lead to food waste. Iterative changes to food consumption performances because of such situations. - The Materiality of food can be overlooked and competences employed differently. Example given in the case of how planning is employed without fully thinking through the intended meal to be prepared. - Food waste behaviour conditioned through how consumers deal with temporal experiences, such as cases of being stressed and having to deal with several things at once in the morning period.
Personal rhythms and disruption	- Consumers navigate their routines through personal strategies that can derail and divert sequences of practice. Food waste resulting from the mesh work of simultaneous practices, the in-time strain and stress and busyness of life and how consumers cope and manage this. - Gives explanation for how plans of food consumption do not come to fruition. Food not managed to the best of consumers' ability in complexes of practice, such as the morning period. - Consumer's ability to dedicate time to a practice and organise its performance in a periodic manner was related to demands of other practices and how their performances were situated in sequences. Ways in which food practices were sequenced that were more or less likely to lead to food waste. - The material degradation of food is a rhythm around which consumers organised their shopping patterns. Shopping also sequenced around other commitments. Time is made and unmade around routines that influenced planning and preparing food sufficiently. - Food waste can come about through how routines are disrupted. Normal rhythms of how food enters the household and is consumed change placing consumers in situation where new competences must be applied.

Temporal sense of performance demonstrated that how participants experience time influences how practices are performed. Findings show how this is connected to how food waste comes about through how practices such as planning, food preparation and management are side-tracked to be carried out in inadequate ways. For example whilst planning and defrosting things from the freezer are a good way to mitigate potential wastage, these actions are contingent to how

participants manage busy periods. Amanda and Kim for example were shown to employ de-freezing practices to manage busy periods with other participants like Michelle admitting sometimes the household have a take away rather than cooking if plans are not resolved.

The section on personal rhythms and disruption shows how consumers employ personal temporal strategies to navigate the rhythms of their routines. This is due to busy periods, such as the morning complex that involves several different practices amongst consuming breakfast and organising meals for the rest of the day. Through such strategies the sequencing of practices can be reconfigured that can lead to food to become waste through its mismanagement. These strategies are useful in times of disruption and can help explain why because of the circumstances food can still be managed poorly and spoilt, such as in the case of Sandra. The regular occurrence of consumption practices is a key part of what holds wider routines together therefore changing to them can have knock on implications for food wastage.

Overall the empirical contribution shows how food waste is the outcome from how consumption is configured in a number of different ways in the performative flow of everyday life. This expands ideas around how food waste is the fallout from the prevailing organisation of everyday life (Evans, 2014) to add empirical knowledge of the role of how time is sensed and how consumers manage disruptions. This chapter now gives the thesis implications.

9.4 Implications for food waste mitigation at consumer level

This section meets the fourth objective, to identify the implications of the theoretical tool and findings to advance food waste mitigation. Eleven implications are outlined here that concern both the theoretical conditioning tool and the three findings chapters spread across the social, spatial and temporal domains. The implications are wide reaching and substantial with regards to informing behavioural insights into the generation and prevention of food waste. Faults are highlighted with current beliefs behind food waste mitigation strategies and pointers are given on potential consumer food waste behaviour solutions moving forward. Specifically the implications show the considerable contribution this thesis has made towards understanding the contextual and circumstantial drivers of food waste. This revealed new implications for tackling the problem of food waste at the consumer level. It is important to note whilst grounded plans for interventions may not be given, the findings substantially inform what both academics and practitioners understand as the leading drivers of food waste behaviours. This stems from the conditioning of consumption approach in how it provides a means to account for the wide lens of conduits through which food waste arises whilst also recognising the intricacies of consumer's behaviour for the first time.

The eleven implications below explain how the theoretical and empirical contribution of this thesis informs the background knowledge base drawn upon to understand how food waste comes about as well as opportunities for food waste mitigation. The thesis has provided a lens through which the full remit of planning can be properly considered, as well as bringing together the different ways the body plays an active role in instigating acts of disposal. Other ways in which this thesis informs regard how the role of both space and time are fully theorised and considered, bringing these together for the first time in an empirical study on the topic of consumer food waste behaviour. The findings detailing the role of environmental cues and how actions of management and disposal of food are integral to how the kitchen is understood as a household place. The two means through which the experiential nature of time influences consumers' conduct are important additional informing components. Whilst not being instructive of specific actions the thesis goes further in introducing both a new lens to understand wasteful behaviours and reveals new reasons for them whilst revising, updating and in some cases challenging what is currently known.

The first implication is that the thesis findings clearly showed how the activities relating to the organisation of food in the household that have a knock on impact to food waste have been greatly underappreciated in their complexity. Whilst the work of Parizeau, von Massow and Martin (2015), Porpine et al., (2015) and Evans (2014) has brought recognition to the importance of how planning and cooking impacts conduits of food waste, this study shows there is further

complexity to be explored. Considering cooking and planning from a practice approach and what conditions and configures their performance has shown that their role is not simple. For instance the practice of planning is greatly misunderstood, it has twists and turns in capturing organisational capacity in a background context of wider family, work and leisure demands.

A key implication is that current ways in which planning is promoted in food waste mitigation campaigns fails to acknowledge the complexity of this practice with regards to how it is performed. Planning can mean a number of different things with the participants in this study showing how it is navigated in everyday circumstances. A similar comment can be made for how cooking was negotiated between people and their visceral responses. This means a move away from informing consumers the best ways to plan and instead moving to understand and promote the best means to deal and cope with planning suitable for their context. Whilst food waste mitigation strategies are often promoted as a way of saving money (Aschemann-Witzel, Giménez and Ares, 2018), the findings of this thesis suggest greater household and family harmony as another promotion criteria that can help to mitigate food waste via facilitating household food management. Different strategies could be generated for time lacking households, or households that have spatially complex routines, or household members that have significant responsibility for food over others. In relation to the problem of food waste, this implication means that food waste could be better prevented by appreciating the subtle complexity of planning practices and revising how planning is framed in food waste mitigation interventions. The first implication is:

1) Ensure the complexity of planning is accounted for. Informing consumers they the need to plan is ineffective given the way in which planning and cooking are negotiated in everyday life. Campaigns must take into account practice intelligibility, how planning might be sequenced with other routines, the role of others in the house and the fluctuating capacity of consumer's organisational thinking.

The second implication is the need to acknowledge that consumers live their lives in disorder and disarray. Researchers and practitioners should not be trying to make consumers live in more organised ways because, as shown in this thesis, the organisation of food is something that consumers work out in their performances and their routines. Food waste mitigation campaigns assume a consistency in consumer behaviours. Whilst the literature review showed that studies have repeatedly acknowledged that the more organised consumers are the less food they waste, it is not practical to ask consumers to live in more consistent ways. This thesis was novel in taking into account aspects of disruption and unpredictability which are inevitable given the complicated nature of modern lives and how consumption is worked out within them.

