



A brief pre-history of food waste and the social sciences

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Abstract: Food waste is a compelling and yet hugely under-researched area of interest for social scientists. In order to account for this neglect and to situate the fledgling body of social science scholarship that is starting to engage with food waste, the analysis here does a number of things. It explores the theoretical tendencies that have underpinned the invisibility of waste to the sociological gaze alongside the historical transitions in global food relations that led to the disappearance of concerns about food scarcity – and with them, concerns about food waste – from cultural and political life. It also sketches out some of the processes through which waste has recently (re-)emerged as a priority in the realms of food policy and regulation, cultural politics and environmental debate. Particular attention is paid to the intellectual trajectories that have complemented food waste's rising profile in popular and policy imaginations to call forth sociological engagement with the issue. With this in place, the stage is set for the individual contributions to this *Sociological Review Monograph* – papers that engage with food waste in a number of contexts, at a variety of scales and from a range of disciplinary perspectives. Together they represent the first attempt collectively to frame potential sociological approaches to understanding food waste.

Keywords: food, waste, environmental policy, garbage, cultural politics of food

Food waste is a compelling and yet hugely under-researched area of interest for social scientists. In this collection, we have brought together the small, emergent group of scholars who have begun to engage with the issue as a means of laying the ground for sociological approaches to understanding food waste. The impetus for doing so stems from several interrelated observations. The first is that, despite a number of interesting developments in 'waste scholarship', these have yet to be extended to analyses of food. Concomitantly, although sociological engagement with food is now extensive, it has barely begun to attend to waste. Third, and more broadly, the issue of waste – and food waste in particular – is one that is rapidly gaining traction in the realms of policy and regulation, cultural politics and environmental debate. Accordingly, we take the view that sociology is uniquely placed to engage with an issue of growing popular and political significance (as we were finalizing this chapter yet another example of media coverage declaring '[T]oo much food gets thrown away' appeared in *The Economist*, 2012). Finally,

it can be noted that although 'waste' has for a long time been invisible to the sociological gaze; once rendered visible, it opens up a number of interesting avenues for thinking sociologically (O'Brien, 2007). To that, we would add that a focus on *food* waste offers a useful lens through which to tend to a number of live debates and contemporary issues in sociology and social theory.

Of course, the major incentive for this *Sociological Review Monograph* is that food waste – like waste in general – has hitherto been neglected by sociology. Such neglect is, perhaps, not surprising given the glacial speed with which sociologists began to engage with 'taken for granted' matters like food. It took the emergence of a named 'sociology of everyday life' in the 1970s to direct the attention of those in the wider sociological community – yet to discover Goffman (1959) and the Chicago School – to the minutiae of daily encounters (primarily through the work of scholars such as Jack Douglas, 1970, and, later, Michel de Certeau, 1984 [1980]). This opening up of the familiar-as-new terrain of enquiry was highly influential in the belated appearance of a 'sociology of food' (eg Murcott, 1983). Even in the world of taken-for-granted objects in everyday life, much of the early work cited focused on the new cultures, ideologies and discourses of daily life, thus failing to account for a phenomenon that is already overlooked in everyday life in all kinds of social settings in both the global 'North' and the 'South'. The classification of items as 'waste', and thereby dealt with by some sort of disposal, leads to their becoming 'out of sight, out of mind' – culturally invisible – and thus without an explicit scholarly effort of reflexivity they risk remaining inaccessible to the gaze of the social sciences.

In this opening chapter, we explore the cultural and intellectual invisibility of food waste before tracing the various contours that have led to food waste emerging as an issue inviting attention from the social sciences. In so doing, we introduce and set the stage for the individual contributions that together represent a first statement from the new social scientific scholarship on food waste.

Waste scholarship

At one level, the papers collected here are testimony to the increasing visibility of 'waste' in social scientific scholarship and the exciting directions in which these researches are currently heading. Traditionally, waste has been a marginal and somewhat niche concern for social scientists and, to the extent that it has featured, it has been approached in very particular ways. Typically it has been imagined as something – most likely a practical problem – that needs to be managed, and, accordingly, engagement has occurred under the auspices of environmental policy and planning. The emphasis here has been on questions of governing, of evaluating waste policies and their consequences and, typically, of assessing the potential for 'recovering' waste materials through recycling. Whilst this is no doubt interesting, it rests on a particular set of (tacit and interrelated) assumptions about how to conceptualize waste. The first is that waste is uncomplicatedly the rejected and worthless stuff that needs to be

distanced from the societies that produced it or otherwise converted it into value via technological and organizational innovation. The second is that waste is a fixed and self-evident category – an innate property or characteristic of certain things. The third assumption is that this unproblematic designation of certain things as ‘waste’ is given by the imperatives of waste management. As Gregson and Crang (2010: 1027) point out: ‘that which is managed as waste is waste, and that which is waste is what is managed’. Finally, that waste is located at the ‘end of pipe’ – the final by-products and outputs in linear processes of production, consumption and disposal. In sum, waste is imagined as that which is left over – the redundant afterwards of social life that only register when the need to do something about them has been identified. We take it that these assumptions are ripe for problematizing and inspecting, sociologically, and that they indicate at some level, a conflation of the characterization of the topic as a practical and policy problem and its characterization as a social scientific topic for investigation.

These understandings and representations of waste can be situated in relation to its rather awkward positioning between key scholarly boundaries. Existing somewhere across traditional divisions between the social and environmental sciences, between production and consumption, between spaces and non-spaces, waste has become an absent presence that is orphaned from any single disciplinary home. Moreover, it has not been immediately clear that sociology might indeed have some purchase on the issue; and certainly, the tendencies outlined above have served to position waste as a void that lies beyond the boundaries of cultural and economic organization. As such, it has remained the ‘shadow’ of processes and relations that are sociologically interesting rather than appearing as an object of enquiry in its own right – or light. At best, it has been seen as tangential to processes of social ordering, and thus engagement has been limited to those branches of the social sciences dedicated to issues associated with the practical management of this ‘void’, issues that are scarcely of concern or interest to mainstream sociology.

