

Rethinking material cultures of sustainability: commodity consumption, cultural biographies and following the thing

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This paper advances geographical perspectives on household sustainability by extending the range of insights from consumption scholarship that are brought to bear on the issue. Research that links consumption to the dynamics of variously sustainable practices currently dominate, resulting in a particular and partial reading of material culture. I suggest that geographical approaches to the social life of things may yield new insights into materiality and household sustainability. Specifically, I argue that ‘following the thing’ – which is typically focused on commodity chains – could usefully be extended into people’s homes. This is not introduced as a way to acknowledge the connections between points in a network, rather, it is positioned as a set of theoretical and methodological resources that can be utilised to explore the movement and placing of things as they move through a critical juncture – in this case the household. To illustrate, I present material drawn from two empirical studies of households in the UK. The first is an ethnographically-informed study of how food becomes waste; the second is a quantitative survey of laundry habits. Attention is paid to the ways in which the ongoing categorisation and valuation of things shape their trajectories and move them in directions that give rise to (adverse) environmental impacts. To conclude I sketch out an agenda for future studies, consider how a focus on households can yield more comprehensive biographies of things, and address the implications of this analysis both for consumption scholarship and for engagement with sustainability research and policy beyond human geography.

Key words food; household sustainability; laundry; material culture; practice; consumption

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Introduction

Activities that are associated with the patterning and experience of everyday life – such as cooking and eating, heating and cooling our homes, cleaning our bodies and clothing, and commuting to work – are well understood to carry significant environmental burdens. Many of these activities, although by no means all of them, take place in people’s homes and as such, the household has emerged as ‘a crucial scale of organization for pro-environmental behavior’ (Head *et al.* 2013). Policies for environmental sustainability are increasingly focused at the scale of the household and there is a burgeoning body of research that engages critically with this tendency in order to develop social scientific accounts attuned to the complexities and nuance of household dynamics (Davies and Doyle 2015; Gibson *et al.* 2011 2013; Lane and Gorman-Murray 2011a). This paper brings together two strands of research – namely ‘following the thing’ (see Cook 2006) and accounts of consumption that derive from

theories of practice (following Warde 2005) – in order to propose and illustrate a research agenda that extends geographical perspectives on household sustainability. The approach put forward is intended to generate new insights into processes of consumption at the scale of the household while also recognising that this ‘meso level’ (Reid *et al.* 2010) unit connects to and articulates broader moral and political economies (cf. Jackson *et al.* 2009).

The starting point for this paper is the observation that the household is now frequently approached as a site of consumption (cf. Miller 2001), and that these associations ring true in sustainability research and policy – most notably as a response to the emergence of ‘sustainable consumption’ as a named field. As David Graeber points out, ‘those who write about consumption almost never define the term’ (2011, 491) and this lack of clarity is particularly pronounced in discussions surrounding the environmental impacts of household consumption and everyday life. Approaches that are informed by theories of practice dominate and one of

the key ideas here is that ‘consumption is not itself a practice but is, rather, a moment in almost every practice’ (Warde 2005, 137). When this insight is extended to questions of environmental sustainability it leads, perhaps tacitly, to the conclusion that virtually every practice involves a ‘moment’ of resource consumption. The problem here is less one of defining what consumption is than defining what it is not. It is not my intention to fully resolve this conceptual slippage here, rather, I flag it up to signal the importance of bringing a greater range of insights from the geographies of consumption to bear on questions of household sustainability.

Whilst the geographies of consumption are wide ranging (Mansvelt 2008), this paper zooms in on approaches that are concerned with commodities and the social life of things (cf. Appadurai 1986; see Crang *et al.* 2013; Gökarkınel and Secor 2010; Gregson *et al.* 2007). Specifically, it considers the idea of ‘following the thing’ (Cook 2004 2006), which is typically deployed as a way of revealing or telling the stories that lie behind the commodities that people consume in their everyday lives. My central claim is that this approach could usefully be extended to encompass a focus on how things move through domestic spaces, in turn generating insights into household sustainability that might be missed by wholesale orientation towards practice. In making this claim, two important precursors must be acknowledged. First, I am taking a cue from recent work on the geographies of household sustainability (for example, Gibson *et al.* 2013; Lane and Gorman-Murray 2011a) in which ‘following the thing’ is presented as a way of acknowledging that households, their internal dynamics and the practices of everyday life are ‘part of, and a product of, a network of connections’ (Head *et al.* 2013, 352). I completely agree with this relational approach and the idea of the ‘connected household’ (Gibson *et al.* 2013; Head *et al.* 2013) at a conceptual level, however the analysis that informs this paper takes the approach of suspending and isolating the household in order to follow things as they move in, through, and out of it. This brings me to the second foundation on which I am building – research that extends Appadurai’s (1986) work on the social life of things to the geographical study of consumption (for example Jackson 1999) and the material culture of the home (for example Gregson and Crewe 2003). This work does not explicitly or ostensibly concern itself with animating household sustainability (cf. Lane and Gorman-Murray 2011b), however it provides inspiration for doing so.