More subtle research is needed to understand how being more organised can solve the consumer food waste problem. The sustaining aspects of disorganisation and disarray in participant's lives did not mean that they were more likely to waste food rather that they were less likely or had less opportunity to undertake prevention actions. Food flows with the everyday realities of organising and degrees of order and control over objects, people, projects and the spaces they unfold in. Christian and Antonio were one example that were organised but yet food went to waste. There is much more complexity to the relationship between food wastage and organisation. A measure of capacity to deal with the practice demands of life for example would be a useful expansion that takes into account a range of factors that shape the flow of food in consumer's life. This could be a measure of time allocated to food tasks which also takes into account the experiences of time in food management. In relation to the problem of food waste, this implication means that more food could be prevented from being wasted by both consumers and practitioners accepting that there is not a universal link between being more organised and less wastage. Strategies to tackle food waste in the home will not be successful in the long term unless the capacity to deal with the everyday complexity of managing food is taken into account. The second implication is:

2) Remove the fallacy end goal of aiming for all consumers to become more organised as a means of tackling food waste. Disorder and disarray are a key part of how consumers live their lives and that must be taken account.

The third implication is that the body and its powerful role over the agency of the consumer is both under and misrepresented. In bringing together literature on the role of the body, such as the work of Latour (2004), Pink (2012, 2014) and Polanyi (1958), the sensory and visceral aspects of behaviour were expanded upon. Food waste behaviours were shown to be embodied in how the reaction of the body diverts and configures consumer's interaction and management of food. The treatment of agency in this thesis is far removed from the individualised approaches that have failed in delivering the level of behavioural understanding needed. Agency here is reactive from the body's viscerality and usage of things, their aesthetics and the articulations and dispositions consumer's employ which was shown to play a critical role in directing food practices.

This was also shown to extend to the role of how packaging is treated as a mediated information material that can facilitate disposal. The implication is that food waste mitigation efforts should not underestimate the interrupting role of the body. Consumers have placed trust in expiry dates which combined with discourses around perfect looking food has side-lined sensory appraisals of food's edibility that in turn has had implications for the conditions under which food is disposed of. The thesis supports Hawkin's (2014) analogies that packaging as a 'skin of

commerce' has generated false prevention measures, such as how date labels used to rotate stock and enforce food safety is causing food to fall in the surplus gap (Evans, 2018). In relation to the problem of food waste, this implication means the body should hold greater acknowledgement as a cause of food waste. Also whilst packaging innovations and food safety information are key in preventing food waste, there is much more to consider in how consumers employ such guidance to mitigate food waste in the household. The third implication is:

3) To acknowledge the role of the body as a dynamic platform of behaviours. The body plays a key role in food waste behaviours that must be taken into account in how waste is mitigated. This should not be used as a scapegoat to associate all blame with consumers. There is a need to rethink the role of packaging safety information and embed and encourage trust within consumers' visceral appraisals of food.

The fourth implication concerns how domestic technology is helping to mitigate food waste. This thesis has shown that whilst innovations to fridges and freezers and other household appliances have claimed to aid organisation and thus help prevent wastage, absent from these discussions is the tacit ways in which such devices are used. A practice approach enabled understanding of actual behaviours unfolding which highlighted the lived functionality of appliances. For example participant's gave examples where despite a food item being in plain view when opening the fridge, it was not consumed and then wasted, such as in Beverly's case. This questions innovations in fridge design to make products more visible. This questions how the functionality of appliances is a valid pathway of waste prevention.

In looking at the kitchen space, the placement of the bin and the flow of food into and out of the kitchen via its storage was shown to be part of what continually remade the kitchen. Participants held a locational reference for how and where items should be stored, detailing how food surpluses that came about through management of the fridge. For some participants the ability to put leftovers in the freezer with the knowledge that they may never get round to defrosting and eating them was part of the capacity to deal with food in the household. In relation to the problem of food waste, this implication means that how consumers interact with appliances can be both a cause of food waste generation as well as mitigation. The factors that determine this are not technological features but rather the tacit ways in which the performances of food practices unfold within the context and circumstances of consumer's lives. The fourth implication is:

4) New devices and appliances are not magic solutions in solving food waste. Technology to solve food waste must consider how its design is used tacitly. Fridge and freezers must be acknowledged as part of how consumers navigate the flows of food in the home such as how they aid preventing food falling into the surplus gap, however this does not mean that it is always

prevented from being wasted. Consumers use appliances in different ways that are not always consistent and are not always in ways that mitigate wastage.

The fifth implication is that there is a need to realise how interconnected food waste behaviours are with other goings on in consumer's lives. The literature review established that this was a key gap in that the contextual and circumstantial nature of food waste behaviours remains relatively unexplored and un-theorised. Given that overconsumption is a major cause of food waste, this thesis has highlighted how a range of factors has implications for how much food, and of what type, enters the home and how it is stored, managed, prepared and disposed of. These factors hold a spatial remit in considering both how food comes to enter the home as well as how routines and their demands that unfold outside the home impact upon how food is managed within the home.

The findings on the practice of shopping expanded simple observations made elsewhere (Ponis et al., 2017) by detailing the array of characteristics involved in configuring the re-provisioning of food in the household. The local area food maps drawn by participants were a particularly good tool in revealing that whilst the household might be the central place for where food is sorted, managed, prepared, cooked and disposed, a number of wider spaces influence the transition of food into waste. In relation to the problem of food waste, this implication means that factors outside the household contribution towards food being waste in a number indirect ways. The wider activity outside the household cannot be ignored if practitioners are serious about introducing interventions to tackle food waste. This fifth implication is:

5) Ensure that understandings of consumer food waste behaviours have a wider remit than what is happening in the home. Interventions must take into account how consumer's lives unfold across different spaces which configure food brought into the home, how it is prepared, by who and its likelihood of being wasted. The conduits through which food comes to be wasted must have a spatial remit that recognises the landscape over which consumers live their lives.

The sixth implication is to reconsider how the term 'behaviour' is defined when studying and mitigating food waste at consumer level. The literature review brought to light how behaviour was too often contained within attitudes, motivations and other cognitive elements. Whilst studies of food waste at consumer level are moving to explore specific activities such as shopping and planning, this thesis has shown that how behaviour is considered must have a wider scope, such as the social, spatial and temporal, to fully comprehend the nature of behaviours, how they are carried out and what influences their performance.

These added dynamics not explored elsewhere. This included opening up practices such as cooking and planning to show processes of negotiation. Also how consumption behaviours are triggered by the nature of places and the people and things within them whilst also being integral to understandings of that place (I.e the kitchen). Behaviour is also shown to be configured by how time and the rhythms of everyday life are experienced. The practice framework gave a means of following performances and comprehending what this meant for understanding behaviour, where behaviour was appropriated as being embedded within the continual work of practice intelligibility.

