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Food, Waste and Safety: Negotiating Conflicting Social Anxieties into the Practices of Domestic Provisioning

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Abstract

Two significant realms of social anxiety, visible in the discourses of media and public policy, potentially pull practices of home food provisioning in conflicting directions. On the one hand, campaigns to reduce the astonishing levels of food waste generated in the UK moralise acts of both food saving (such as keeping and finding creative culinary uses for leftovers) and food disposal. On the other hand, agencies concerned with food safety, including food-poisoning, problematise common practices of thrift, saving and reuse around provisioning. The tensions that arise as these public discourses are negotiated together into domestic practices open up moments in which 'stuff' crosses the line from being food to being waste. This paper pursues this through the lens of qualitative and ethnographic data collected as part of a four-year European research programme concerned with consumer anxieties about food. Through focus groups, life-history interviews, and observations, data emerged which gives critical insights into processes from which food waste results. With a particular focus on how research participants negotiate use-by dates, we argue that interventions to reduce food waste can be enhanced by appreciating how food becomes waste through everyday practices.

Introduction

A host of potential social anxieties can be part of what gets cooked up in the domestic kitchen (Meah and Watson 2011). Two of these - which pull the practices of domestic provisioning in different directions - are the often competing moral imperatives to avoid food waste, on the one hand, and to ensure food safety on the other. These two competing realms of concern can be followed from the immediacy of the kitchen to relative abstractions of public policy. On one hand, the significant role of food waste in greenhouse gas emissions from household waste treatment is the primary impetus in the UK for a public policy push to reduce the startling proportion of the food that households buy which then ends up in the waste stream (DEFRA 2011). On the other hand, compelling arguments for reducing the incidence of food-borne diseases underpin both education and technologies, such as use-by dates, which impel people to throw out food which has passed a point in time at which it is considered to become unsafe to eat. These public discourses represent real tensions that all those involved in providing food have to negotiate into practice. Whether from concern about the global climate, for household budgets or some vestigial moral imperative for thrift and the avoidance of waste, cultural logics exist that can make us feel guilty about throwing food out. Conversely, whether through scientifically informed concerns about *E.coli* or *Salmonella*, or because finding space in the fridge and a recipe for safely using up leftovers is inconvenient, concerns which could be identified with food safety make their presence felt.

In this article, we use this fundamental tension between food waste and food safety as a distinctive means of cutting through and exposing the mess of practices from which food waste is produced. We do so on the basis of our current research project,¹ which explores continuity and change in families' domestic kitchen practices over the last century as a means of interrogating how differing, and often competing, discourses and sources of knowledge around food are negotiated into quotidian routines. We follow how relatively clear normative public discourses around safety and waste are uneasily translated into the mundane actions of shopping and cooking. This, we contend, distinctively illuminates the challenges of conventional policy approaches in

tackling both food waste and food safety in households.

Recently, research has begun to go beyond the stark statistics of domestic food waste and the inferences of profligacy that follow them, to unpick the complex social relations from which food waste emerges (Evans 2011a, 2012). Two fields of recent research can be drawn together to begin to address what remains a gap in social scientific understanding of food waste.

First, consideration of food waste can clearly be informed by work on waste in a more general sense. From sporadic earlier engagements (Thompson 1979, Rathje and Murphy 1992, Gandy 1994), work on the cultural locations of waste and wasting began to burgeon with the turn of the century (Strasser 2000, Hawkins and Muecke 2003, Scanlan 2005, O'Brien, 2007). Social research on waste has moved from focus on materials that have already been categorised as waste towards understanding of the processes through which materials end up being so categorised. This has been pursued substantially through engagement with work on consumer culture, particularly with debates around material culture, and around everyday practice (Hawkins 2006, Gregson *et al.* 2007, Bulkeley and Gregson 2009). Selected strands of this work have moved more thoroughly into relational materialist perspectives, through which the *matter* that is wasted is an active force in the situations in which it becomes waste (Hawkins 2009, Gregson *et al.* 2010).

A similar intellectual trajectory can be traced in a second major field of research, namely, studies focusing on food and its location in everyday life and sociality. In comparison to waste, engagement with food in this register has a longer and more continuous history. Nevertheless, recent years have seen parallel trends with those identified above in waste scholarship, both with a growing location of food research in relation to theories of practice (Warde *et al.* 2007, Halkier 2009), and with the emergence of relational materialist approaches which enable exploration of the active role of the stuff of food (Roe 2006, Bennett 2007). Bennett (2007) explores the relational agency of food stuffs through the different affordances the vital materiality of foods offer to both situations of consumption and to the flesh and being of humans who ingest it. Drawing on Harris (1985), Roe (2006) sets out to illuminate the question, 'how do things like rancid mammary gland secretions, fungi and rock under particular

¹For project details, please see acknowledgements.

circumstances become cheese, mushrooms and salt?' (p. 112). Through a relational materialist approach, she argues that 'things become food through how they are handled by humans, not by how they are described and named' (p. 112).