To the extent that waste gets imagined as anything more than a void, it has conventionally been conceptualized as a metaphor or a hazard. With regard to the former, the negative connotations that have long been associated with the term ‘waste’ readily allow it to stand for something else in the course of moral condemnation that masquerades as critique. These allegories range from the unproductive expenditure of time and money, through the alleged excesses of global consumer capitalism and their environmental impacts, to the fall-out and consequences of modernity. As something hazardous or contaminating, the emphasis has been on the risks associated with wastes of various sorts, and existing research within this paradigm has been dominated by environmental discourse and alarmist or moralist rhetoric (Hawkins, 2006). Similarly, work in the tradition of environmental justice has explored the ways in which social inequalities are marked and mirrored by exposure or proximity to waste. More generally, various social histories (Laporte, 1999; Melosi, 2004) have equated social order with processes of expelling, distancing and hiding wastes from those

societies that produced them – or at least from the respectable and decent members of these societies. So, even when imagined as more than a void, waste retains its location beyond the boundaries of the social, where it is taken as a fixed category that can only ever gesture back to the societies that produced it.

However, this is starting to change. An emerging body of work now recognizes waste as a dynamic category that needs to be understood in relation to the contexts (social, economic, historical) through which it has been put to work, the relationships in which it is embedded, and the complexity of meanings attributed to it. The precursors to this work are well known: first, Mary Douglas's *Purity and Danger* (1966) drew attention to the cultural categorization of dirt and the analytic importance of investigating the classifications that 'produce' and reject this so-called 'matter out of place'. Second, in the early 1970s William Rathje began his work on what he called 'garbology' (collaborating later with Murphy in 1992), research in which archaeological methods are applied to the study of garbage, with the suggestion that explorations of trash yield important insights regarding the cultures that produce it. Finally, Michael Thompson's *Rubbish Theory* (1979) suggests that a focus on waste is central to understanding how value is socially controlled. Recent approaches to waste, however, do not locate it beyond the boundaries of the social as do these earlier studies, stressing instead that quite aside from revealing who we are, waste is also *constitutive* of who we are.

Whilst very little of this work is sociological in origin; much of it is sociological in orientation – see, for example, Susan Strasser's historical account (1999) of the complex processes through which disposal became separated from production, consumption and use. Equally important is Gay Hawkins' theoretical work *The Ethics of Waste* (2006)¹ in which she takes note of our various relationships with waste. In doing so, she makes visible the ways in which we live with, value, classify and manage 'things'. Sticking in the realms of cultural theory, John Scanlan's *On Garbage*² (2005: 8) looks beyond 'mere' waste materials to explore the connections between 'the variety of hidden, forgotten, thrown away and residual phenomena that attend life at all times'. Here, he eloquently demonstrates that metaphorical garbage – the detached leftover of separating the valuable from the worthless – is at once omnipresent and central to (Western) ways of thinking about the world. Of particular note is the work of geographer Nicky Gregson who has – across a number of projects and with a range of collaborators – explored human relationships with waste on a variety of scales, whilst also tending to a number of theoretical and substantive concerns. See, for example: Gregson and Crewe (2003) on second-hand consumption; Gregson (2007) and Gregson *et al.* (2007) on the ways in which households live with and get rid of things; Gregson *et al.* (2010b) on the agency of materials in transformative states and their appearance in processes of demolition; and Gregson *et al.* (2010a) on the global flows of materials as things fall apart or are purposefully disassembled.

The key unequivocally sociological contributions to this emerging body of waste scholarship are Martin O'Brien's *A Crisis of Waste* (2007) and Zsuzsa

Gille's *From the Cult of Waste to the Trash Heap of History* (2007). Gille's work views waste neither as a given nor as the simple outcome of policy that defines things as such. Rather she develops the concept of 'waste regimes' to account for the institutions and conventions that determine what wastes are considered valuable and the ways in which their production and distribution is managed, represented and politicized. She highlights how these regimes vary across space and time, thus highlighting the contingent and relational character of 'waste' at the same time as paying serious attention to the physical reality of these materials. Crucially, in addition to acknowledging that differing definitions of waste are expressive of different regimes; she emphasizes that they are also constitutive and sustaining of them. O'Brien's work suggests that the invisibility of waste in sociological thought is a reflection of its invisibility in popular and political imaginations – and thus sets out to rescue it, to give it the sociological attention it deserves, and to develop a 'rubbish imagination' that interrogates the generative role of waste in social life. He urges that contemporary Western societies should be understood as 'rubbish societies' and, as such, he suggests that sociology might focus on the practices, institutions, innovations and relations that have emerged to govern waste and its transformation into value. Despite these significant developments in waste scholarship, they have yet to be extended systematically to offer a dedicated analysis of food waste. Thankfully, both Gille and O'Brien have contributed chapters to this volume in response to an invitation that they extend their path-breaking analyses to the specific issue of food waste.