Whilst making no claim to be all encompassing, this challenges studies and practitioner work that might focus on a specific aspect of food waste behaviour, such as how the theory of planned behaviour has been repeatedly employed to identify the drivers of food waste (Stancu, Haugaard and Lahteenmaki, 2017; Russell et al., 2017). This is not to say that studies should not focus on food waste drivers but rather that any study must take into account the circumstance and context of the behaviours they concern. In relation to the problem of food waste, this means that individualising behaviour is not a valid strategy going forward. This is a key informing point and should be picked up as clear evidence that future interventions should better focus on the conduits though which food waste comes about, with an understanding of the indirect drivers of food waste key to future success. The sixth implication is:

6) When approaching the study of consumer food waste behaviour knowledge must be both grounded in everyday life and contextual and circumstantial to different domains (social, spatial and temporal). This means moving away from narrow studies of cognitive elements to studies that recognise the wealth of further insight possible via a contextualised practice based approach.

The seventh implication is the clear misconception of the role of time in consumer food waste behaviour. It is ineffective to require consumers to 'make time' to employ a new means of organisation. This study shows that it would be much more beneficial to look for means for consumers to ease and cope with stress and busyness. There is not a simple relationship between the amount of time participants spent organising their food, and the likelihood of wasting food. The conduits of food waste were brought about by various different mechanisms, not just the rhythms of food consumption practices but wider work, leisure and family commitments. In relation to the problem of food waste, this means that attempts to mitigate food waste through reduction and prevention strategies must always consider how they may be hampered by the circumstantial and temporal articulations of consumer's lived experience. This implication informs the problem of food waste in showing that there is a whole field of study on the limitations of interventions that remains largely unexplored. The seventh implication is that:

7) Prevention strategies should take into account that consumer's lives are time pressured. Measures to mitigate food waste must take this into account which means rather than requiring consumers to 'make time' to prevent waste, appreciating how consumption is temporally significant to facilitate consumers in ways of coping and adapting to time pressured situations would be a more valuable focus.

The eighth and ninth implications concern where and when is best to intervene in consumption to tackle food waste. Discovering how a wider remit of practices impact on food consumption and food waste mean mitigation strategies can extend further than the household. For example tackling overconsumption might involve greater realisation by the consumer of how connecting their shopping trips with commuting influences what is bought and in turn what happens to this food in the household. This challenges current advice around more organised ways of shopping as this practice does not take place in isolation. Strategies to tackle food waste could focus more on preventing placing consumers in situations where they have excess quantities of food entering the home that then falls into the surplus gap. In relation to the problem of food waste, this means that if greater organisation is going to be promoted as a strategy to mitigate food waste, the context within which organisation is employed must be considered. The factors that inform how food waste comes about do not lie solely in the home. The eighth implication is:

8) Strategies to mitigate food waste must acknowledge the wide spatial remit of factors and ensure that sufficient resources are placed into preventing surpluses of food from entering the home. This means generating greater awareness to consumers that the ways in which their food practices, like shopping, are connected with the demands of work. This includes both the nature of the food bought and how much of it. Addressing this is key as a precursor to avoiding the consumer being placed in a situation where food is mismanaged and falls into the surplus gap in the household.

The ninth implication is when in the series of actions from how food is provisioned to being stored, managed and prepared in the home that strategies to mitigate food waste should intervene. Hebrok and Heidenstrøm's (2019) work on food handling practices and moments in everyday life to intervene (see figure 2.2) is furthered here in three ways. Firstly, whilst Hebrok and Heidenstrøm (2019) accept the benefits of a practice approach, the focus on what conditions performances in this thesis brings into the frame the idea of how practices are worked out by consumers in how they unfold. This gives a different way of accounting the agentive decision element in the 'decisive moments' of their work on food handling practices. The second and third ways correspond to the workings of space and time that give further dynamics of behaviour.

Figure 6.2 explained the variance in the performances of planning and section 7.4 showed how shopping is organised around, and intersects with, wider practices meaning it is difficult delineate how an intervention in one particular moment might be more beneficial than at other points. The consideration of context and circumstance in this thesis raises questions over the generalising that both food waste researchers and practitioners seek in applying universal solutions to the food waste problem. The relation to food waste, this implication means that underpinning conceptual debates of how best to solve food waste must move away from applying action specific or moment specific solutions to acknowledging the need for a holistic approach that tackles both the varied conduits through which food waste comes about and considers the contextual and circumstantial factors that shape them. This means this thesis informs minimising and preventing food waste from households in that there is a need for revising the ways in which we purchase, consume and manage food, as well as considering how the wider remit of space and time that these actions unfold. The ninth implication is:

9) Moving beyond generalisations that there is one clear moment within food's consumption journey that is more beneficial to target than others. Food becomes waste through a number of different conditioning aspects that unfold across its different consumption practices that extend from provisioning to management to disposal. An intervention that focuses on a specific practice, such as planning or shopping, must be aware of how wider context and circumstance play a role in how that practice unfolds.

The final two implications underpin several of the eight above in terms of the impact that the theoretical and empirical contribution could have on approaches to food waste research and how knowledge gained is translated into mitigation strategies. The ninth implication is the need to reconsider what it means to turn towards a practice based approach. Whilst theories of practice has its history in recognising the repeated nature of behaviour as entities of shared understanding (Warde, 2014), what has proved of most use here is exploring practice as performance (Martens and Scott, 2017). Research 'going about a practice approach' would benefit from inclusion of a consideration of performances as a way of repositioning the common practice based narrative frequently drawn upon from Shove, Pantzar and Watson's (2014) three element work.

The implication is that practice orientated studies of food waste behaviours and prevention measures must account for variability and not take practices on the single plane as being entities of shared understandings. As Shove, Pantzar and Watson (2012:77) explain when talking about practices "some are stable, others are mutating fast". Practices are constantly adapting and their performative element must be taken into account in qualitative consumption research with this thesis giving a framework to do so. In relation to the problem of food waste, this means that as an

issue associated with behaviour it is not static, it is not a case of targeting certain behaviours to overturn or discontinue. Rather mundane behaviours, and the intricate nature of their performances, are part of the indirect conduits that can cause food waste to come about. Future research and interventions must not take for granted the tacit, lived nature of how food waste comes about as performances unfold and are negotiated in everyday life. The tenth implication is:

10) The usage of theories of practice and its vocabulary in both studies of food waste and interventions to mitigate waste must acknowledge the performative aspect of this approach. This will bring more dynamic understandings of consumption behaviour, such as accounts of disruption and disorder, temporal experience, representation of space and generally greater detail on the lived reality of consumption, amongst other topics.