The easy location of food waste between these two strands of current research enables identification of clear lines of inquiry. In particular, the recognition that matter *becomes* waste, or *becomes* food, within situations of doing makes clear a pressing question of inquiry: how does matter which is food become matter which is waste? What goes on in these moments has been neglected until recent work from David Evans (2011a, 2012). Evans starts from a recognition that food becomes waste through situations of doing as the rationale for ethnographic exploration of food wasting in Manchester households, revealing much about the ways in which the organisation of daily life results in wasted food. These moments can bear considerably more study yet, being both intellectually challenging and empirically important. For the total food thrown away by UK households each year — around eight million tonnes (Quested and Parry 2011) — results only from the innumerable moments in millions of kitchens in which something passes a line which differentiates 'food' from 'waste'. Reducing domestic food waste ultimately depends on intervention into these moments, for which we need to better understand what relations and processes are significant in making food into waste. Analysis of these moments reveals food waste as fallout from the organisation of daily life, both individually and collectively.

In what follows, we begin by outlining key expressions of public discourses encouraging the avoidance of food waste and concern for food safety in the UK. This provides the backdrop against which we explore how such discourses are translated into domestic routines. We draw out the ranges of entities and relationships which converge into the moments in which matter is categorised either as food or as waste. How people negotiate the technology of date labels, such as 'best before' and 'use-by' provides a ready empirical hook around which to explore this process of categorisation, not least through exploration of the tensions which open up around this process between members of the same household, or different generations of the same family. What becomes clear in how people talk about these processes — and consistent with how

they are observed to act — is how public discourses of environmental responsibility (in relation to waste) together with responsibility to self and immediate others (in respect of safety) each have to be negotiated into more immediately meaningful discourses of responsibility. Within these, a sense of *thrift* is part of an overwhelming purpose of performing care for self and immediate others enacted through the everyday business of cooking and feeding (Miller 2001, Evans 2011b, Meah and Watson, in press).

Public Discourses of Food Waste and Food Safety

Food waste has had a late but rapid ascendancy in public policy. The statistics of food waste are astonishing in themselves, but when held against the backdrop of issues of climate change, peak oil and global food security (Foresight 2011), the matter of food waste takes on a pressing urgency. Estimates of total food waste throughout the global food system range from 30% to 50% (Godfray *et al.* 2010, Foresight, 2011). According to surveys undertaken by and for the UK's Waste and Resources Action Programme (WRAP), the average UK household throws out about 25% of food purchased. Further, 15% of food and drink wasted is categorised by WRAP as 'easily avoidable', at a typical cost for a household with children of £680 per year (Quested and Parry 2011). With the food system estimated to contribute as much as one third of anthropogenic greenhouse gas emissions (Pretty *et al.* 2010), alongside the challenges of feeding an expected global population of nine billion by 2050, reducing food waste is an obvious policy priority.

However, within the UK, the key legislative impetus for tackling domestic food waste has been the effects of its decomposition following landfill disposal. In the wake of landmark legislation in the EU Landfill Directive 1999, the 'modes of governing' household waste in the UK have undergone a radical shift, from a mode shaped around the disposal of waste — primarily to landfill — to a mode of *diversion* (Bulkeley *et al.* 2009). Diversion here refers to ensuring as much material as possible is diverted away from landfill. After more than a decade of serious action on municipal waste in the wake of the Directive, the easiest 'wins' in diverting waste from landfill have been 'won', most obviously through the rollout of kerbside recycling of dry wastes and, to a lesser extent, green waste.

With the continuing obligations of the Directive focusing on biodegradable waste, food waste has come decidedly onto the agenda in recent years. However, this target for changing waste practices is not an easy win. Recycling focuses simply on shifting what happens to some materials after they have been used, rather than tackling the much greater challenges of reducing overall flows of material through the household, or keeping products in use. This has been argued to be a significant part of the reasons why recycling has been prioritised through policy measures, despite political declarations of commitment to the waste hierarchy in which reuse and waste minimisation are given precedence over recycling as targets for action (Watson *et al.* 2008). Attacking food waste adds a messy extra element to the demands of recycling — rather than cleaned tins and bottles, getting food waste into the recycling means sorting and storing materials that threaten disgust and putrefaction. But campaigns on food waste seek to go further, pushing political intervention further up the waste hierarchy. While minimisation of domestic waste (rather than recycling) has had little policy push in general, minimisation is a major theme in campaigns to reduce food waste. For example, WRAP launched the campaign 'Love Food Hate Waste' in 2007. The campaign's website has sections on portion sizing, storage advice, menu planning, shopping and recipe ideas for using up leftovers. A section educating readers about use-by and best-before dates indicates the intersection with a different realm of public policy discourse, linking through to the National Health Service (NHS) 'Goodfood' site (NHS, nd).