Perhaps more astonishing is the fact that waste has yet to register in the research – sociological or otherwise – on food. This is particularly surprising not only given the emerging politics of food waste (discussed below) but also because, after all, waste is a logical and unavoidable consequence of eating. Beyond the peelings and cores of food preparation, beyond what the catering trades describe as plate waste, there are wastes in lavatories and sewers as well as nappies (diapers) and incontinence pads. Widespread etiquette deems these 'wastes' as unmentionable in the same breath as food (unless concerned with infant care, see Murcott, 1993) – a proscription brilliantly illuminated in Luis Buñuel's 1974 film *The Phantom of Liberty*. That said, there are a number of notable exceptions. For instance, Jack Goody (1982) pays passing attention to waste in his anthropological work on cuisines and their relation to societal stratification (see Klein and Murcott, forthcoming). So does Gary Alan Fine (1996) in his ethnography of restaurant kitchens, where discarding food that has been paid for before it gets to diners' plates represents a measurable economic loss. In none of these, however, is the topic really pursued. David Marshall's broad-ranging edited collection, *Food Choice* (1995), includes a final chapter by Rolland Munro in which attention is drawn to the ways in which 'the meal' may – or may not – be disposed of by passing, and acting back, through multiple conduits in material and symbolic registers. These themes have also been picked up in Benedetta Cappellini's empirical analysis (2009) of consuming leftovers. More generally, David Evans' ethnographic research (2011, 2012a, 2012b) has

(following Hetherington, 2004, and Gregson *et al.*, 2007) extended work on material culture and consumption as disposal to analyses of household food waste.

Another notable exception to the neglect of waste in social scientific approaches to food is the useful introduction and overview offered by Catherine Alexander and colleagues in *The Handbook of Food Research* (2013). In sketching a number of potential avenues for food waste research, they locate food waste within three key traditions that have (arguably) dominated much food research and social scientific scholarship more generally: first, political economy; second, the ‘cultural turn’; and thirdly, post-humanism. Many of the contributions offered here can be readily located within or across these pillars and so can be viewed as fleshing out the sketch offered by Alexander *et al.* (2013). Thus, the contributions offered by Gille, O’Brien and Krzywoszynska emerge from (and to varying extents, react against) political economy approaches insofar as they deal with waste across the food supply chain whilst also engaging with questions of value, governance and power. In doing so, they exemplify the importance of recognizing the links between the various economic and cultural processes that give rise to waste, reminding us that it is essential to research food waste as it appears within different national, institutional and regulatory contexts.

Several contributors to the present volume write out of the so-called ‘cultural turn’ insofar as they are dealing with the cultures, ideologies and politics of food and consumption. For example, Watson and Meah, Parsons and Cappellini, and Metcalfe *et al.* develop a number of perspectives on the processes and practices that lie behind the generation (and possible prevention) of food waste in UK households. Travelling to more marginal practices (and Australia), Edwards and Mercer explore counter-institutional responses to the cultures that give rise to food waste. From a slightly different angle, Coles and Hallet’s contribution invites important questions about the ways in which waste problematizes cultural understandings of food and edible matter. More generally, Munro’s contribution builds on his earlier work to rescue disposal from its connotations of waste and to consider its primacy in processes of production, consumption and the circulation of relations.

Finally, before turning to outline what we think of as the pre-history to the current modest growth of scholarship in the field, we must observe that it is not surprising that social scientific scholarship on food waste connects rather readily to the various strands of sociological thinking (ranging from Actor-Network Theory (ANT) to ethnographies of material culture) that take seriously the role of the non-human in processes of ‘social’ (inverted commas fully intended) organization. On the one hand, the apposite developments in waste scholarship (see the articles in *Environment and Planning A*, 42 (5), 2010; Alexander and Reno, 2012) have stressed the importance of attending to the *stuff* of waste via a fuller engagement with materiality (Gregson and Crang, 2010). On the other, more general social scientific engagement with materiality is increasingly turning to the vitality and vibrancy of matter by stressing that objects exist in constant flux and do not have fixed properties or qualities (Bennett, 2010; Edensor, 2005;

Ingold, 2007). Accepting that food is susceptible to spoilage, decay and rapid transformation, positions it as a specific genre of material culture that is well placed to become part of these debates. In recognizing food as lively and sentient ‘stuff’ (Bennett, 2007), it follows that practices of food waste are caught up with a range of non-human actors: microbial life, packaging, preservation technologies, containers and domestic appliances alongside scientific methods of treatment, disposal and management. Several contributions here deal directly with post-humanism and food waste – Hawkins’ encounter with food packaging, and Milne’s discussion of use-by dates and food labelling (possibly a response to the threat of microbial life). Beyond this, however, many of the contributions emerging from political economy or the cultural turn appear – quite independently of one another – to have departed from their origins to arrive at a post-humanist reading. Given the current vogue for such perspectives in sociology and social theory, it is hoped that readers who may not necessarily be interested in the substantive topics of food and waste will also find these accounts of food waste relevant to their interests.

Historically contextualizing the ‘new’ politics of waste

Scholarly interest has been emerging in close connection with a wider surge of interest in waste in the realms of policy and regulation, cultural politics and environmental debate. One frequently repeated theme of recent non-academic commentaries is that the current visibility of waste is something new. Moreover, so the thinking goes, in recognizing the ‘problem’ of waste in multiple realms we are coming to a political and cultural moment of transition that reveals one, or some combination, of the consequences of a long trajectory of economic expansion, unsustainable resource use and/or ‘out of control’ consumerism. In the process, it is suggested that this new visibility in formal and cultural politics marks something of an epiphany that holds the promise of a ‘game-changing’ reorientation of our practices, institutions and policies of resource management. Before considering in more detail the multiple and complex processes that appear to be constituting a new contemporary politics of food waste, one key issue of food waste history needs to be addressed. This is the implicit assumption in much of the contemporary (particularly non-academic) work that we are in transition from a historical relationship characterized by the invisibility of waste to one that is characterized by greater (and thus more challengeable) visibility. We have, however, one particular concern with such a framing of this historical transition: how and why has the presumption of invisibility arisen in the first place?