This paper proceeds as follows. It begins by reviewing key approaches to household sustainability, consumption and everyday life before introducing the idea of ‘following the thing’ and making the case for its extension into people’s homes. To illustrate the

potential of this approach and some of the insights that it yields, I present the findings from two empirical studies. The first is an ethnographically informed study of household food waste; the second is a study of clothing and domestic laundry. The discussion draws out a number of crosscutting themes and signals how these ideas might be mobilised in future studies of household sustainability. Given that the bulk of the analysis suspends and isolates the household in order to study the empirical detail of things and their trajectories, the paper concludes by re-connecting the household. Attention is paid to how a focus on the household extends the already well-established tradition of following the thing by creating much more comprehensive object biographies, and how this in turn creates space for engagement with consumption scholarship and sustainability agendas outside of human geography.

Sustainability, consumption and everyday life

This section considers approaches that are proving influential in the literature on households, consumption, sustainability and everyday life. First, there is a growing body of work that links and addresses these issues through reference to the organisation and dynamics of ‘social’ practices. Taking a cue from the ‘practice turn’ in social theory – particularly the work of Theodore Schatzki – this perspective (henceforth referred to as ‘sustainable practices’) is most readily associated with a number of landmark contributions from Elizabeth Shove (2003) and colleagues (Shove *et al.* 2012). Whilst developed largely outside of geography, it has influenced the ways in which geographers have engaged with questions pertaining to sustainability and everyday life (see for example Hitchings 2010 on climatically controlled indoor environments; Watson 2012 on transport and mobility; Walker 2014 on energy demand; Jackson 2015 on food anxieties; Browne 2016 on water use). Practice theories are multiple, however, they share a common ontological commitment to the view that practices – rather than individuals, social structures or discourses – are the fundamental building blocks of ‘the social’. Definitions of what a practice is vary, but there is consensus that they are recognisable and intelligible bundles of ‘doings and sayings’ that encompass practical activities and their representation (Warde 2005). Further, they take the form of routinised behaviours that are carried out by individuals without too much in the way of conscious deliberation.

As an approach to sustainability, these ideas provide an important corrective to individualistic and voluntaristic explanations of environmentally damaging behaviours. The shift from individual behaviours to shared social practices is more than semantic insofar as it entails a move away from the psychological factors that lie

behind choices in favour of a focus on the collective development and reproduction of what are understood to be normal ways of life. Put another way, activities that are thought to be environmentally unsustainable – such as showering at least once a day and eating meat several times a week – are remarkable by virtue of their being unremarkable. At issue, then, are processes of normalisation and recognition that practices are configured by the integration and alignment of disparate and heterogeneous elements. Even the most parsimonious and frequently invoked typology of elements (objects, meanings, competences – see Shove *et al.* 2012) acknowledges the importance of materials, and so research in this tradition is unquestionably more-than-human. I wish to suggest, however, that it offers a particular and partial reading of material culture, at least as it relates to processes of consumption.

To elaborate, the practice turn in social theory has been as influential in the development of consumption scholarship as it has in sustainability research and policy (following Warde 2005). Of particular note is Warde's aforementioned recommendation that consumption is viewed as a 'moment' that arises in the course of performing and participating in social practices, and meeting the shared requirements of normal and appropriate conduct. It follows that the importance of materials relate to their role in configuring the practices for which consumption occurs. For example, patterns of food consumption might be explained by the role of domestic technologies, or the consumption of washing powders by the existence of energy and water infrastructures in the home. Materials, specifically commodities, as the object of consumption appear to be of secondary concern. From a slightly different angle, research in the sustainable practices tradition stresses that people do not consume resources *per se*, rather they consume the services that they provide (cooking, laundering). The emphasis on service provision and the technologies that consume resources (microwaves, washing machines) makes perfect sense in relation to the inconspicuous consumption of energy and water, however, it has seemingly necessitated the exclusion of commodity consumption from academic debates about household sustainability. This research also places at least some emphasis on the biographies of objects and, as will be seen, these are a hallmark of commodity studies that follow the thing. This apparent contradiction can be explained by noting that the use of this technique within the sustainable practices canon tends to emphasise the co-evolution of technology and society (Shove 2003) in order to trace the historical biographies of things. The trajectories of commodities as they relate to processes of consumption unfolding in real time remain of scant concern.

The second cluster of work to be addressed sits at the intersection of material geographies and cultural

environmental research, and is most readily associated with Chris Gibson, Lesley Head and colleagues (for example Farbotko and Head 2013; Gibson *et al.* 2011 2013; Head *et al.* 2013 2016; Waitt and Phillips 2015) as well as a number of contributions to Ruth Lane and Andrew Gorman-Murray's (2011a) edited collection *Material geographies of household sustainability*. Starting from the observation that the household is a scale that not only makes sense to policy-makers as a site of government intervention, but also to the people who live in them; this research explores the relationships, emotions, meanings, materials and practices that are involved in the creation and maintenance of the home. Further, attention is paid to diversity across households as well as the tensions, contestations and trade-offs that exist within households *vis-à-vis* patterns of resource use and the challenges of fostering greater sustainability. In doing so, these wide-ranging studies shed new light on the 'missing scale' of the household and trouble many of the normative assumptions that are made in public and policy debates about household sustainability. This work is impressive in its efforts to re-orientate debates about policy and practical intervention by emphasising the multiple networks, scales and relationships in which 'the household' is embedded.