While concern for environmental responsibility means getting people to throw less food out, a concern for preventing foodborne illness means, in part, getting people to do precisely the opposite. In the UK, it is estimated that foodborne illnesses affect around one million people, causing around 20,000 people to receive hospital treatment, and around 500 deaths (FSA 2011). Food storage practices have emerged as a key area of concern and a Dutch study concerning storage and disposal (Terpstra *et al.* 2005) points toward a gap between consumer knowledge, reported via interviews, and observed practices, with fridge temperatures also implicated as cause for concern. Consequently, the Food Standards Agency (FSA) has led its consumer-facing work with a strategy focussing on the '4 Cs' (cleaning, cross-contamination, cooking and cooling) and has also commissioned a piece of research

exploring domestic 'Kitchen Life' (FSA 24 January 2012) in which the second author is involved. Similarly, the NHS Goodfood site is one small part of public health endeavours around food in the UK. It features a similar range of advice to Love Food Hate Waste — on preparation, cooking, cleaning, storing and shopping — but focused around food safety, rather than waste. Its pages explaining food dates indicate both the significance of this technology in the prevention of foodborne illness, and the confusions that cluster around it. The two agencies and their websites do not directly conflict — both agree that food that has gone beyond its use-by date should not be eaten. However, as realms of public discourse, they nevertheless pull in different directions when followed through to actual realms of domestic practice.

Negotiating Public Discourses to Domestic Practices

It is how these discourses are negotiated into practices and performances that we explore below. We do so by drawing upon fieldwork conducted predominantly in South Yorkshire and Derbyshire, UK, between February 2010 and August 2011. Fieldwork followed two stages: first it involved a series of focus groups segmented by age and household types, with additional subsidiary dimensions of difference;² second — and the primary empirical focus of the project — was an ethnographic household study. While previous studies have highlighted the complexities of household provisioning (see Charles and Kerr 1988, DeVault 1991), these have relied on interviews, where reports of what people say they do have been taken as proxies for what they actually do (Murcott 2000). Our study sought to explore the gap in understanding the differences between *sayings* and *doings* by going beyond the discursive focus of the focus groups and the narrative interviews, to explore the actual *doings* of cooks as they interact with food and other

² Thirty-seven participants contributed to the seven focus groups, including thirteen men. In addition to a mixed pilot group, one group was with young male house-sharers aged 23-30; another with older people aged 63-89 living in a former mining village; one was comprised of Indian and Somali women with school-aged children; one of low-income mothers aged 27-38; one with married or cohabiting couples aged 29-41; one with people aged 39-79 living in rural Derbyshire. The research was approved through ethical review at the University of Sheffield.

materials and technologies, in the shop and in their own kitchens. Food-focused life history interviews were combined with observational work, including provisioning 'go-alongs' (Kusenbach 2003) on shopping trips, and observation, including both video and photographic recording, of kitchen tours and meal preparation.³ Interviews were undertaken before the ethnographic work as a way of establishing rapport with participants in order that they might feel more comfortable with the more 'intrusive' aspects of the ethnographic work, which quite literally involved poking about and photographing inside cupboards and fridges, as well as filming respondents' practices.

Ethnographic methods which draw upon the visual have been highlighted as potentially important in enabling us to move beyond the limitations of purely text-based approaches, which cannot fully capture lived experiences (Power 2003). Our choice of methods sought to facilitate an exploration of respondents' 'stream of experiences and practices as they move[d] through, and interact[ed] with, their physical and social environment' (Kusenbach 2003, p. 463), including material objects in their kitchens and the spaces beyond, but also their engagement with a range of discourses which exist around food. Unlike Evans (2012), whose decision to 'hang out' in participants' homes and communities was motivated by a specific interest in food waste, our study had a much broader focus. To this end a very open brief was used in the ethnographic work, and it was explained to respondents that we were interested in all of the processes through which food arrived in their cupboards and fridges, as well as what happened to it in the home. The second author filmed participants cooking meals of various degrees of complexity while other household members came and went through the kitchen. During these visits, she would also photograph the kitchen: the appliances, cupboards, fridge and freezer and their contents, inquiring about the design and layout, the role of various technologies and uses by different members of the household. Engaging with respondents while they undertook everyday routines and practices, surrounded by the material objects which constitute their own domestic spaces, proved to be a valuable form of elicitation — the image of the wrinkled orange peel in one

respondents' fridge, for instance, which led to a discussion of a life beyond the normal point of disposal (see below) — and enabled them to unconsciously demonstrate practices which are so habitual that they would perhaps not think them relevant in an interview (here, the washing of meat provided one example).