The eleventh and last implication concerns the positioning of this study in 'everyday life' and what this means for how far strategies to mitigate food waste can reach in the context of the modern food system. Everyday life is establish here as an epistemological arena within which practices operate and the conditioning of performances unfold. It is a concern for the mundane, grounded nature of monotonous living that is critical in how behaviour exists to move beyond the cognitive boundaries of individualised approaches. The domains of the social, spatial and temporal give an idea of the range of factors that can be included when looking at the 'everyday'.

This has implications for the reach of mitigation strategies. The thesis has been critical of current strategies, repeatedly raising their misapprehension of the complexities of food waste behaviour's context and circumstance. Questions can be raised over whether any quick fix intervention is able to have a significant impact given the conditioning forces at work. This links back to Evans's (2014:xv) quote that "the passage of "food" into "waste" occurs as more or less mundane consequences of the ways in which practices of everyday and domestic life are currently carried out, and the various factors that shape the prevailing organization of food consumption". How can any intervention to tackle food waste be so far reaching that all potential conditioning aspects are addressed?

There is a need to rethink and refocus what exactly strategies to mitigate food waste want to achieve. Reducing and prevention food waste through an intervention aimed at one practice that requires consumers to be more organised or find time is only ever going to be partly successful because of the conditioning forces at work. To mitigate food waste strategies must be bolder in seeking to change ways of living as a means of deep prevention, to reframe the link between consumer lifestyles and interactions with food. This is critical in avoiding situations where food slips into the conduits of food waste. A good example is the need to rethink the dominant retailer

based system of food provision. Rather than solutions to food waste whereby "a situation needs to arise in time and space where particular food fits" practitioners should be working to prevent consumer's being placed in such situations where a use-occasion for food must be found (Hebrok and Heidenstrøm, 2019:1438).

This means a greater voice from retailers as gatekeepers of not just food provisioning but as key facilitators in how consumers organise their lives. Supermarkets must be challenged to move away from the promotion of mass cheap food. In the UK our current retail environment has led to consumers to give little value to food as an underpinning factor instigating its wastage (Stuart, 2009). Working to avoid placing consumers in situations where they have surplus food that may go to waste requires significantly greater involvement from large supermarket businesses who must go beyond their current food waste campaigns to change consumer's provisioning patterns. In relation to the problem of food waste, this implication means that interventions must be aware of the extent to which food waste mitigation is bounded by the current systems of provision that consumers are subject to. The eleventh implication is:

11) Rethink the aim and reach of interventions to tackle food waste at consumer level. The everyday context and circumstance of behaviours must be taken into account in moving towards more sustainable consumption patterns. This means being realistic about the impact of narrowly targeted strategies, emphasising the need for solutions that confront the modern food system and consumer's busy work life patterns.

A final note is where the contribution of this thesis stands in terms of governance and policy to tackle food waste. Section 2.3 problematised individualised approaches showing how they are often turned to in policy given their ability to allow politicians a means of moulding their own agendas (Shove, 2010; Moloney and Strengers, 2011). To avoid this, it is important that the implications in this section, that are intended to act as guidelines to construct and implement interventions, must be taken hand in hand with a move away from a focus on pro-environmental choices and market led solutions to instead transition to more sustainable practices. Policy to mitigate food waste must be reframed to govern the patterns of living that dictate the routines of consumer's lives rather than their attitudes, motivations and choices.

Shove, Pantzar and Watson's (2012) work comments on how transitions to more sustainable practice arrangements through policy is a question of following trajectories. This fits well with the conditioning framework developed and employed in this thesis in terms of following the outcome of performances. Policy change might involve: Forging or breaking links between current practices, such as the link between shopping and commuting; reconfiguring the use of objects such as appliances in practices; and recruiting new carriers of practices to allow consumers

to work out how a new way of consuming in a more sustainable manner fits into their life. This is not a process of providing consumers with new information or nudging them to act in certain ways through market mechanisms, as these methods have been shown to fail as behaviour change initiatives (Warde, 2016). Rather this is about achieving change through tailored interventions in the form of new ways of going about living.

To give an example, the study's methods that involved participants reflecting on their busy lives had an impact on some participants who explained they become more aware of the connection between their actions, routines and how they manage food. This is a means of drawing out the trajectory of consumer's food practices to reveal connections that are typically overlooked in how they are wrapped up in ways of living. A policy response might involve using such information to introduce ways to modify and prompt new practices to break the 'lock-in' the trajectory of food is set within. Reconfiguring the relationship between planning and shopping to prevent over purchasing, revaluing the role of family members in the home that hold significant responsibility for overseeing the storage and preparation of food, and lessening the temporal pressures to reassign time to the enjoyment of cooking could be some of the tailored interventions aimed at tackling food waste. These take into account context and circumstance and seek more sustainable ways of living. The next section sets out a future research agenda.

9.5 A future research pathway: Where next?

The theoretical and empirical contribution of this thesis is influential in thinking about where studies of consumer food waste behaviour should turn next. Firstly as a theoretical tool, the thesis's contribution resonates with calls to retire the theory of planned behaviour and other individualised approaches that have been repeatedly found to be inadequate and misguiding progress towards a more sustainable society (Sniehotta, Presseau and Araújo-Soares, 2014; Moloney and Strengers, 2011; Alfredsson et al., 2018). This thesis offers just one way in which the theories of practice can be extended with considerable breadth to expand this.

Secondly there is significant scope to look at how the performance of practices are conditioned in other areas than food consumption and how they play out in the domains of the social, spatial and temporal. Other contexts might include energy usage, transport use such as the uptake of cycling, and the usage of resources such as water. Food, energy and water are part of a nexus of resources that are interconnected and would benefit from joined up study (Foden et al., 2018).

Further conditioning aspects were theorised but there was not the space to include them. One such further aspect was the standards by which the practices as entities are both understood and are performed. This draws together how participants judged performances compared to previous experiences and practice intelligibility of appropriate outcomes. This is a sense of how things should turn out constructed through the repetitious nature of the everyday, a live sense of how practices are resolved. This raised questions around how consumers gauge their performances in moments of reflection and how this might influence sequences of actions going forward. Other conditioning aspects might be experimental and based upon the dense practice literature, such as Schatzki's (2010) work on timespace and human activity. Or they may be more creative such as responding to puzzling practice theory dilemma's such as the origins of inspiration or how interaction between household units direct practices through the dynamics of interpersonal relationships.

Thirdly, in terms of a future research pathway for exploring food waste behaviours, there is considerable room for studies to move towards a multi-practice focus. This thesis gives a solid justification for how food waste is interconnected in a number of food consumption practices with potential for further study to open up these connections. Research for example might look to explore further intricacies between shopping and planning focusing on these activities but still acknowledging how they are wrapped within wider demands of everyday life.