As with sustainable practices research, materials are absolutely central to these accounts of household sustainability. In many ways, they take a much broader approach to 'things' insofar as they attend, at times, to processes of commodity consumption (Gibson *et al.* 2013) and have a strong interest in consumption as it relates to the material culture of the home (Dowling and Power 2011). Notably, this work engages explicitly with the idea of 'following the thing', both in terms of signalling its potential to animate understandings of household consumption (Lane and Gorman-Murray 2011b) and claiming to adopt this approach (Gibson *et al.* 2013). As noted, this idea is mobilised largely at a conceptual level insofar as material flows bring the connections between the household and wider systems of provision into focus. What this work does not do (nor claim to do) is take the methodological and analytical approach of isolating the household and then following the trajectories of things as they move through it. As one of the contributions to Lane and Gorman-Murray's collection points out: 'material flows within households and their environmental impacts remain poorly understood' (Horne *et al.* 2011, 89). This is precisely the gap that this paper is intended to start redressing. Before getting to this, it is necessary to review the idea of 'following the thing' in more detail.

Follow the thing

Following the thing (Cook 2006) needs to be understood in the context of wider debates concerning the

social life of things (Appadurai 1986). Put briefly, the idea here is that objects move in and out of the commodity phase – where they are defined by their economic value and exchangeability – hence they have a biography. These biographies are cultural (Kopytoff 1986) insofar as objects are not only made materially but also discursively, that is, as particular kinds of things. The conceit that things have a social life in much the same way as persons relates to the suggestion that they circulate through regimes of value. For example, they might move from being objects of economic value and commercial exchange one moment to being appropriated as objects of sentimental value that are unlikely to be for sale the next. Appadurai's suggestion is that studying 'things-in-motion' can illuminate their 'human and social context' (1986, 5). These ideas were influential within social and cultural geography from the mid-90s onwards amid calls to 'rematerialize' the (sub)discipline(s) (Jackson 2000). Unsurprisingly, the geographies of consumption proved particularly fruitful in light of these developments. Of particular note is Nicky Gregson and Louise Crewe's work on second-hand consumption, in which they demonstrated that objects 'have both a use and an exchange value that extends well beyond the first cycle [...] that open up extensive biographies in things that are not just historical but *geographical*' (2003, 2; emphasis added). The geographical approach to the biographies of objects stands in contrast to the more historical approaches that underpin the ways in which the extant literature on household sustainability engages with these ideas.

Returning now to the more specific approach of following the thing, it was proposed by anthropologist George Marcus (1995) as a strategy for doing 'multi-sited' ethnography. Within geography, the approach relates to the idea that disparate and global spaces converge in the commodity form. There is often an implicit assumption that commodities obscure 'the intricate geography of production and the myriad social relationships embedded in the system' (Harvey 1990, 422). Follow the thing asks questions about the people, places and relationships that lie behind the goods and services that people consume. It represents a way of analysing connections (cf. Jackson 1999), unveiling exploitative relationships or defetishising commodities (cf. Cook 2004), and interpreting the emergence of 'alternatives' (for example Fair Trade networks) to global consumer capitalism (cf. Bryant and Goodman 2004). Common to all is the ambition of reconnecting producers and consumers, which in turn poses certain questions about the direction in which things are followed. Existing studies typically work backwards from the commodity in order to investigate what happens before it is acquired and appropriated in processes of consumption. More recently, there have

been a number of studies that follow the onward trajectories of things beyond the first cycle of consumption (Gregson *et al.* 2010b) and Andrew Brooks' (2015) recent work on clothing poverty is an excellent example of work that explores both manufacturing and recycling.

What is missing in all of this is the bit in the middle. As Ian Cook (2006) points out, most studies that follow the thing tend to stop short of or 'fudge' their engagement with 'the consumer'. Indeed, very few studies 'cross the threshold' (cf. Bulkeley and Gregson 2009) to follow things into people's homes. The central claim in this paper is that follow the thing could usefully be taken elsewhere and extended to encompass a focus on household consumption. In order to demonstrate the potential of these underutilised theoretical and methodological resources, the analysis below presents two empirical illustrations: the first is a study of how food becomes waste as it passes through the household, the second a study of how clothing and other items are laundered in domestic space. Detailed, different and overarching discussions of these studies and their findings are offered elsewhere (see Evans 2014; Yates and Evans 2016) and so, for reasons of brevity and clarity, the empirical materials are presented here in summary form. The unique contribution of this paper is to bring these studies together, draw out a number of crosscutting themes, and establish an agenda that extends geographical perspectives on household sustainability and consumption. In each case, I take the approach of isolating and suspending the household in order to follow things as they pass through it. Doing so clearly breaches the connected household framework (Gibson *et al.* 2013; Head *et al.* 2013), but this should be viewed as a methodological and analytical tactic rather than dissent from the conceptual position. Where 'follow the thing' is a useful way of exploring the connections and flows between points in a network (and by my reading, this is how it is utilised in the connected household framework), it is underdeveloped as an approach to exploring the movements of things within a particular node. The analysis that follows is intended to tap this potential but in full recognition that the insights that it generates must eventually speak back to the connected household framework.