In pursuing our interest in decisions regarding the what, when, how and why of food shopping, the second author also accompanied respondents while they did their shopping. For one woman, this meant the observation of her regular online procedure, supplemented by trips to the local shops by her husband. In some cases, a trip to the supermarket was done solely for the purposes of speculative 'top-up' shopping, while others did the 'big shop' equipped with shopping lists which would enable them to deliver planned meals designed to accommodate the tastes and preferences of different members of the household, as well as making use of what might already be in the fridge/freezer. Browsing the aisles with respondents provided an opportunity to understand the situated nature of the processes which contribute to respondents' provisioning decisions — what is important to them, and why. More often than not, the discussions would be driven by the respondent, who might pick up an item and comment on an issue of ethics, quality, price, provenance or the environment. Of course, this method does not give some unmediated access to empirical reality devoid of researcher influence. It does however enable exploration of subtleties of practice which go beyond what could be gained through interviews alone. 'Being there', hanging out with them while they did their shopping, facilitated an awareness of the dilemmas consumers are faced with, for example in the simple act of buying a litre of milk.

These methods were undertaken with at least two — and up to four — generations in each of eight extended families, comprising a total of seventeen households. In all, twenty-three participants were interviewed, and ethnographic work was completed with fifteen of the seventeen households. The vast majority of respondents were white British, with one white Irish respondent within an otherwise British family, and a Pakistani family, the younger generation of which was British-born. The white British respondents were predominantly middle-class, though social mobility, especially amongst older generations, is significant. Households worked with included an all-male house-share, a childless

³ Selected images from the go-alongs and kitchen tours can be accessed via the project's online photo-gallery: <http://www.flickr.com/photos/52548860@No8/sets/>

couple, families with young children, a family with teenagers, retired couples, multi-generational and lone households. As is inevitable for in-depth qualitative and ethnographic research, there can be no claims to be representative of a broader population. Rather, discussion and conclusions drawn from the study reported here are based upon exploration of the complex details of provisioning practices which are only accessible through methodological approaches which demand a relatively small number of households.

Food Safety in Practice

From the perspective of a food safety expert, the standards of some of our respondents may be so far below what policy and guidance seek to promote that they appear almost nonexistent. Key examples here came from focus-group discussions between house-sharers, where more overtly 'cavalier' (Kennedy *et al.* 2005) food safety practices were reported. These included the drunken late-night preparation of food after a weekend of partying which involved cutting up vegetables and meat on a '*filthy worktop*'. Another participant reflects that:

Our fridge is rubbish, it's really not cold enough I don't think, so I'm kind of particularly more careful with milk ... not that I smell it like, I have to pour it out and see if there's any bits in it before we use it.
(Chris, 28)

Here, while Chris showed what may well be considered a relatively low level of concern, he nevertheless demonstrated that, however low, he still has boundaries of acceptability. Indeed, while standards varied widely, all respondents necessarily recognise boundaries of food safety. While in general respondents did not clearly articulate ideas of food safety strictly in line with the sort of guidance offered by food safety professionals, a number were able to demonstrate an awareness of expert advice about particular food safety issues, including being able to identify the sources of their knowledge. For example, in a group of older, working class, respondents, an 84-year old man pointed out that 'you've to watch chicken', while a 78-year old woman explained that she has seen information videos, while waiting at the doctor's surgery, which highlight risks concerning chicken, listeria and fridges. Similarly, in a focus group with Somali and Indian mothers, these women expressed particular

concerns regarding the safety of fresh food which may have been left out of the fridge overnight.

So, for all respondents boundaries exist, even if they are often defined by the affective experience of disgust more than cognitive reflection on bacterial risks. This distinction is most clearly articulated by one older woman who, in recounting the disposal of large quantities of dry goods, like porridge oats and pulses, as a result of finding them infested with meal moths, implies that the decision to dispose of food is not so much a matter of cognitive implementation of expert advice as a result of a more visceral response: 'I wouldn't sort of think about it making me ill particularly, it's more of a just a disgust thing'. Here, there is evidence of the role of disgust within the cultural processes through which waste emerges, as informed by Douglas' contention (1966) that we should think of 'dirt as disorder'. Douglas' understandings have been applied to waste across a range of contexts, including to thoroughly durable and inorganic matter (Lucas 2002, Gregson and Crang 2010). Food, with its necessary relation to bodies, its capacity to degrade over relatively short time periods, and often to degrade in ways which unarguably threaten one's health, makes the role of disgust in the cultural classification of food as waste far more obvious than in many other fields of wasting.

While discussion — in interviews and more especially in focus groups — could result in relatively clear engagement with issues of food safety, more often than not food safety as a theme emerges in relation to other concerns and priorities, and more ethnographic methods quickly showed the limits of analytically distilling out insights into specific concerns, such as those around particular bacteria.