Further to this the processes of negotiation and navigation of performances that participants display could be expanded to consider lifestyles that might fall slightly outside the norm. This might include jobs that fall outside the normal 9 to 5 framework, arrangements of child sharing between parents living apart or families that have children at boarding schools, or families within prominent cultural practices that influence norms of food provisioning.

Other areas include the role of pets. There was little room to properly account their role here but they did play a role for some participants such as Katherine in eating up leftovers. The role of non-human actors in the household that are diverting food from being wasted requires greater understanding as they could be a helping to mitigate a significant amount of food from entering the surplus gap.

Fourthly a further factor that would reveal different results is if this study was repeated at different times of the year. The study was carried out in the spring to summer time which meant there were certain wider practices playing out in the background. This included the timing of the end of the school term, preparation for holidays and spending more time outside. The rhythms of food consumption in the home maybe disrupted at times like the Christmas holidays which could have further implications for food. This would expand current research that fails to go beyond how the Christmas meal is likely to generate food waste (Love Food Hate Waste, 2018b) and help guide mitigation strategies aimed at tackling such wasteful periods (Bernstad, 2014; Scottish Government, 2019).

Fifthly there is also further work to be undertaken developing more sustainable food environments to mitigate food waste. This thesis is very much about uncovering the faults with not just how food waste behaviours are approached but with current behaviours themselves. For example what might a domestic space look like that is able to withdraw wasteful cues and replace them with ones that are associated with prevention. Whilst it was shown that the tacit way in which appliances were used led to waste in some instances, what was missing was the build up to this point. Objects and their materiality in practices become learnt to eventually be normalised in everyday sequences. Further studies could look at this learning process. This could uncover when during the use of a new appliance that hypothetical food waste saving technology is overlooked. It is suspected that these moments result from in-time senses of high tempo, intense practices where by the density of other projects and the complex within which the device is used means an automated performance takes over. This further embeds the point that technology is not a solution on its own and must be accompanied by behavioural understanding.

A sixth future research pathway relates to a questions posted in chapter 5 of where what is of concern and what is not of concern to practices starts and begins. These boundaries are difficult

to place, with further research fruitful in helping test where the limits to relevance lie. One of this thesis's strengths has been to push the boundaries in theorising the contextual and circumstantial remit of practices and their performances. It would be useful to look into how this can go further. As carriers of practice, consumers hold a practice intelligently that appropriated with a history of both shared understandings of what practices involve and their outcomes, but also a personal practice history. Exploring this can help uncover how childhood memories might be evoked in tastes and appearances of products. These might be long standing ways of preparing food associated with childhood or the preferences of a particular family member. These aspects, whilst present in this thesis, have little practice theoretical basis of explanation and could be critical to uncover another means through which the performance of practices are conditioned.

Other more pragmatic areas where boundaries could be extended is to online spaces. Online shopping was only mentioned a few times in this study but it is set to be a continued trend and is under studied in relation to food waste (Farr-Wharton, Foth and Chio, 2014). It would be interesting to understand how shopping practices unfold differently in the online space and the triggers and influences present. This might include the offers and pop-ups on the retailer's website, as well as access to other resources such as recipe ideas. This could give light to a whole new form of conditioning aspects that connect consumer's use of phones and computers with flows of food into the home.

Seventhly whilst there was variability in the types and hours of work of participant's in the study, a further research pathway could take a closer look at the changing temporal organisation of work and its implications for both how food waste comes about and opportunities for intervention. The gig economy, home working and the increasing adoption of zero hour contracts clearly have implications for how food is organised within the home given the connections to wider routines of organising everyday life (Cox, 2013). There is little work however on this. Potentially there is a link between the erratic nature of working hours and the circularity of food entering and exiting the home.

The previous section touched upon the need to look at how the configuring aspects that play a role in how food waste comes about are much more deeply rooted in the food system. A further eighth research agenda could take the reins in investigating, through the premise of looking at the context and circumstance, how alternative systems of food provision impact food waste. This is a case of balancing understanding of whether the busy lives of consumers require the convenience offered by national retailers, or that this system of food supply is ingrained into how we live. There is considerable evidence to suggest that engagement with growing food and community self-organisation is beneficial to further valuing food (Holloway and Kneafsey, 2004; Jackson,

Russell and Ward, 2007) and it could be a trigger to disrupting locked-in practice sequences that cause food to be wasted. Work that aims to transform the food system, such as Anderson's et al., (2019:4) six domains of transformation, can be compared to the theory developed in this thesis in how these domains are "a determining factor in shaping the depth of agro-ecological production practices and are influenced by, and in turn influence, processes of governance".

Looking further afield, three further research pathways are given as pressing societal areas that overlap with how consumption routes are integral to food wastage. Firstly the role of everyday financial practices. Hall (2016:310) explains that "finance is connected with a whole range of everyday practices and relationships". In this study the organisation of finances was something that went on in the background and was deemed beyond the capacity of this thesis. Further research is needed to understand how consumer's financial capability impacts consumption practices. For example how purchasing power and the needed to save money could impact upon place of shop and what is purchased. Further to this the stress and strain that finances place households under could shape how routines of food provisioning and other projects of leisure and work are negotiated. In a world of borrowing and the heightened access to of high interest products such as payday loans (Appleyard, Packman and Lazell, 2018), consumer's lives are increasingly being impacted by demands to repay that could be having a supplementary effect on food provisioning, and thus food wastage.

The second field of research that requires some thought given its cross over with everyday life and consumption is the attention economy. Williams (2018) book 'Stand out of our light: Freedom and Resistance in the Attention Economy' highlighted how an economy has emerged to keep consumers engaged in online generated content. Whilst Williams's (2018) work focuses on the implications to political freedom and resistance, there are also implications to think about in terms of consumption practices. Our phones are omnipresent tools in modern ways of living that are reached for hundreds of times on a daily basis. There is yet to be a study on how this has implications for how practices play out in everyday life. How might society's ever growing connection to mobile technology be interrupting performances of organisation and management of food for example. How might this be diverting time away from proper preparation, management and cooking of food and leading consumers down the path of convenience? A distant connect is possible here in how competences and practice intelligibility of knowing how to put together a meal from leftovers or undertake a visceral appraisal of food fails to develop because of how the content of mobile devices grab our attention.

To bring this thesis back to its opening debates, the third wider reaching point is the need for a research pathway to situate food waste properly in the climate emergency. The previous section

discussed the need for deeper prevention measures which fits well with work that calls for deep adaption (Bendell, 2018). Climate science now presents a picture where without a sharp decline in carbon emissions in a short space of time the earth is on course for considerable warming and a catastrophic impact on the living conditions of all life (Lovelock, 2009). Whilst food waste might still find itself at fringes of public attention to climate change causing activity, it is wrapped up in movements to live more sustainably. This debate is moving towards one of how consumers can best adapt to new ways of living in a world where the climate has collapsed, a fate that science is now taking as definite rather than avoidable (Bendell, 2018).