Food/waste

Concerns around the origins and consequences of food waste¹ are firmly ensconced as a matter of political and cultural fixation. Responses to the issue in the UK have largely focused at the 'end of pipe' (Alexander *et al.* 2013), meaning that the bulk of attention has focused on reducing waste at the scale of the household. This section presents an account of the processes that give

rise to household food waste. The research that informs this account looked beyond the isolated act of wasting food in order to situate it in relation to broader processes of household food provisioning (planning, shopping, storage, preparation and eating).

In order to develop this account, I took food (rather than individuals, households or domestic technologies) as my primary empirical focus and conceived of the fieldwork in terms of exploring the trajectories of 'stuff that is food' as it moves into and through the household *en route* to becoming 'stuff that is waste' (cf. Watson and Meah 2013). Practically, this involved sustained and intimate contact with the residents of 19 households (53 respondents in total) located on two streets in Manchester² throughout 2009 and 2010. I adopted a range of methodological techniques, including repeat in-depth interviews with multiple household members, 'hanging out' in participants' homes and neighbourhoods, and discussing and observing their food practices *in situ*. The emphasis was on methods – such as cupboard rummages, home tours and fridge inventories – that placed foodstuffs at the centre of the empirical encounters. This allowed for a research design in which materials were used for their capacity to elicit talk insofar as they acted as prompts for respondents to discuss what they intend to use them for (a lasagne next Tuesday), the broader context in which consumption takes place (lasagne is the children's favourite) and to evaluate the items at hand (it doesn't matter if the tomatoes are a bit old since they are going to be cooked in a sauce). Importantly, I was able to follow these items – and their accompanying stories – over time, allowing me to piece together the biographies that accompany and animate their social life and death.

At a general level, the findings of this study are consistent with insights from sustainable practices research insofar as it suggests that waste is the fallout from people negotiating the complex and contradictory demands of everyday life (see also Watson and Meah 2013). Similarly, it is consistent with the material geographies of household sustainability insofar as domestic technologies (fridges, freezers, Tupperware) are shown to be complicit in the processes that lead people to waste food (see also Waitt and Phillips 2015). The factors that give rise to household waste food include: shared understandings of what it means to cook and eat 'properly' (the imperative to cook meals from scratch using a variety of fresh ingredients), the quantities in which food is made available by retailers (having to buy a packet of three peppers when only one is needed) coupled with the spacing and timing of grocery shopping (doing a 'big weekly shop' at a large out of town supermarket), relationships with significant others (for example, differences in taste within a household coupled with the enduring convention of the family meal), and unexpected disruption to

household routines (events that throw explicit or tacit plans to make use of foodstuff between shopping trips out of balance). The overarching point is that food waste cannot be viewed simply as a problem of consumer behaviour insofar as the practices that give rise to food waste at the scale of the household are configured by a range of factors beyond 'the individual'. For ease of reference, some of these can be categorised as 'material' (for example bins, domestic technologies, infrastructures of provision) and others as 'cultural' (for example tastes, conventions, time and relationships).

The approach of following the thing reveals a number of additional insights and modifications. Crucially, it reveals that stuff that is 'food' rarely crosses a line to simply and unproblematically become stuff that is 'waste', and that this ontological transformation needs to be understood in relation to multiple and complex movements. At a basic level food is physically and literally moved from the shopping bag, to the cupboard, to the chopping board, to the saucepan, to the plate, then back to the fridge, perhaps another shelf in the fridge or on to the freezer, and eventually, the bin. Following Hetherington (2004), I suggest that waste is a matter of placing insofar as 'waste' is not a property of things, rather, stuff that is (or was) 'food' only becomes 'waste' when it is placed in a conduit – the bin – that carries it in the direction of the waste stream. Allied to this, the trajectories of foodstuffs are characterised by a number of blockages and very often, these blockages prevent food from moving in directions that would save it from wastage. While there exist multiple conduits (Gregson *et al.* 2007) that households can and do make use of in order to move food along and extend its social life, these data suggest food that is surplus to the perceived and immediate requirements of household consumption is unlikely to be released from the home other than through the bin.

In order to make sense of these trajectories, my analysis of these data focused on the movement of food between different cultural categories, hierarchies and 'regimes of value' (cf. Appadurai 1986). Households engage in ongoing processes of separating the raw from the cooked, the edible from the inedible, and the clean from the unclean (cf. Douglas 1966; Lévi-Strauss 1966). It follows that food might move from a raw ingredient, to being cooked and combined with other foodstuffs, to the leftovers from a meal occasion, to being no longer edible and placed in the bin. Importantly, these processes of categorisation and valuation were found to shape the movement and trajectories of foodstuffs and ultimately, their wastage. For example, when food is 'surplus' (cf. Gregson *et al.* 2007) it has the potential to be re-categorised as 'food' and to realise its use value. However if surplus foodstuffs become categorised as risky or dirty, then it becomes difficult to imagine a set of circumstances that could extend their

social life. At this point they slip into the category of 'excess' and are unlikely to be moved along (cf. Gregson *et al.* 2007). The designation of food as dirty can relate to microbial risks and the potential of food that has 'gone bad' to make people ill. It can also relate to food's capacity to betray very private household relationships and identities insofar as recirculating it runs the risk of opening up one's taste and culinary competence to public scrutiny. In both cases, these anxieties prevent food from moving beyond the threshold of the home and assist in directing it to the bin.