(Not) Wasting Food

Frequently, issues of food safety arose in relation to concerns which can be framed as concerns about 'waste'. Just as all respondents have boundaries that relate to acceptable safety, so too did these exist in relation to waste. Some respondents did recognise that they were perhaps more ready to waste food than is perceived to be desirable. Yet it can be argued that no respondent sees himself/herself as profligate. In one family, for example, a range of attitudes were expressed concerning waste. During his interview, Jonathan Anderson (38) stated that 'there's not many things that I would treat as worthy leftovers', but also

said that 'I never like putting it in the bin, I always quite like to pass it on to [parents] if they — you know they'll take anything, you know, a few bits of cabbage in a bowl (.⁴) completely different attitude'. However, during a tour of his kitchen, he drew the second author's attention ('Good timing — are you watching?') as he deposited a range of half empty jars of food into the kitchen bin. As suggested by Jonathan, his parents, Ted (66) and Laura (64), demonstrate a very different approach to food waste. Laura articulated this in terms of their having been children who grew up in the aftermath of the Second World War. During one of several observations of Ted cooking, the second author picked up on Ted's practices concerning waste-reduction. The following excerpt from her field-notes highlights how his practices are, to an extent, a legacy of those observed in his own mother's kitchen, and an acknowledgement of both different attitudes to, or motivations for, avoiding food waste within, and without, the family:

"Polly [daughter-in-law] doesn't mind wasting stuff". He says: "It's not a big concern. Waste is a negative state. There's waste that's technically useless, and waste that's wasting stuff". I mention Jonathan's thing about passing on bits of cabbage and Laura joins in: "We'd be cross if it gets thrown away". (Fieldnotes)

What the example of this extended family illustrates, through both the changes in relation to food and its value over generations within a family and the intergenerational tensions that result, is the profoundly contextual and pragmatic contingency of categorising matter as waste. As emphasised by recent scholarship on waste (Hetherington 2004, Gregson *et al.* 2007, Evans 2012), matter becomes waste through the moment of disposal rather than as a consequence of its innate material properties. There is no stable, universal line differentiating matter which is food from that which is waste. Rather, matter crosses that line, turning from food to waste, as a result of the convergence of diverse concerns and pressures, including of routine, anxieties, care, time and space. These convergences come across clearly in the different ways in which our respondents negotiate the tensions that arise around date labels on food.

⁴(.) Indicates a short pause or hesitation; (...) indicates a longer pause; () indicates an indistinguishable utterance or uncertain reading.

Negotiating Food Date Labels

Date labels can be understood as innovations to fill gaps of trust, responsibility and control in increasingly extended food production chains. This was implicit in a focus group discussion between older people. In turning to use-by and sell-by dates, one participant pointed out that 'our mother's didn't have 'em'. The discussion went on to recognise the different routes through which food was acquired: 'they didn't have them pre-wrapped. You went to the proper butchers and you knew that food was alright'. As situations of purchase and consumption have become ever more remote from locations of production (Ilbery and May 2005, Renting *et al.* 2003), with industrial supply chains opaque to consumers, retailer practices, consumer confidence and food safety concerns have increasingly required technological intervention. Over time, date labels in the UK became stabilised, with 'use-by' dates applied to foods with limited shelf life and which are potentially hazardous to health when degraded; 'best before' dates to indicate when qualities of a food product may begin to deteriorate; and 'sell-by' — later 'display until' — dates enabling retailers to manage stock. Collectively, these date labels offer 'mediation of anxieties through a bundle of texts [and] materials' (Milne *et al.* 2011, p. 186), a simple technology attempting to intervene in practice to enhance both confidence and safety. They seek, in effect, to redistribute responsibility, away from the direct relation between consumer and retailer and, more crucially, away from the consumer and their capacity to assess the safety of food through direct sensory engagement. Responsibility is instead assumed by institutional processes of risk assessment and knowledge production.

Our fieldwork certainly found instances where date labels were effective in shaping consumer practices. For example, one woman stated that when she sees a use-by date 'I take that it that there's something in there that can go off and make you sick, and I tend to pretty well stick by use-by dates' (Mary Green, 67). Elsewhere, a rural focus group participant, Marie (42), protested that:

... my daughter [aged 11] is absolutely obsessed with sell-by dates ... everything she eats I see her check it ... "Have you checked the sell-by date?", "Yes". "Mum you put some crisps in my lunch box today,

they were out of date, I could have eaten some" [laughs].

To fulfil their function of communication to consumers, and through that communication to shape practice, date labels have to be simple, clear and certain. Indeed, in order to shape practice in diverse locales, they have to have properties of what Latour (1987) terms 'immutable mobiles', in that they have to carry stable and transparent meaning in order to influence action across space. Date labels accomplish this with the clear indication of a single day date, leaving a minimum of space for the label reader's interpretation. The didactic certainty of the date label, together with its opaque institutional origins, are part of what causes many of our respondents to resist the discipline implied by use-by dates, and the redistribution of responsibility they represent. Our interviews and observations revealed some of the complexities and contingencies which lie behind a recent survey finding that only 25% of respondents considered the use-by date a primary way of telling whether food is safe to eat (Prior *et al.* 2011).