Historical transitions in food waste 1: from visibility to invisibility?

Tracing a more nuanced and considered history of twentieth-century transitions in the cultural positioning of food waste may be quite difficult, for it both

presupposes and requires that counting ‘how much is wasted’ can be done with confidence. First impressions suggest that sufficient variation exists in sample sizes and degrees of cooperation by respondents – let alone what is and is not to be included in counts of food waste over the last century – to make firm comparison between the measurements available a perilous enterprise (see discussion in O’Brien, 2007, and compare for instance, Jones *et al.*, 2008; Singer and Smart, 1977; Waste and Resources Action Programme (WRAP), 2009; Wenlock *et al.*, 1980). While there is likely to be a great deal of information on waste embedded in other food histories, the scholarly work that will disinter this material and reassemble it into a coherent history of food waste in modernity looks as if it has yet to be done. With this caveat in mind, and in the hope of prompting just such scholarly endeavour, the following sketch outlines – albeit speculatively and tentatively, a small contribution to the historiography that has yet to be written – a series of transitions in food waste.

The relative visibility of food waste in the mid-nineteenth to mid-twentieth century

Food waste is especially visible when its prevention is being counselled. This section narrows the focus briefly to consider evidence of such counsel found in English-language cookery books and household manuals of the mid-nineteenth and early twentieth century. In such sources, closely associated notions of thrift and advice for the avoidance of waste are readily identifiable. To start with, what is claimed to be ‘the most famous English cookery book ever published’ (Humble, 2000: vii), Isabella Beeton’s 1861 *Book of Household Management* makes stern reference to the need for careful conservation and storage of food once it has been brought into the house: ‘More waste is often occasioned by the want of judgment, or of necessary care in this particular, than by any other cause’ (Humble, 2000 [1861]: 55). Mrs Beeton died in 1865, but manuals and cookery books that continued to appear in her name perpetuated her notions of frugality. The much smaller *Mrs Beeton’s Cookery Book* therefore provides a list of ‘kitchen maxims’ including the injunction: ‘The liquor in which a joint of meat has been boiled should never be thrown away’ (Beeton, 1899: 16) and, in a section addressed ‘To cooks and kitchen maids’, we find the severe instruction: ‘Never waste or throw away anything that can be turned to account’ (1899: 26). A later edition of the same book published at the very end of World War I (when the shortage of domestic servants was an emerging ‘problem’ for the better off) changes the section title to ‘Advice for the kitchen’ but retains the admonition (Beeton, c. 1918: 19). Rather later, an even shorter edition called *Mrs Beeton’s Family Cookery* (clearly aimed at smaller families/households) carries a new section on ‘The art of “using up” cold remains’: ‘great care’ is to be taken so that nothing that could be used ‘is thrown away or suffered to be wasted in the kitchen’ (Beeton, c. 1925: 293).

Themes of thrift and prudent kitchen management can just as readily be found in other cookery books of the period. The chapter on fish and shellfish in

the cookery book published by the now well-established *Good Housekeeping Magazine* carries a subsection comprising eight recipes for 'fish left-overs', prefaced with the comment that 'The remains of almost any kind of cooked fish can be re-dressed and made up in some dainty way' (Jack, 1925: 32). Elizabeth Craig, a widely published cookery book author of the 1930s, provides a section early in her *New Standard Cookery (Illustrated)* on 'Keeping Down the Household Bills' including a subdivision on 'Making the most of leftovers' (from hard boiled eggs, various vegetables, fish, puddings and more) and the modern-sounding 'dodges to prevent waste' (1932: 53). The exact phrase 'Making the most of leftovers' also appears in *Economical Cookery* (Anon., c. 1937).

Similar themes and exhortations can be found in US cookery books across the same decades. They range from Miss Beecher's 1873 *Housekeeper and Healthkeeper's* recurrent references to thrift, saving labour, time and fuel to the use for soup of '[R]emnants of cooked meats' (1873: 30) and 'remnants of bread . . . potatoes, hominy, rice, grits' and more to make '[T]he most economical Breakfast Dish' (1873: 71). And not only does Rombauer list the attractive ways in which 'eggs and left-overs' may be served (1931: 33), she too devotes a whole section in her famous *The Joy of Cooking* to '[R]ecipes and suggestions for left-over food' (1931: 380).

The theme of thrift recurs too in the manuals and texts prepared for the newly emerging schools designed to train young women as school teachers for the variously named 'domestic [later consumer] science' and 'home economics'. Such schools and training colleges opened through the nineteenth century across the industrializing world. Brembeck's discussion of their history illustrates the way such innovations were geared to what is needed for running a well-managed household in both Sweden and Scotland and which, centrally, included advice on the prudence necessary to its accomplishment (Brembeck, 2013).

While extrapolation from advice in cookery books and training manuals to actual kitchen practices can never be straightforward, *ideas* about the virtue of preventing the waste of food are undeniably extant in print. It is likely, then, that the exhortations to use food carefully and avoid throwing away what could be (re)used to conserve supplies in wartime would already be familiar to at least some segments of the population at large. In the US, the campaign against wasting food had culminated in 1918 with a poster carrying the memorably pointed slogan 'Food is Ammunition. Don't waste it'. By World War II, British propaganda posters similarly urged saving kitchen scraps for hens instead of throwing them away ('pig bins' were still placed at the end of suburban streets in London in 1953, the year before all food rationing finally ended). Reminders from the Ministry of Food that '[T]oday's scraps are tomorrow's savouries' (quoted in Fearnley-Whittingstall, 2010) echoed the 1890 'dainty little rissoles' of *Mrs Beeton's Every Day Cookery New Edition*.