Having noted that foodstuffs are acted on – materially and discursively – by households, it is important to also acknowledge their capacity for self-transformation. This is helpful in understanding the movement from 'surplus' to 'excess'. Many of the surplus foodstuffs encountered in this study went on to end up as waste, but they were rarely placed immediately in the bin, rather, their disposal was marked by an interim placing. Typically they were placed in the fridge (very often in Tupperware containers) in order that they might conceivably be eaten at a later, unspecified time. These uses were seldom actualised. The interim placing in the fridge can therefore be interpreted as creating a gap in disposal (cf. Hetherington 2004) in which households can quietly but actively forget surplus foodstuffs, allowing 'a respectable interval to pass' (Hetherington 2004, 170) before placing them in the bin. While held in the gap, processes of physical decay facilitate the slip from 'surplus' to 'excess' and so it becomes entirely normative to dispose of them through the waste stream. This suggests that far from just being the blank canvass on which social and cultural categories are projected, materials play an active and vital (cf. Bennett 2010) role in the processes through which they get categorised and evaluated in particular ways (for example the appearance of mould or a foul smell begets a view that food is no longer edible). By extension, they are complicit in configuring the very trajectories that shape their social life and death. The unstable and unbecoming materiality of food creates certain affordances in processes of household consumption, most notably by allowing people to assuage their anxieties about the act of wasting.

From a different angle, following things into people's homes necessarily breaks domestic activities down into their constituent parts (shopping, preparation, washing up). In turn, this introduces a useful caveat to any suggestion that domestic divisions of labour are becoming less gendered. Where many of the men in this study were contributing unpaid labour at particular points in an object's trajectory; women continued to assume a disproportionate amount of responsibility for the range of tasks associated with feeding the household. To illustrate, consider Heather and Phil, a married couple in their late 30s who at the time of

the study had recently moved to Manchester. The move was prompted by Phil's new job and when I first met them, Heather – who had previously worked part time – was taking a break from paid employment in order to focus 'on the house' and to help their two children (both under 10) 'settle in'. Phil expressed that he 'feels a bit awkward' about Heather 'taking on more of the cooking' than she did 'before the move' and to this end he progressively worked up to 'getting back to normal' and 'doing his share'. This, it transpires, involves the provision of meals that are relatively simple to prepare and are enjoyed by all members of the family. Examples include scrambled eggs with bacon for weekend breakfasts and ready-made pizza with salad for weekday evening meals.

Later in the study, Heather returned to part-time work and they agreed Phil would 'do a bit more' in terms of feeding the family. Having consequently assumed responsibilities for the 'big shop' each week, Phil concluded that he was now doing 'a bit more than half' and I was privy to several arguments in which Heather pointed out that this suggestion is 'ludicrous'. Without wishing to undermine Phil's efforts, the approach of following the thing reveals that Heather does indeed do a great deal more than Phil. Not only does she prepare more of the meals in any given week (including breakfasts and all packed lunches), she does the vast majority of other tasks such as cleaning and washing up. She also does all of the planning (including preparation of the list for Phil's big shop), keeps track of the food that the household has 'in stock', 'tops up' the shopping, manages expenditure and periodically 'sorts out' the fridge. Finally, the meals that she prepares tend to require more complex methods of preparation (such as 'cooking from scratch') as well as the emotional labour involved in navigating the preferences of 'fussy eaters' while taking care to ensure that her loved ones eat healthily and 'properly'.

Clothing/laundry

There are significant environmental impacts associated with the laundering of clothing and other household items (such as bedding and towels). These impacts occur throughout the lifecycle of laundry products (detergents, fabric softeners) and technologies (washing machines, tumble dryers), however the 'use phase' has been identified as an environmental 'hotspot'. In the UK, the use phase now arises in people's homes where once it took place in shared facilities such as launderettes (cf. Watson 2014). Laundry has been subject to multiple policy interventions and these are increasingly focused at the scale of the household. Interventions to improve the sustainability of domestic laundry include the development of more efficient (in terms of energy and water use) washing machines,

improvements in the performance of laundry products (for example detergents that clean effectively at lower temperatures), behaviour change initiatives that address the acquisition of these products and technologies, and efforts to change the ways in which households handle their laundry. Campaigns to encourage washing at lower temperatures are notable for their use of all these mechanisms.³

There is good reason to assume that this suite of measures is proving successful since the environmental impacts⁴ of domestic laundry appear to be going down. For example, the energy consumed by washing machines has reduced steeply since the mid-1980s and people appear to be washing at lower temperatures (Energy Saving Trust 2012). Despite these improvements, the energy associated with domestic laundry was twice as high in 2012 as it was in 1970 (Department of Energy and Climate Change 2013). Effectively, then, the gains brought about by washing at lower temperatures (and other measures) have been offset by broader trends elsewhere in the practice of laundering. There are a number of interrelated factors to be considered including: changing household composition, the diffusion of technologies, and a decline in the communal provisioning of laundry services. For reasons of brevity, the discussion here restricts itself to consideration of the reasons why more people are using their washing machines more often.