Some respondents see food dates as cynical manipulations. Eighty-five year old focus group participant, Bert, for example thinks they are 'a manufacturer's gimmick', while Carmen (38), a pregnant mother taking part in a discussion with mothers of young children, said she thinks date labelling is a mechanism to 'have you back in the shops' and that shops are 'preying on your insecurities in looking at use-by dates'. Others place date labels in broader patterns of the state assuming responsibilities on behalf of its citizens. Farmer's wife Marie blamed what she saw as the reliance of young people on date labels on the emergence of the 'nanny state' and children's reliance on guidance from above.

This is not, however, to suggest that any of our respondents would entirely ignore use-by dates. Rather, the dates are one piece of information assimilated alongside many others in assessing whether something is still food, or has become waste. Through their own experience of working with and eating food, people know that foods change gradually, and according to a wide range of factors concerning the ways in which they are stored. For some respondents, the idea implicit within the label — namely, that someone in the production process can fix a future time at which a food turns to waste — is not credible in the face of their experience of working with food. For

example, contributing to a discussion among malehouse-sharers, one participant, Steve (30), expressed cynicism regarding the processes by which date labels are produced:

... first of all, who decides? I refuse to believe that it's always exactly the same period of time from slaughter to being packaged when they presumably print the date on it. They might keep really close records of it, but I doubt it. Surely, all like different meats are gonna ... different pieces of the same meat, are gonna, er, from different animals, are gonna age at a different rate, and then there's all the factors of how it's stored, what temperature it's stored, how long it's (...) left, not in the fridge when it arrives, you know, there's so many factors.

Resistance to the institutional imperative implicit in use-by dates can have a variety of sources, but one which emerged as fundamental is the conflict between that imperative and people's antipathy towards wasting food. This tension emerges clearly when people reflect on what goes on in those moments when matter is assessed to see if it is still food. For Jonathan Anderson:

I mean the one thing we're probably guilty of is ... throwing stuff away because it is very obviously just, nothing to do with the date on the pack, it's fresh stuff that's, a bag of herbs that haven't got used that's black in the bag, and so it gets thrown away for that reason. (...) I suppose things that typically we end up 'umming' and 'aahing' about, things like (.) half pots of crème fraîche, opened packs of ham where they're "once opened eat inside three days" ... Packs of cheap arsed ... ham, and I'm usually more inclined to smell and look (...) sort of trust my senses a little bit. Things like cream I tend to be a bit funny if it's (...) like been opened (...) it's not so much the date it's this "Once opened consumed within". I'm a bit of a sucker for that.

What comes across first here is some sense of guilt ('the one thing we're probably guilty of') about wasting food. More generally, this statement reflects the process of tacit reckoning that consumers practice during which direct sensory evaluation ('I'm more inclined to smell and

look ... Sort of trust my senses a little bit') is negotiated together with formal information (like 'the date on the pack' and the 'once opened ...' guidelines). These different modes of assessment, along with issues of institutional trust, are negotiated together differently depending on the specifics of the situation, including the specificities of the foodstuff itself.

Exploration of the ways in which people follow, use and resist date labels thus reveals a seemingly innate resistance to wasting. The desire to keep food as food rather than consign it to waste is a major factor which pulls people away from following the discipline of use-by dates. However, this resistance to waste itself requires interrogation.

What Stops Food Crossing the Line?

I don't like wasting food ... it annoys me when I have to throw stuff away 'cause firstly, I've wasted my money on it, and second of all you've just, just (...) I've, I've had, I don't know, I don't like wasting stuff.

Andy (24) is not unusual in finding it difficult to articulate his resistance to wasting food. Across different research encounters, this resistance is generally found to arise from the convergence of a number of different concerns. However, even where respondents were articulate about their relations to wasting food, these different concerns rarely connect at all with the global environment. Not one respondent brought up the greenhouse gas emissions that result from consigning food waste to landfill. None explicitly connected the disposal of food with the material resources that it took to get the food grown, processed, packaged and transported. While a few identified enduring guilt from childhood admonishments about starving children in other parts of the world, most concerns seem closer to home. Rather than an expression of global citizenship, resistance to wasting food is primarily rooted in *thrift*.

Thrift is concerned with responsible and conservative use of resources. As Miller (2001) argues, thrift is a ubiquitous characteristic of shopping, as part of the performance of care and responsibility for the household. So, part of what keeps food from crossing the line is simple household economics. Food uses up finite supplies of money; as in Andy's clearest articulation, 'I've

wasted my money on it'. Time can be as finite as money for a household, and provisioning food takes time and is often fitted into people negotiate their days. It seems reasonable to suppose that food is much less likely to be consigned to waste when the food in question is an essential component in the only meal that presents itself as possible from what happens to be in the fridge and cupboards that night.