Work is needed to rethink the starting premise of food waste reduction, prevention and overall mitigation work. A planet with increased stress on food resources means tackling food waste is of increasing importance. This revises the end goals of addressing consumer food waste behaviours from achieving a kind of equilibrium where all food bought is eaten, to one where consumption can still function given the impact of catastrophic climate change. It is critically important that research at the consumer level in the area of food waste, and other arenas in the food, energy water nexus, start to take the context and circumstance of behaviours seriously by employing a practice based lens. This research pathway, and the subsequent interventions that result from it, hold a hugely influential role over whether society is going to have any chance of both understanding and addressing the impacts of our current unsustainable patterns of consumption.

10. References

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Appendix 1 - Socio-economic status sheet

Participant No.

A study of food consumption across space and place

Socio-economic status sheet

Please complete the following. The data provided will be kept confidentially and only used in association with your participant number.

Postcode	
Household size	
Gender	☐ Male, ☐ Female, ☐ Other
Age	☐ 18-29, ☐ 30-39, ☐ 40-49, ☐ 50-59, ☐ 60-70, ☐ 70+
Ethnicity	
Occupation	
Household income	☐ 0 to £24,999, ☐ £25,000 to £34,999, ☐ £35,000 to £44,999 ☐ £45,000 plus

Appendix 2 - Recruitment flyer

People are busy. FACT. But are we too busy to think about what we are eating and what we throw away?

TV Programmes like Britain's Spending Secrets, The Truth about Food and Hugh Fearnley-Whittingstall's 'War on Waste' make taking action look easy, but what's the reality?

I am looking for volunteers for a study to help understand what we eat and throw away

Volunteers will collect receipts and take some pictures of the food they prepare, cook and throw away over the course of only one week followed by a short discussion.

The study is strictly anonymous and will not identity anyone in the data recorded.

Your involvement could help you understand how much money you could be wasting due to throwing away food.

If you would like to be involved please contact:

Jordon Lazell, Researcher at Coventry University

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Appendix 3 – Participant information booklet

Food in everyday life Guidance booklet

By Jordon Lazell, Research Assistant

Centre for Business in Society,

Coventry University

Tel.

Content removed on data protection grounds

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Appendix 4 - Checklist

Checklist of pictures taken: Use this handy checklist to help you keep track of the pictures you have taken over the course of the week.
Space has been provided if you forget, just write in what you ate/ threw-away

	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
Breakfast	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten
	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away
Lunch	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten
	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away
Dinner	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten
	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away
Snacks and other food	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten	Prepared and eaten
	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away	Thrown away

Appendix 5 - Participant information sheet

Participant No.

A study of food consumption across space and place

Consumer interviews

Participant Information Sheet
19th April 2016

www.coventry.ac.uk/cbis

PARTICIPANT INFORMATION SHEET

You are being invited to take part in a research study conducted by Jordon Lazell, a researcher at the Centre for Business in Society (CBiS), Coventry University. Before you decide to take part it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information carefully.

What is the purpose of the study?

This study aims to understand food consumption in greater detail, focusing on motivations, routines and habits across different spaces and places. Food is an important part of everyday life and is consumed in different ways and in different situations. The study will focus on how you purchase, prepare, eat and dispose of food as well as how other activities influence these routines. The study's findings aim to make a contribution towards understanding what influences our food waste habits, and how these habits change across the spaces and places where we eat and use food.

Why have I been chosen?

You are invited to participate in this study because you are involved with purchasing, preparing and managing food and are able to comment on the routines and habits of daily life in your household.

Will my taking part in this study be kept confidential and anonymous?

Information collected about you during the course of the research will be kept strictly confidential and your responses made anonymous. The subject of food can in some cases be linked to personal information and you have the right to withhold any information from the researcher. Data collected from participants will be referred to by a unique participant number rather than by name to ensure anonymity. If you consent to having the interview discussion recorded, all tapes will be destroyed once they have been transcribed. Transcripts from the research will only be viewed by the researcher and will be stored in a locked filing cabinet. Your consent information will be kept separately from your responses in order to mitigate risks in the event of a security breach. All data from the research will be destroyed after 5 years.

Do I have to take part?

It is up to you to decide whether or not to take part. If you decide to take part, please retain this information sheet and complete the informed consent form at the beginning of the interview, to indicate that you understand your rights in relation to this research and are happy to participate. Please note down your participant number and provide this if seeking to withdraw from the study. You are free to withdraw the information you provide by the **2nd of September 2016** prior to data analysis and without giving a reason. A decision to withdraw, or a decision not to take part, will not affect you in any way.

What will happen if I take part?
If you would like to take part in the research, you will be asked to record your food consumption habits over the course of a week. This will involve taking pictures of the food you cook, consume and throw away as well as making any notes you feel necessary. You are also asked to collect receipts from food shops and any trips to eat out during this period. At the end of the week an interview discussion will take place where you can further comment on your food habits over the course of the week. During the discussion you will be asked to complete a 'food map' of where you shop and eat as well as provide a description of your weekly routines.

What are the benefits of taking part?
By taking part you are helping collect data to inform academic research and formulate subsequent recommendations to policy that will support efforts towards more sustainable food consumption behaviours.

What will happen with the results of this study?
The results of this study will be incorporated in a PhD thesis and will also be used to present conference papers, publications and reports to academics, practitioners, government and policymakers. Anonymity of the participants will be maintained at all times.

Making a Complaint
Content removed on data protection grounds

Who is organising the research?
The research is funded by Coventry University, Faculty of Business and Law, and its principal investigator is Jordon Lazell.

Who has reviewed the study?
This study has been reviewed and given favourable opinion by Coventry University's Ethics Committee.

Who do I contact for more information?
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Appendix 6 - Consent form

Participant No.

A study of food consumption across space and place

Researcher: Jordon Lazell

You are invited to take part in this research study for the purpose of collecting data about your food on food consumption habits and routines

Before you decide to take part it is important for you to **read the accompanying participant information sheet.**

If you consent to having the interview recorded, all tapes will be destroyed once they have been transcribed. Transcripts from the research will only be viewed by the researcher (Jordon Lazell) and will be stored in a secure location until they are destroyed (i.e., 5 years after the completion of this study).

Please do not hesitate to ask us questions if there is anything that is not clear or if you would like more information about any aspect of this research. It is important that you feel able to take the necessary time to decide whether or not you wish to take part.