Taking a cue from the approach developed in the food waste study, the research that informs this analysis looked beyond the washing machine in order to focus on clothing and other items (rather than persons or energy services) and to follow their trajectories as they move through domestic spaces and regimes of value. Practically, this involved an online quantitative survey of household laundry habits in the UK in 2013 in which respondents (n=1502) were asked questions about their ownership and use of different products and machines, the separation of laundry items, how and when these different items are laundered, the various tasks associated with doing the laundry, and perceptions of dirt and cleanliness. The sample is skewed towards better-educated, white British, home owners and households without dependent children, and is limited by being self-selecting and reliant on respondents having access to an Internet connection. While the sample cannot be considered random or representative of the UK, these data are nevertheless copious, current and sufficiently detailed. I fully acknowledge that a one-off questionnaire that takes c.20 minutes to complete produces a very different kind of data to the ethnographically informed research discussed above. The rationale for presenting two different cases is to illustrate the diversity of methodological approaches that might be amenable to the task of following the thing.

One of the key claims to emerge from the extant literature on domestic laundry (following Shove 2003) is that people launder their clothing in order to meet the specific requirements (appropriate attire that does not look or smell dirty) for engaging in multiple and specialised practices (working, going out for dinner with friends). In this view, escalating washing machine use is understood as a result of the demand for clean clothing. Similarly, the emphasis that accounts of social practice place on the temporal organisation of everyday life (Southerton 2013) leads to the suggestion that people may do their laundry when they have the time and/or integrate it with other household chores. The approach of following the thing brings some interesting departures into focus. In response to the question 'which of the following arrangements would describe the times when your household does the laundry? Please select all that apply', just 15 per cent of respondents report doing the laundry because they need a particular item to be clean, and even fewer (7%) report doing it because they have run out of clean clothes. Similarly, just 26 per cent report doing the laundry 'when they have time' and even fewer (10%) report doing it around the same time as other household chores. In contrast, 58 per cent of respondents report doing the laundry 'when the pile is big enough or when the basket/bin is full'. This suggests that: (i) 'dirty' clothing becomes 'laundry' (items destined for the washing machine) as a result of *placing* (in the laundry basket or similar) rather than as a matter of scheduling and routine and (ii) it is the *supply of dirty clothes* rather than the demand for clean clothes that prompts washing machine use.

This invites questions about how things become categorised as 'dirty'. For certain types of laundry (day-to-day clothing and underwear), over 90 per cent of respondents put them 'in the wash' after wearing or using them a fixed number of times. This is consistent with existing accounts (for example Browne *et al.* 2013) that suggest the 'dirtiness' of certain items relates less to their being consciously evaluated as such than it does to the habit of washing them at specific intervals. For other types of laundry item (bedding, towels, sportswear), respondents report that they *do* consciously evaluate how dirty they are and there appear to be multiple definitions of 'dirtiness' at play here. These include the physical appearance of stains, things not smelling clean, and things feeling used or worn. This is consistent with well-established claims that 'dirt' is a contingent and fluid category (cf. Douglas 1966). The flipside of this is that the 'cleanliness' of laundered items relates more to a set of shifting associations than to the literal removal of tangible dirt and stains. The survey used a number of Likert items to explore perceptions of cleanliness and it is striking that fewer than 100 per cent of respondents (88%) agree with the

seemingly tautological statement that 'clean laundry is no longer dirty'. Equally interesting is that a similar number of respondents agree with the statements 'clean laundry is free of stains' and 'clean laundry smells like the products used in the wash' (close to three quarters of participants in each case).

The trajectory of clothing and other items, then, seems to be circular insofar as things get categorised as 'dirty' and 'in need of laundering' as a consequence of use. In turn, they are placed in the laundry basket or a pile on the floor, and when this is sufficiently full or large, these items enter the washing machine. They emerge from the washing machine as 'clean' and wet but in need of drying (and possibly ironing) before they can be categorised as 'having been laundered' and so ready for use again. Without disputing that the washing machine is a crucial juncture in configuring the trajectories of clothing and other laundry items, the approach of 'following the thing' suggests that the laundry basket is equally important. In addition to facilitating the passage of 'dirty' clothing into the washing machine, it appears to shut down the possibility of recovering clothing and other items or considering them 'clean' without first passing through a wash cycle.

Thinking now about the environmental performance of household laundry, it is important to acknowledge that there is some scope for variation in the very final stages of these trajectories. Responses to the survey found diversity across the sample in ownership and use of drying apparatus and arrangements (ranging from tumble dryers, through clothes horses, to rope and pulley devices) and variety within households (with just 18% reporting that they use a single method). This variation suggests a degree of antipathy, or at least ambivalence, towards tumble dryers that stands in stark contrast to the ubiquity of the washing machine in British households (85% of households have one and a further 12% have a washer-dryer). It also allows for speculation concerning the performative role of materials in processes of domestic laundry insofar as certain fibres (such as wool) do not respond well to heat. It seems credible that knowledge of these potential outcomes (and the attendant risk that 'laundry' may not be able to return to the category of 'clothing ready for use') may lead households to route the clean but wet items that they retrieve from the washing machine in other directions in order to get it dry.