Beyond pragmatic concern for time and money, there is ample evidence, too, of a sense of responsibility to food itself. Laura Anderson, for instance, was articulate about her aversion to wasting and identified its roots in her own childhood experience of relative scarcity:

... the idea of wasting ... I mean that's like a thread right through from you know, being a kid after the war, you just didn't waste anything. It's always like a big worry about food, in terms of food hygiene, it's the idea of not letting your food go off 'cause then you'd waste it.

Her husband Ted explained his own mother's hatred of waste as a result of material necessity in the face of scarcity: 'the reason she did it is because she had to stretch food out'. However, recognising that his own affluence means there is no scarcity, he identified his own resistance to waste in a more general sense of responsibility: 'the reason someone like me does it is because this stuff's precious, it shouldn't be thrown away. It's been grown and nurtured and cooked.'

For others, these different forms of responsibility — for money, time and the food itself — are expressed more through the satisfactions they find in the skills of *doing* thrift. In one focus group, Carmen readily articulated her approach to effective planning and shopping to ensure sufficiency without surplus, and of avoiding waste by preparing 'make do' dishes with leftovers — 'turning something into some other dish ... like bubble and squeak'. She talked about her confidence in preparing meals 'from scratch', but acknowledged that not everyone has the time or the confidence to do that. Joe Green (45) talked of his regular Monday risotto-night, with the defining ingredients of the risotto determined by what was left over from the Sunday roast. Observation led our research into more esoteric practices of keeping food stuff as food, when it might easily cross the line to become waste:

While photographing the interior of [Ted and Laura Anderson's] fridge I spotted what appeared — to me — to be a bit of scabby orange peel. When quizzed about this, he said, it was 'free rubbish' and produced a jar of something even scabbier looking, explaining that he dried orange peel in the oven to produce this intensely citrusy, crisp snack which tasted 'wonderful' dipped in chocolate. He said that he liked to put it in with his coffee beans, infusing them with its flavour. However, its principal use was as an ingredient in meat-based Moroccan dishes, in which the peel would help bring out the flavours of the meat. (Fieldnotes)

So, participants spoke of, or enacted, different ways in which they maintained an acceptable limit to the amount of food they wasted. Specific routines and techniques had evolved within the rhythms of their own lives that enabled them to police the line between food and waste, and to minimise what crossed it in order to fall within their own acceptable limits. Forms of thrift with food, whether expressed through classic home economics of planning and stock control, or through culinary adventurism, emerge as ubiquitous to domestic food consumption.

This finding clearly contests the implications of careless profligacy that follow from the stark statistics of household food waste (Evans 2012) and connects debates about food waste to broader debates about consumption and profligacy. Over recent years, a range of researchers have found an ethics of care towards consumer goods that undermines characterisations of a 'throwaway society' (Watson 2011, Lane and Watson 2012). These studies have focused on durable consumer goods, such as the care people take to pass on rather than dispose of possessions like furniture (Gregson and Crewe 2003, Gregson *et al.* 2007) or for the longevity and after-life of white goods (Cooper 2005). Finding the practices of responsibility and thrift amongst our own research participants indicates that the ethics of care towards materials extends from durable goods to the troublingly mutable matter of food. However, research undermining easy narratives of profligacy and disposability has to confront the stark statistics that give rise to those narratives. If people care so much about food — as shown through their

resistance to following the date label, or in their satisfaction in their skilled management and use of food — then how come so much is thrown away?

How Food Becomes Waste

As Miller (2001, p. 198) makes clear, there is no necessary alignment between impulses of thrift and concern for the global environment and future generations. Evans (2011b) draws out how thrift does not provide restraint on total resource consumption, but instead frees up resources to enable further consumption. This is not, however, to suggest that thrift does not have its own morality, as excavated by Lucas (2002) through an historical perspective on the productive tension between moralities of hygiene and thrift from the nineteenth century. Clearly, the practices of thrift represented by our participants are not a direct translation of public and policy discourses about food waste and its consequences for global environment and food security. Rather, they are enactments of a combination of concerns — from pragmatic conservation of household time and money to a culturally-embedded sense of responsibility to the food itself — which are situated within the mess of practices and routines through which food provisioning is accomplished within a household. This ongoing accomplishment demands coordination of complex flows and relations between foods, products, technologies, skills, meanings, values and purposes, all within the spatial and temporal conditions of people's lived days. Incorporated in this, concerns like thrift, or indeed food safety, are subsumed within and subordinated to a more fundamental ethic: that of responsibility to and care for self and immediate others (Miller 1998, Meah and Watson in press).

Hannah Faulkner, mother of two young daughters, gave a strong sense of how provisioning practice is pulled in conflicting directions as she talks about food and waste:

Well I compost food and I, and I try to look in the, in the fridge to see what we've got and make meals around what we've got and use leftovers, but again because everything is so, there's so many compromises when I'm trying to compromise between doing something else for the kids, healthy food, whatever. Ideally I would like to not waste any food but sometimes if it's, if it's the choice between erm, thinking "Oh actually I

haven't got time to cook that particular vegetable that I've bought, I've ran out of time to do it", well actually it'll just have to go to waste because something else is more important. So in an ideal world I wouldn't waste anything but, I am aware that I probably do waste things because I'm trying to, because it's part of the compromise.