While a far more systematic content analysis is needed to confirm the proposal, it is likely that the need to make the most of leftovers largely disappeared from cookery books in the post-World War II era of rising incomes, full employment and the spread of refrigerator ownership. In part, cookery book styles, at

least in the UK, altered, giving way to the rise of greater specialization in the genre. That trend itself, however, provided a niche for Marika Hanbury Tenison's (1971) *Leftover for Tomorrow* – a whole book devoted to using up what might otherwise be wasted. By and large, however, the refrain seems to fade as the children and grandchildren of those growing up in World War II became increasingly used to feeling better off than their forbears.

The pivotal decade: 1950s

In contrast to the visible cultural practices specifically designed to avoid wasting food that was characteristic of advice on household waste practices among many classes and situations in the first half of the twentieth century, the 1950s signalled a decade of significant transition. Various scholars have attempted to describe the extent and outcomes of this transition for the wider global food system. While the arguments vary, all are in agreement that something highly significant happened in the way in which international, national and (many) local food relationships were configured in the period after the end of post-World War II rationing.

The most prominent contributors to this discussion are Friedmann and McMichael (1989), who situate the 1950s as the key pivot around which a new global 'food regime' took shape. The food regime narrative (briefly reviewed in Gille's chapter in this volume in order to set the scene for her analysis of 'waste regimes') is built around a broad historical transition from a global-scale set of food relationships within empires; that is, one based on the creation of farming colonies to feed the burgeoning population of the Industrial Revolution (The Imperial Food Regime) (see also Crosby, 1986; Davis, 2001; Wolf, 1982). This regime collapsed into crisis in the period between World War I, the Great Depression and World War II, and this collapse eventually provided a significant threat to the food security of Western Europe (something that Campbell, 2012, argues had been absent since the 1840s). The late-1940s/1950s response took the form of a set of relationships between policy, technology and economics that combined new production practices, farming approaches, production technologies and food commodities at the heart of a new regime of global food relations (the Cold War Food Regime) (Friedmann and McMichael, 1989). This new regime not only shifted the main emphasis on agricultural production away from the colonies and back into the farming regions of the Developed World, but also instituted policy frameworks (subsidies in Europe, food aid policies in the USA) that directed farmers towards producing the maximum possible amount of food without regard for the potential market for the resulting foodstuffs.

The result was a regime of excess food. During the Marshall Plan, surplus US grain was disposed of in the cause of restoring European food markets. From 1954, US farming was so productive that PL480 (later named the 'Food for Peace' law) was instituted to dispose of surplus production in the form of food aid abroad – eventually dispersing 25 per cent of US grain production

(Campbell, 2012). In Europe, policies aimed at subsidizing the regeneration of the productive capacity of farmers were equally successful, with Europe moving from post-war scarcity to massive food surpluses in only a couple of decades. On the other side of the Cold War divide, Soviet industrial agriculture was promoted throughout the Communist bloc, with trade relations between countries like the USSR and Cuba solidified around the trade in large quantities of basic commodities such as sugar.

The food regimes narrative characterizes the 1950s as the period when: global food relations moved from scarcity to surplus; food security was formally constituted as a policy concern that justified state investment into agricultural productivity; and food rapidly became cheap and abundant. The Cold War regime was characterized by large-scale corporate investment in agriculture, but also increasing pressure on food processors and retailers to find ways of remaining profitable in a period where the world food economy was increasingly awash with cheap food commodities. This resulted in techniques of extensive food processing (Levenstein, 1993); fast food franchises; elaboration of branding; and what Nestle (2003) characterizes as the ‘supersizing’ of food. It was, we would add, a period in which food waste becomes increasingly invisible and culturally less relevant. In a world of excessive and cheap food, it is not difficult to imagine frugality and careful household management offering a poor fit with the ‘zeitgeist’ of the Cold War food regime.

While the food regime approach that frames the preceding paragraphs centres the argument on a set of political, economic and technological transitions in the post-World War II period, it is not the only way to try and account for a move from visibility to invisibility of food waste during this period. An alternative way of describing the dramatic transformation of science, technology and social relations that characterized food relations in the post-war decades can be found in the idea of a prevailing ideology of ‘technological optimism’ (Krier and Gillette, 1985) – an ideology that became hegemonic in a period where governments were investing heavily in science, science education and technological R&D during the Cold War period (see Goodman *et al.*, 1987; Goodman and Redclift, 1991). In this narrative, food production/processing is aligned with many other new technologies at the centre of a cultural order that privileged science-induced productivity. The end result is remarkably similar to that of the food regime narrative – the developed world becomes increasingly characterized by techno-industrial production that, as one of its exemplar achievements, underwrites spectacular increases in food production with the resulting decrease of food prices and increase in availability in the developed North (Levenstein, 1993). Food is culturally positioned within the ‘technological optimism’ frame as the product of science expertise and as such demonstrates the success of the techno-centric society (Krier and Gillette, 1985). Again, food waste has no place in such relationships, primarily founded as they are on productivity, efficiency and excess. The idea of being scientifically clever about how to deal with food waste seems out of touch in an era of celebration of massively excessive food production.

Whether we privilege the kinds of political/economic relations that characterize the food regime narrative or the cultural/technological promises at the heart of the narrative of technological optimism, there is clear common ground in both accounts. Food relations experience a rapid transition from scarcity to abundance. In other words, a pre-existing cultural concern with food waste (among many other things) that characterized the first half of the twentieth century is superseded by a pervasive invisibility of food waste in the post-World War II period. Twenty-first century accounts of a newly heightened visibility of food waste, never mind reports of continued increase in its volume, therefore need to be considered in the light of a far longer historical background. These recent accounts proclaim something completely novel and, if set against a (probably short-lived) period of historical invisibility, the designation of novelty appears warranted. But considered in longer historical perspectives, such a designation seems misplaced: issues of food waste might better be thought of as something older resurfacing. Far from invisibility being a long-standing precursor to early twenty-first century visibility, therefore, it can probably be better understood as a brief, albeit dramatic, period which temporarily inverted the historical norm. And so, with that caveat to the contemporary account, we now give more careful consideration to how and why food waste has very recently become such a visible issue.