Should you require any further information about this research, please contact:

Content removed on data protection grounds

1	**I confirm that I have read and understood the Information Sheet dated 19th April 2016 for the above study and have had the opportunity to ask questions.**	**YES**	**NO**
2	**I understand that my participation is voluntary and I am free to withdraw (including the information I provide) until 2nd September 2016 without providing a reason.**	**YES**	**NO**
3	**I have noted down my participant number which is required if withdrawing from the study**	**YES**	**NO**
4	**I understand that all the information I provide will be anonymised and treated in confidence.**	**YES**	**NO**
5	**I am happy that information collected may be used in a PhD thesis, academic reports and publications produced by Coventry University.**	**YES**	**NO**
6	**I am happy for the interview to be recorded.**	**YES**	**NO**
7	**I agree to take part in the above study.**	**YES**	**NO**

Participant's Name	**Date**	**Signature**
Researcher	**Date**	**Signature**

Appendix 7 - Interview Schedule

Aim: To understand the relationship between food waste practices, space and place in consumer society

Objectives

- To explore how the transition of food into waste differs over the spaces and places encountered in everyday lives
- To examine how useful theories of practice are as an approach to the study of food waste

A study of food consumption across space and place

Semi-structured interview questions

Opening questions	- How was your week? - How did you get on taking pictures of what you ate and collecting receipts?
Going through the pictures	<u>*Using the pictures taken*</u> - Can you take me through the food you ate and threw away? Supplementary questions whilst this is being undertaken <u>Wider social actions</u> - *What were you doing that day?* - *Were you busy that day?* <u>Competence questions</u> - *How did you decide what you ate (in the morning for example)? How does this differ?* - *How do you plan what you eat?* - *How might this lead to food waste? E.g planning* <u>Intricacies of food practices</u> - *How do you work out portions?* - *How were the items kept in this picture?* - *Did you have any food you weren't sure about over the week? How do you know whether it's edible?* - *Do you ever pay attention to the packaging of food?* <u>Time</u> - *How much time do you spend cooking, eating and throwing things away each week? Do you wish you had more time?* - *Is there anything that you would like to change about the way you prepare, manage or throw away food? Anything that you find a problem or would like to change? Why?* - *Why did you spend longer doing <u>x</u> in comparison with x?*
Differences between work and leisure	- What are the differences between how you eat during at working day and a leisure/ weekend day? - Were there any differences in the food you threw away? - Did you take any actions to prevent or reduce how much you threw away? Can you give an example of this?

About your week, how typical?
- Completion of map and routine sheets
	- How typical was you week compared with what you normally do?
	  - What is a normal week for you?
	  - Did anything happen that meant you had to change your normal plans?
	  - How did this effect what you ate/ threw away?
	  - How do you think your routines influence what you buy, eat and throwaway?
	Complete weekly routine sheet
	
	- Can you tell me a bit more about the different places involved in you routines?
	- Did you eat any meals outside the home? Can you tell me about these?
	  - How often do you eat out?
	  - How do your choses of what to eat compare to at home?
	  - Did you have any leftovers?
	  - Was there anything that you didn't eat? What was the reason for this?
	- How do you think the way that you eat food differs between theme places? What does that mean for wastage?
	- Why do you do x here and not elsewhere?
	Complete local food map
	
	- Where do you normally keep food?
	- Where do you normally eat food in the house, does this change over the course of the day, and other the course of the week?
	Complete Household food map

Food Shopping	*Discussion around receipts collected* - What did you buy this week and why, when and from where? - What do you normally have in the fridge, and why? - How does this differ over the course of the week? - What do you look for when choosing products? - Do you manage to eat/use everything you buy? - Were you aware of how much you spent? Did anything surprise you?
Throwing food away	- What do you normally do with your leftovers? - Where do the leftovers go? - What would be a reason why you threw something away? Both at home and when eating at work or other places out of the house? Can you think of an example from the past week? - How do you think that your weekly routines influenced the food you throw away? - How much effort do you make to reduce the amount you throw away? - Do you see food waste as a problem?

Appendix 8 - Photography example sheet

Example sheet

Photography of food prepared, eaten and thrown away

Using a device of your choice, such as a phone, tablet or camera, take pictures of the food you prepare, eat and throw away.

Over the course of a day for example this would involve taking a picture of your:

Breakfast

Lunch

Dinner

as well as any recipes used,

picture of a fridge or cupboard

and any leftovers.

Please also remember to take pictures of meals eaten outside the home!

For example **what you eat at work**

Or a meal out.

PLEASE DO NOT FEEL YOU MUST TAKE PICTURES OF EVERYTHING YOU PREPARE, EAT AND THROWAWAY! As long there is sufficient images for discussion this is fine.

Appendix 9 - Weekly routine table

Participant No.

Weekly Routine

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Morning							
Afternoon							
Evening							

Appendix 10 - Local area food map

Participant No.

Local Area Food Map

Things to include

- **Places where you shop**
- **Places where you eat out**
- **Work places where you eat**
- **Leisure places where you eat**
- **Other places that you routinely visit during the week**
- **Anything else**

Appendix 11 - Household food map

Participant No.

Household Food Map

Things to include

- **Places where food is eaten**
- **Places where food is prepared**
- **Places where food is kept**
- **Appliances and devices used to prepare food**
- **Where food is thrown away**
- **Where recycling is kept**
- **Anything else**

Appendix 12 - Description of the morning routine template

Description of morning routine

Complete the below for this morning's routine

This morning, I got up at _____

The first thing I did was _____

I went down for breakfast at _____

I ate _____for breakfast

I spoke to _____during breakfast

I felt _____

After breakfast, I _____

After you have completed this, please write your own version and reflect on how you were feeling and why.

Appendix 13 - Full list of codes and sub-codes

Level 1 - major code	Level 2 - sub-code	Level 3 - sub-code	Level 4 - sub-code
1 Co-ordinating practices across space and place	- Integration of food practices in other practices - Spatial dynamics of shopping - Eating out to co-ordinate practices - Shopping integration		
2 Keeping in place practices that linked to food waste practices	What might be keeping practices in place that are causing food waste		
Bodily competences and materiality	The body as an important site in food practices	- Bodily competences influences food eaten and food planning - viscerality - Knowing whether something is ok to eat is a practice that uses the body	
	Competences - Knowing how to do something	- Cooking as a way of switching off Knowing how long to keep food for	
		- Competences of cooking	- Enjoying cooking - Food as fuel
Caring for others			
Cleaning practices	Influence of cleaning practices on cooking		
Commuting	Commuting and shopping practices	- Convenient to shop on the way to and from work - Food planning whilst commuting	
Eating out (and drinking)	How eating out links with food planning	- Eating out as a break from cooking at home and planning at home - Eating out is well co-ordinated with food planning	
	Choosing where to eat out - link to wider food consumption spatial patterns	- Eating out choice by memories or reflection on previous practice - Usage of trip advisor and other tools to influence decision	
	Eating out and food waste		