Finally, following clothing through domestic spaces and breaking laundry into its constituent parts once again brings gendered divisions of labour into sharp relief. Whereas men appear to contribute their unpaid labour to certain tasks such as sorting and separating the household's laundry or putting items away once they have dried, the task of ironing remains heavily gendered, with 68 per cent of women (who do not live

alone) doing all of it themselves as compared with 26 per cent of men. Since the survey cannot offer any of the colour afforded by the ethnographic snapshot presented in the previous section, I take the liberty of returning to Heather and Phil, whose arguments about domestic divisions of labour touched on laundry as well as food. On one occasion, Phil and I returned to the house after a trip to the supermarket where Phil had purchased some new 'work shirts' as well as the grocery shopping. He pointed out their 'no iron' credentials to Heather with some relief and commented that he hates doing the ironing. At this point, Heather raises a knowing eyebrow but before she is able to voice the words implied, Phil counters that even though she does all the ironing; he does all the laundry. She quickly corrects him by pointing out that he 'only puts it in the machine and presses the button', whereas she does everything else.

Discussion

This paper advances geographical perspectives on household sustainability by extending the range of insights from consumption scholarship that are brought to bear on the issue. Starting from the observation that a view of consumption as a moment in social practice leads to a particular and partial reading of objects and materials, I have suggested that geographical approaches to commodities and the social life of things have the potential to generate new insights into sustainability at the scale of the household. The preceding analysis illustrates this potential alongside a selection of insights that are brought to the fore when the theoretical and methodological resources of 'following the thing' are extended into people's homes. A number of crosscutting themes can be picked out of these examples in order to orientate future studies of household sustainability.

First, efforts to understand environmentally significant activities and the sustainability impacts of household practices could usefully attend to the trajectories of things as they move through domestic spaces. Just as the wastage of food can be understood as a matter of placing (cf. Hetherington 2004), so too can the 'environmental hotspot' of laundry practices (washing machine use and its associated energy, water and detergent consumption) be understood in relation to clothing being placed in the laundry basket. These trajectories are inexorably linked to ongoing processes of separation, categorisation and evaluation. Indeed, the movement of food and clothing in directions that carry environmental burdens relates to their being evaluated as in some way 'unclean'. The links between ideas of cleanliness and adverse environmental impacts are, of course, well established in the literature on sustainable practices (following Shove 2003) and I note

that the routes narrated in this paper (pertaining to the categorisation and trajectories of things) are very often incorporated into household routines. The analysis above cautions against relinquishing accounts of these processes to the study of routines and practices insofar as doing so would obscure some of the geographical nuance that following the thing reveals.

This approach is also instructive for the problematic of conceptual slippage *vis-à-vis* what is and is not 'consumption'. Where the extension of practice theories to the study of sustainability risks a view in which consumption is virtually anything, the approach taken here helps in delineating some more specific moments of consumption. On this point Warde (2005) is apposite in his identification of *acquisition*, *appropriation* and *appreciation* as activities that might reasonably be thought of as 'consumption'. To each of these 'As', the preceding analysis permits the addition of a counterpart 'D'. Just as commodities are *appreciated* through recourse to different regimes of value, so too are they *devalued*. Just as they can be personalised, decommodified, domesticated and *appropriated*, so too can these attachments be undone, leading to their *divestment*. Just as commodities are *acquired* through differing political, technological and economic arrangements, so too can they be *disposed* of. This preliminary definition could be operationalised beyond discussions of environmental sustainability and it contributes to debates concerning the parameters of consumption scholarship.

The second point addresses the relationships between ongoing processes of categorising things and attendant processes of categorising persons. Certainly Mary Douglas' oft-cited work on dirt, *Purity and danger* (1966), relates more to holistic processes of cultural and moral ordering than to the relative cleanliness and dirtiness of things. The links between ideas of dirt and the normative evaluation of persons and things are well understood (Campkin and Cox 2007), so too are the consequences of these associations in terms of sustainability (Gibson *et al.* 2013; Shove 2003). My point here is that the trajectories of things and their movement through people's homes and regimes of value relate to identity work, categorisations of other, and boundary drawing. For example, the reasons for not releasing food beyond the threshold of the home relate largely to the risk of opening private arrangements up to public scrutiny. Conversely, when 'leftovers' are able to become 'food' again, they are very often consumed by, or in the company of, significant others, thus marking and reaffirming the boundaries of the household or family unit. These dynamics are easier to capture using the ethnographically-informed approach described in the section on food/waste, however there may be scope for future quantitative studies of household sustainability to gather information on identity

and social networks. Discussion of these important social scientific issues are, arguably, missing from existing accounts that privilege practices and technologies over persons and relationships.

On the topic of methodological approaches, my third point is to recognise how the ways in which households categorise – and so move – the things that are being followed relate to multi-sensory engagements with materials. The preceding analysis discussed this in relation to the smell, sight and 'feel' of laundry, but it should also be clear that the categorisation of food-stuffs, and their consignment to the bin, relates to the ways in which households evaluate their 'freshness' and 'edibility' using a variety of sensory cues (changes in appearance or texture, unpleasant smell or taste). Methodological approaches that attend to multi-sensory ways of knowing and experiencing the world (see Pink *et al.* 2013) represent a promising resource for future studies of household sustainability that take up the mantle of following things through people's homes. Allied to this is a conceptual point that echoes calls for an expanded definition of materiality that transcends and obviates recent calls to 'rematerialize' the discipline (see Anderson and Wylie 2009). Without disputing the importance of perspectives that stress the role of materials in configuring the practices for which consumption occurs, the preceding analysis demonstrates the importance of acknowledging materials as objects of consumption. Beyond simply viewing these objects as vehicles for reifying otherwise ephemeral cultural categories, they have been shown to play an active role in shaping their own biographies and the moments of consumption that punctuate these. I suggest (following Gregson *et al.* 2010a) a reading of materials that stresses their performativity in transformative states (as food decays or as clothing goes from wet to dry) such that future studies are attuned to affordances that may (in the case of certain fibres not responding well to tumble dryers) or may not (in the case of wasting food that decayed whilst held in the gap in disposal) be desirable in terms of sustainability outcomes.