Hannah conveyed how food becomes waste within the specific flow of doing, and shifting distributions of time, risk and responsibility. Her aversion to wasting is over-ridden in a process of compromise where, so often, 'something else is more important' in the context of getting the family fed in the midst of the rest of life. As Evans (2012) showed from his ethnographic work with south Manchester householders, food waste emerges from the intersection of 'time, tastes, conventions, family relations and domestic divisions of labour' within 'the material context ... of domestic technologies, infrastructures of provision and the materiality properties of food itself' (12).

As matter becomes food through practice (Roe 2006), so matter that is food becomes waste through practice. This is not to say that the processes through which food is recategorised as waste are somehow solely cultural, purified of the role of the matter itself. As contemporary theorisations of practice make clear, materials are constituent parts of practices (Shove *et al.* 2012). With food — more than with most materials that households consign to waste streams — the very properties of the materials plays a clear role. Food degrades over time, often with clearly sensible changes to the material itself, such as when mould and putrefaction take hold. For Roe (2006), the stuff of food, its form and affordances, have an active role to play in the situations of purchase, preparation and eating through which it becomes food. Bennett (2007) places still more emphasis on the relational agency of the vital materials of food in eating and ingestion. Consideration of the processes and practices which result in food becoming waste, particularly when considered alongside considerations of food safety, therefore, shows that the matter of food plays an active role in its own status, not least through the changes it does and can undergo.

Conclusion

The dynamic material properties of foodstuff are only one component of the moments in which food becomes waste. Through exploring the tensions between concerns for food waste and for food safety when translated to domestic practice, it has been made apparent that food becomes waste through the convergence of diverse relationships in the flow of people's days. Food waste is in this way the fallout of the organisation of everyday life. The location of practices of household food provisioning within broader patterns and rhythms through which everyday life is accomplished can easily work to displace enactment of concerns to avoid waste.

On one hand, the message from this research for policy interventions intended to reduce food waste is bleak. Interventions aimed at raising consciousness about the social and environmental impacts of food waste, for example, cannot hope for much purchase when the production of that waste is an almost inherent part of the complex processes of coordination through which a household is kept well fed. On the other hand, this research adds to the growing evidence for the value of contemporary academic debates around food, waste, materiality and practice for better understanding policy issues rooted in the detail of the organisation of everyday life. It does so by bringing to light different potential points of intervention in pursuit of reducing food waste.

Whilst our research suggests that campaigns emphasising issues of environmental responsibility have limited potential for reducing food waste, a strong finding from our research is the presence of an innate resistance to wasting food as an expression of an ethic of thrift. While thrift remains as a seemingly ubiquitous feature of food consumption, the practices which constitute thrift are clearly reshaped by the relatively low necessary costs — in terms of share of income and demands on time — of acquiring food in historical perspective.⁵ This aspect of the collective

⁵ While recent years have seen substantial food price rises, in historical terms food is still very cheap in the UK as a proportion of household income; Zuke (2012) estimates that, in 2012, food was 13 times cheaper than in 1862, thanks to both production changes and rising incomes. The time needed for the process of provisioning has in principle reduced over the decades thanks to changes to systems of provision (rise of supermarkets, of chilled and frozen supply chains and

organisation of daily life interacts with broader restructuring of the temporal ordering of daily life (Shove 2003, Southerton 2003) and of changing divisions of labour that have resulted in a growing sense of fragmentation of time and demands of coordination in the accomplishment of daily life. Consequently, there is often 'something more important' than the feats of planning and coordination required to manage the flows of food and feeding through the home which would be required to at once perform adequate levels of care for self and immediate others while eliminating 'avoidable' food waste. Just how these demands play out in any kitchen depends on specific contextual factors, of time, household composition and divisions of labour, space, technologies and more. Nevertheless, thrift has been apparent in our respondents' talk and actions. While not generally framing their reasons within the themes of climate change or food security which drive governing interventions into food waste, people are nevertheless averse to wasting food.

This then suggests a different focus for interventions to reduce food waste, through seeking opportunities to enable people to enact thriftiness. It has not been unusual for our respondents to speak with some satisfaction about their skills in canny or thrifty food consumption, emphasising the role of competence and skills as part of what is required to reduce the frequency with which food becomes waste. Rather than sharp interventions into people's knowledge and attitudes, policy interventions to reduce food waste are better understood as means of changing the social and cultural gradients that come together to determine whether or not stuff ends up sliding over the line to become waste.

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technologies, convenience foods, etc) and domestic technologies (including microwaves and freezers).

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