Food planning (and cooking)	Planning of meals	- Planning ahead - Planning far ahead - Repeating food planning	
	Planning devices	- Nature of the list practice - Veg boxes and other shopping services that influence food planning	
	- Norms - Food that is always or normally available or eaten - Not great planning or doesn't plan - Adaptability with the materiality of food - Flexible planning and cooking (recipes) - Moments and times when normal planning is not followed -Impulsive or can't be bothered - Food planning whilst cooking		
Food waste practices	Why is food thrown away - food waste practices	- Certain foods cannot be saved - Disliking the food and preferences - Not using food up in time - Short life of food as a key reason why - food is wasted	
	Mitigating food waste - practices	- Eating what is at hand - using things up in the house - Having repetitive meals - Mitigating food waste depends on what the food itself is - Portion sizes - Recipes specific to using up leftovers or ingredient - Sharing food	
	The food bin	- Composting - Role and management of the food bin in the household	

	How does the materiality of food lead to food waste	- Changes in the materiality of food that causes food waste - The variable, non uniform rate of deterioration of perishable food	
	- Responses when participants are asked if food waste is a problem, agentive - Wider references to food waste - How does the materiality of food lead to food waste - Monitoring, keeping and Changing a food's materiality - Food in storage cupboards Waste during food preparation		
Fridge and the freezer	The fridge as a device to manage how food is used	- How food with dates is negotiated in the fridge - Impact of a full fridge and empty fridge - Managing the materiality of food in the fridge - The fridge as a tool and appliance in saving food	
	The freezer as a tool to mitigate food waste	- Freezer a place to put food when it does not fall into planned eating - Freezer a tool to make food last longer - Putting food in the freezer to avoid having to throw away or deal with it	
	Practice of clearing out the fridge		
Health	- Health as a factor influencing shopping - Health as a factor in planning, preparing and eating food - Health as a factor in routines		
Household co-ordination roles and responsibilities	- Roles and responsibilities - Differences in food preferences and dislikes - Co-ordinating the meals with others - Discussing food with others in household to plan meals		

Impulsive and instantaneous food	Impulsive buying practices	- Purchasing food outside the home - Purchasing food that is not part of the food plan or was forgotten	
	Instantaneous food	- Convenience - No imagination or can't be bothered to cook, or too busy - Knowledge and competence of cooking to meet this desire	
Internal household space and role of material objects	- Where eating takes place and its relation to other practices - Amount of physical space as a factor - Food preparation spaces influences how food practices happen - Location of utensils and other materials and tools of practice		
Interruption of food consumption and waste routines and habits	How holidays interrupt normal routines	- Being prepare - changes to routine - Not much change to routines	
	Dealing with interruptions	- Devices and appliances used in instances of interruption of normal routines - Late night opening of shops - Takeaway as dealing with disruptions	
	- Eating out in order to not cook - Dealing with interruptions - Devices and appliances used in instances of interruption of normal routines - Late night opening of shops - Takeaway as dealing with disruptions - Can't be bothered moments - Eating out as a way of dealing with interruption		
Leisure practices	- How exercise practices influences food consumption and routines		

Methodology	- How the methods might have influenced what the participant normally does	- Participant usage of the phone as a data collection tool - Taking pictures changes or becomes part of consumption practices	
	Points related to the weekly routine table or the maps	- Checklist - Expressions of free time and flexible time - Household map - Perception of Local area food map - Pictures - Weekly routine table	
	Practical problems the participant has with the data collection procedure	- Difficult to remember to take pictures whilst undertaking food consumption practices - Participants having problems with their phones - Participants not wanting to share or take pictures of negative behaviours	
	Practical problems the researcher experienced	- Using a phone as an audio recording device	
	- Realisation of behaviour not noticed before - The conversation not making sense or not being useful in the transcripts		
Recycling and packaging	- Role of recycling as part of food waste practices - both causes of food waste and mitigation	- Recycling and packaging as a signifier for food waste mitigation (prevention or reduction) - Recycling's presence in the home	
	- Packaging influences food practices - Buying more than required because of packet size		
Shopping	- Links between shopping practices and planning practices	- Planning whilst shopping - Pre shopping practice	

	Nature of shopping practices	- Materiality of food in shopping practices - Purposely buying food from the reduced section or on a deal - Shopping as a leisure practice	
	- Competences and understanding of different food places	- Differing between a main food shop and a top up shop - Products and environments alternative to supermarkets	
	How food is sold has implications for food planning and food waste	- Amount provided in packaging, amount bought in the supermarket - Veg boxes and other sources of food	
	- Timing of shopping during the week - Food waste from replenishing food		
Times, routines, habits - temporality	Allocation of time to practices, food planning, consumption	- Not having time constraints - Perceiving how much time for things	
	Changes in how time is allocated between the week and weekend	- Change is how time is allocated to planning throughout the week - Dynamics of the week - More involved cooking when more time is available - Greater temporal capacity	
	- Dynamics of the day Wider temporal dynamics of practices - Ingrained routines		
Working practices	Nature of food practices at work	- Eating practices at work - Food planning at work - Food waste at work	

	How working practices influence food planning and cooking	- Food practices whilst working at home - Work interrupts and does not allow food planning - Working practices influences food practices, planning of food practices	
	Preparation of food for work		

Appendix 14 - Certificates of ethical approval

Certificate of Ethical Approval

Applicant:

Jordon Lazell

Project Title:

The socio-spatial-temporal conditioning of practices in everyday life: From moments of consumption to conduits of food waste

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

22 October 2018

Project Reference Number:

P76045

Medium to High Risk Research Ethics Approval

Content removed on data protection grounds

Certificate of Ethical Approval

Applicant:

Jordon Lazell

Project Title:

Food waste across space and place: A practice theory approach to understanding the transition of food into waste in the context of urban lives in the UK

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

28 September 2016

Project Reference Number:

P45901

Medium to High Risk Research Ethics Approval

Content removed on data protection grounds

REGISTRY RESEARCH UNIT

ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Content removed on data protection grounds

Certificate of Ethical Approval

Applicant:

Jordon Lazell

Project Title:

Food waste across space and place: A practice theory approach to understanding consumer behaviour that leads to food waste in urban lives

This is to certify that the above named applicant has completed the Coventry University Ethical Approval process and their project has been confirmed and approved as Medium Risk

Date of approval:

19 January 2016

Project Reference Number:

P37230

Medium to High Risk Research Ethics Approval

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REGISTRY RESEARCH UNIT

ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Content removed on data protection grounds

Low Risk Research Ethics Approval

Where NO human participants are involved and/or when using secondary data - Undergraduate or Postgraduate or Member of staff evaluating service level quality

Content removed on data protection grounds

Desk-Based Research Ethics Approval

Content removed on data protection grounds

REGISTRY RESEARCH UNIT

ETHICS REVIEW FEEDBACK FORM

(Review feedback should be completed within 10 working days)

Content removed on data protection grounds