Historical transitions 2: from invisibility to visibility – the contemporary politics of food waste

Our argument is that no single factor has been dominant in rendering food waste more visible in political and cultural life. Rather, a complex congruence of seemingly quite different and recently aligned dynamics have brought about the ‘new’ interest in food waste. These dynamics can be roughly grouped into four: first, sudden events and crises that have altered hitherto taken-for-granted certainties; secondly, national and international governance and policy shifts; thirdly, activist and cultural politics; and fourthly, longer-term technological and environmental trends.

Sudden events and crises

The global food crisis of 2008 (and two subsequent spikes in global commodity prices) can be seen as a singularly disruptive event. Rosin *et al.* (2012), together with Almas and Campbell (2012), argue that the 2008 crisis signalled a break with numerous modernist certainties, including the assumption that food prices would, in perpetuity, continue to get cheaper. Since 2008, food prices have actually begun to increase cyclically, and have created an environment where the relative cost of food has become a matter of consumer and public concern. This sudden relative rise in food prices has, arguably, not been experienced to any great degree since the consumer price inflation crisis of the late-1970s (a shock

that also partly legitimized the neoliberal revolution in various developed world economies in the 1980s). Via a linked set of relationships, Rosin *et al.* (2012) suggest that the global financial crisis of 2008 was also implicated in the sudden rise in food prices when financial trading in food commodity futures became relatively more attractive compared to now-risky new financial instruments. The global financial crisis, we suggest, also brought an end to nearly fifteen years of consumer spending underpinned by cheap credit. The combination of both crises meant that certainties around the cost of food, the availability of cheap credit, and the ever-rising security of middle-class households could no longer be taken for granted. The linkage of recent global crises and the place of food in our lives is also exacerbated by debates over various responses to those 2008 crises – particularly around the phenomenon of corporate ‘land-grabbing’, investments in biofuels, and calls to pull back from more environmentally friendly approaches to food production (see Almas and Campbell, 2012). This provides one important context in which the new concern for food waste has emerged: namely that the increasing cost of food creates an environment where it is both less desirable, and harder to afford, to waste food. Seen in this light, the new visibility of food waste is both a pragmatic/economic necessity as well as demonstrating a wider shift in previously taken-for-granted cultural certainties about the cheapness and abundance of food.

National and international governance and policy shifts

In the European Union (EU), the single biggest transition in waste and waste policy is the 1999 Landfill Directive (1999/3/EC); a policy that set out to reduce the negative effects of sending waste to landfill in relation to the environment and human health. This document set legally binding targets to which member states are to adhere. At its core is the ambition to manage wastes in a manner that diverts them from landfill, with the emphasis on resource (and value) recovery via reuse, recycling and transformation into energy (a process otherwise known as moving up the ‘waste hierarchy’). The targets are exceptionally ambitious – not least the obligation to reduce biodegradable waste (the category to which food waste belongs) to 35 per cent of 1995 levels by 2016, or by 2020 for some countries (including the UK). In addition to putting waste firmly on the political agenda, these targets put immense pressure on national governments to respond. In the UK, these requirements passed into legislation through the landfill (England and Wales) Regulations 2002. However, the crucial response in the UK (at least in terms of the story of the visibility of food waste) was the government’s decision to set up the Waste and Resources Action Programme (WRAP).

Established as a not-for-profit company in 2000, WRAP is supported by funding from the four national governments of the UK (as well as the EU) and appears to have been highly effective not only in creating an agenda that highlights the issues associated with wastes of all kinds, but also in advocating practical solutions premised on resource efficiency. In addition to collating and

publicizing records and data from government departments and beyond, it also contributes to the generation of new data; monitors and publicizes problems; creates partnerships; brokers voluntary agreements; and develops initiatives to minimize and prevent waste across all sectors. Undoubtedly, WRAP has been instrumental in putting food waste on the public and policy agenda in the UK. Their work on household food waste (WRAP, 2009; see also Quedsted *et al.*, 2011) quantified the extent of the problem and the results were certainly alarming: these data suggested that UK households throw away 8.3 million tonnes of uneaten food each year – enough to fill Wembley Stadium ten times over³ – and that at least 5.3 million of these tonnes are avoidable. The annual financial cost of this avoidable waste is estimated at £12 billion (£480 per household), while the environmental impact is equivalent to 20 million tonnes of carbon dioxide emissions (the same impact as the emissions generated by a quarter of the cars on UK roads). These figures gave rise to the headline-grabbing observation that UK households waste roughly one-third of the food they buy for consumption.

WRAP have also been involved in practical, government-funded efforts to reduce household food waste since 2006, notably through their 2007 *Love Food Hate Waste*⁴ campaign that aimed to raise awareness and engage the public on this issue. Of particular note is the campaign's website, which includes a 'recipes' section intended to help households use more of the food they buy through providing suggestions on what to cook with leftover ingredients.⁵ This marks a rather neat parallel to the pre-1950s cookery books discussed above. It is also instructive – if unsurprising – to note it is WRAP's work on *household* food waste that gained traction in popular and policy imaginations. Overwhelmingly, waste policy has focused on municipal waste streams (as opposed, say, to the by-products of industrial food production processes) and the resulting measures have been restricted to a focus on households and the municipal authorities charged with the management of post-consumer discards (Bulkeley and Gregson, 2009). One might argue (see Alexander *et al.*, 2013) that this mirrors the invisibility of (food) waste discussed above insofar as such waste has been positioned as a problem to be managed at the 'end of pipe'. That said, WRAP themselves do not confine their attention to the household: they unarguably recognize the importance of tackling food waste across the supply chain and pay particular attention to retail, food service and hospitality.