These insights and suggestions derive from an approach of artificially isolating the household in order to follow in detail how things move through it. Before returning the household to its rightful place in accordance with the precepts of the connected household framework (Head *et al.* 2013), I wish to suspend it a little while longer in order to say something about policies and interventions in the sustainability of domestic life. The connected households framework suggests that there are zones of friction and zones of traction in these connection pathways that are useful for thinking about policies at the household scale. I extend this position by suggesting that a focus on the trajectories of things *through* the household reveals similar zones of friction and traction. Indeed, the

analysis above reveals clear blockages and sticking points – such as the anxieties that prevent food being released from the home – and these zones of friction may prove impervious to top-down intervention. However there are zones of friction that have the potential to be turned into zones of traction. For example clothing hits a zone of friction when it is placed in the washing basket insofar as it is unlikely to be recovered without first passing through a wash cycle. Knowledge of this blockage opens up space to consider strategies for generating some traction in laundry routes, for example by developing wardrobes with a ‘worn but not dirty’ section. Finally, the approach of following the thing reveals existing zones of traction – such as the proclivity of households to use multiple methods to get their laundry dry – that could be actively engaged with in order to discourage resource intensive tumble dryer use and so prevent the energy burden of domestic laundry from increasing further.

Concluding remarks

To end, I reflect on what a focus on the household contributes to the already well-established approach of following the thing. As noted, follow the thing studies tend to stop short of or ‘fudge’ their engagement with households and processes of consumption. At a very simple level, then, the approach put forward in this paper offers the possibility of developing more comprehensive biographies of things. Rather than forcing together accounts of production and accounts of consumption that have been built on incongruous theoretical and methodological foundations, extending the approach of following the thing implies a degree of symmetry that may help the task of integration. Indeed, food and clothing are key themes in the follow the thing tradition⁵ and the analysis here suggests that they are amenable to being followed beyond the supermarket shelf or shop floor. While there may be mileage in piecing together the biographies of a particular thing, for example broccoli, by merging an account that focuses on the household (Evans 2014) with one that focuses on the supply chain (Fischer and Benson 2006), the real advances are likely to come through integrated studies that are designed with the intention of following something all the way through.

This integrated and holistic approach has the added benefit of taking seriously the connections between households and the broader political and moral economies in which they are located. A number of potential applications are worth mentioning. First, there is a growing body of work that explores how meanings are manufactured along commodity chains (Jackson *et al.* 2009). Tracing these meanings and stories – as well as things – along the chain and then

into people’s homes may reveal the myriad ways in which they are incorporated into or resisted through processes of consumption. This may prove particularly instructive in the case of commodities that purport to have sustainability or ethical credentials. Second it will be recalled that follow the thing studies very often carry a strong critique of global divisions of labour. The analysis here has shown that it is incumbent on any attempt to extend follow the thing into the home to be sensitised to the critique of (gendered) domestic divisions of labour.⁶ Recent work by Kathryn Wheeler and Miriam Glucksmann (2015) demonstrates convincingly that consumption involves work and that consumers bring (often unpaid) labour to wider economic processes. Asking who assumes the burden of consumption work and how these burdens might be distributed in response to the moral imperatives of fostering greater household sustainability may help in foregrounding the unintended consequences of pursuing ‘good’ environmental outcomes.

Finally, the development of social scientific accounts that develop extensive biographies of commodities, their meanings, and relationships between sites and spaces of production and consumption represent a powerful resource for engaging with broader debates in sustainability research and policy. For example, Life Cycle Assessment techniques are often used to estimate and quantify the environmental impacts of particular commodities ‘from cradle to grave’. Overlaying these with an integrated ‘follow the thing’ biography may yield new insights in the form of in-depth understandings of the processes that give rise to these impacts, the connections between points in the chain and the distribution of responsibilities for outcomes that are measured at a single location (for example supermarkets contributing to waste that is attributed to households), and non-environmental damages (such as unfavourable labour conditions and gender relations) that might otherwise be missed.

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Notes

- 1 Current estimates suggest that one third of global food production, c.1.3 billion tonnes, is wasted each year (FAO 2013).
- 2 Manchester is a city in the North West of England, the third largest urban area in the UK.
- 3 See for example <http://www.iprefer30.eu/en> (accessed 5 December 2016).
- 4 Environmental impacts are multiple, however the discussion that follows focuses only on energy impacts. This is for reasons of clarity and consistency of expression.
- 5 This is evidenced by ‘grocery’ and ‘fashion’ being the first two ‘departments’ listed on the follow the things website, see <http://followthethings.com> (accessed 5 December 2016).
- 6 The academic tradition of studying everyday life was born out of a similar concern. This ambition appears to have been lost in studies of sustainability where ‘everyday life’ is taken as an empirical object rather than an object of critique.

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