Beyond the UK and more recently, the reduction of food waste has emerged as a specific policy goal for the European Union. On 19 January 2012, the European Parliament passed a resolution to tackle food waste and called on the European Commission (EC) to halve current volumes of food waste by 2025 (EC estimates suggest 90 million tonnes are produced annually in the EU). Significantly, in the discussions surrounding these movements the emphasis is on the perversity of wasting food when more than 70 million people in the EU live below the poverty line and 16 million depend on food aid to stave off malnutrition. Here, therefore, we see food waste tied intimately to food poverty. It is also worth noting that the resolution recognizes that food waste occurs across the supply chain and so calls for a coordinated strategy 'from farm to fork'. That

said, the specific measures they identify tend to focus on education, packaging and labelling – again mirroring the more general tendency to position food waste as a consumer issue although, along with WRAP, they do acknowledge the role of retail, hospitality and even public procurement. Finally, it is important to note that the European Parliament make explicit mention that meeting these ambitious targets would go a long way towards meeting the targets set by the 1999 Landfill Directive. There is even talk of designating 2014 as the ‘European year against food waste’.

Food waste has also gained recognition as a global issue and priority. In 2011, the Food and Agriculture Organization of the United Nations (FAO) published the results of their initial study into the extent and causes of global food waste. Again, the results of this study are alarming: they estimate that one-third of the food produced for human consumption is lost or wasted globally – equivalent to 1.3 billion tonnes annually. In contrast to specific UK and EU discourses on food waste, the FAO acknowledges more thoroughly the waste that occurs in processes of food production and so manages to shift further away from the idea that it is a problem to be managed at the level of households and consumers. Accordingly, it calls for further research and coordination in order to better understand and tackle food waste across the supply chain. It is also worth noting that given its focus on the global South, the FAO links the issue of food waste to questions of food security, food safety and economic development. Taken together, food waste can be viewed as an issue that is firmly on the agenda at a variety of geographic scales and is intimately tied to a number of economic, social, ethical and environmental priorities.

Activist and cultural politics

Since the derailing of the World Trade Organization (WTO) trade negotiations in Seattle in 1999 and the subsequent disruption of the WTO ‘Doha Round’ in Cancun in 2003, the possibility has begun to arise that we are entering a period in which non-state actors are starting to play an increasingly important role in prompting political change. While this idea remains rather speculative, the ‘new’ politics of food waste indeed seems to bear out the proposition that a wide range of non-governmental political actors are becoming more influential.

First, there has been the rise of authors writing with an overt agenda of waste activism. Notably, Tristram Stuart’s (2009) *Waste: Uncovering the Global Food Scandal* provides a landmark *tour de force* signifying an important moment in the popularizing of a particular political agenda around food waste. This publication was quickly followed by Jonathan Bloom’s (2011) equally impressive *American Wasteland: Why America Throws Away Nearly Half Its Food (and What We Can Do About It)*. These two books have compiled statistics and highlighted the extent of the problem in a popular and accessible way. Both books have also been hugely successful in terms of sales, awards and publicity (including media appearances and active web presence), which has served to make food waste much more visible to the wider public. Further, they have given

the authors a platform for their own food waste activism. Stuart, for example, has staged a number of ‘feeding the five-thousand’ events in which the public are given a meal fashioned (with suitable food safety advice) entirely out of produce that would have otherwise gone to waste.⁶

Second, these books can be linked to the wider – if more amorphous – phenomenon of freeganism. Freeganism is a loosely connected set of practices targeting food waste as both a political act and as a form of alternative (and for some, entertaining) self-provisioning. Most notably, the act of ‘dumpster diving’ (or ‘skip dipping’ in some countries) involves freegans exploiting the seemingly arbitrary nature of ‘use-by’ labels. Edwards and Mercer (this volume) describe how ‘dumpster divers’ have developed a sophisticated critique of use-by labels and are mobilizing alternative, embodied approaches to whether food is fit to eat (thus returning to techniques used by humans throughout history) (see also Ferrell, 2006). Stuart (2009) similarly documents how dumpster diving has become part of the repertoire of certain forms of youth activism as well as an important self-provisioning source for the urban poor. Accordingly, this site of action is contested by the supermarkets, who find their dumpsters are being raided (and in O’Brien’s account in this volume, also find themselves increasingly contested in the legal framing of ownership of waste).

More generally, increasing murmurings of ‘grass roots’ responses to the issue of food waste can be heard. The examples are too numerous to mention, but, to give one illustration, at the time of writing the village of Pince in the north-west of France has proposed giving two chickens to each household in an attempt to better manage the disposal of surplus food and prevent it from being wasted.⁷ It should be noted, however, that stringent EU regulations governing what can be fed to animals are liable to render this illegal. It has also been claimed that consumers have mobilized in response to an issue related to food waste: the waste of food packaging. Market research suggests that in addition to thinking that products are over-packaged, consumers are uncomfortable with the waste that this generates and have consequently put pressure on retailers to reduce it. What is interesting here, however, is that food waste and packaging waste are very different waste issues – and yet until very recently, the issue of packaging had been much more visible (this is not to say that packaging is tangential to analyses of food waste: see Hawkins, this volume).

That said, ethnographic research suggests that households are indeed troubled by the act of wasting food (Evans, 2011, 2012a). There is something about food waste that is bound to trouble people; its status as necessity of life itself, or perhaps simply as a lingering reminder of childhood invocations to finish our supper given that people are starving elsewhere in the world. We might speculate here that it has the potential to capture people’s imaginations in ways that other issues connecting food and (environmental) politics do not, or even cannot. However, we also note that the most common reaction is to imagine food waste as a consequence of food labelling (discussed by Milne, this volume) or people being unable to resist the allure of offers to Buy One Get One Free (BOGOF) (see Evans, 2011 for a critique).

These kinds of new political challenges to the consumption and disposal of food are also clearly connected to a wider set of political concerns about the industrialization of food. In particular, one of the qualities of ongoing industrialization of food production and processing has been the conversion of potentially wasted by-products into processed foods to enable greater extraction of profit from a narrow set of basic commodity production platforms like soy, corn and beef (Morgan, 1979). One example that has been relatively uncontentious is the development of margarine as an outlet for some by-products of oilseed production (particularly in combination with soy cake as an industrial stock food). Much more contentious is the development of both ethanol and High Fructose Corn Syrup (HFCS) as highly industrialized means of ‘disposing’ of vastly excessive production of corn in the USA (Goodman and Redclift, 1991). Both are now the subject of vigorous resistance from food activist groups. A more recent addition has been the exotically named ‘pink slime’ which is generated specifically to utilize otherwise wasted components of beef carcasses and which became a widely circulated activist meme in 2012 (see, eg, <http://stoppinkslime.org/> or <http://www.pinkslime.biz/>).

A further important contributor to an emerging cultural politics of food waste is the more formal involvement of charities and other NGOs. Most notable are the organizations who work to redistribute discarded food to the (primarily) urban poor. Organizations like Second Harvest in the US, and FoodCycle or FareShare in the UK, have negotiated arrangements with major food retailers to divert surplus food from the waste stream and into community kitchens with the aim of reducing ‘food poverty’ as well as reducing waste. It is worth noting that against a backdrop of rising relative food prices (discussed above), the number of people relying on these channels of redistribution has increased significantly. Beyond these activities, it is also important to acknowledge the role of organizations such as the Sustainable Restaurant Association (SRA) – a not-for-profit membership organization that focuses on sustainability in food service and hospitality (mirroring to some extent the locus of policy attention outside of the household). A significant element of their activities has been their ‘too good to waste’ campaign, launched in London in 2011 and geared to persuading diners of the virtues of a ‘doggy box’ (their variant on the ‘doggy bag’) as a means of taking leftover food home for reuse – so, it is hoped, saving it from wastage. Crucially, this campaign attracted a huge amount of attention with over 40 pieces of trade, national and online coverage giving 120 million opportunities to see it – approximately £1 million of media value.

A final group who are becoming increasingly prominent in wider food politics – particularly in the UK – have been celebrity chefs. Although their commitment and advocacy is far more notable in other political issues (for example, animal welfare or local foods) this group is, arguably, also beginning to mobilize around food waste. For example, in 2011, UK celebrity chef Hugh Fearnley-Whittingstall filmed a series of TV programmes that investigated current practices in the fishing industry. This eventually led to ‘Hugh’s Fish Fight’: a campaign aimed at changing the EU laws and arrangements that currently lead

to the discarding – and wasting – of half the fish caught in the North Sea. The campaign garnered much support from NGOs, the fishing industry, and local and national policy-makers as well as the general public. To date there are over 813,000 signatories on his petition to the EC for a discard ban and a new common fisheries policy. This lends support to our conjecture that there is something about wasted food that has the potential to capture people's imaginations and mobilize certain forms of political action.

Longer-term technological and environmental trends

At first glance, all the above three strands involve relatively recent interventions into the politics and regulation of food. It is important to balance these with due acknowledgement of some of the longer-term trends that have clearly influenced these more recent dynamics. The first such trend is the ever-rising profile of environmental problems – particularly those that are starting to alarm the fretful citizen at the heart of Beck's risk society thesis (1992). Global climate change and 'peak oil' are both threshold crises in the global environment that have direct and dangerous implications for the citizenry of developed countries. Given the regulatory responses (or potential future responses) and political energy being devoted to contesting or shaping reactions to these two crises, it is hard for even the most affluent and well-resourced developed world citizen to ignore the wider politics of our engagement with environmental questions. In this context, the post-World War II era of cultural acceptance of technology, progress and (implicitly) massive food surplus is increasingly becoming less stable.

The second long-term trend that influences this arena of food politics is the proliferation of increasingly sophisticated information and communications technology (ICT). From increasingly coordinated attacks on the WTO by NGOs, through the broadening of knowledge exchange by the various actors identified above, to the ability to disseminate statistical information and claims about waste, new ICT has arguably facilitated the shift of food waste politics from being part of the background noise of rising environmental concern to being a more central issue that poses a threat to the citizenry of the risk society.

Finally, it is important to note the changing role of technologies for the treatment and management of food waste. Against the demands of reducing the amount of food (and other materials) being sent to landfill, technological solutions are becoming an attractive option to policy-makers. The possibility of composting of food or converting it to energy through anaerobic digestion signals the hope of transforming 'waste' into 'value' and so making an economic virtue out of ecological challenges.

Waste matters: new perspectives on food and society

The account above is necessarily truncated and something of a 'potted history'. The four strands identified nevertheless indicate that – in combination – the

factors giving rise to the new politics of food waste are gratifyingly (if alarmingly) complex, and go far beyond accusing householders of fecklessness. In all this recent activity, a subtle and ongoing relationship between food waste scholarship and food waste politics has developed and strengthened. Both WRAP and Stuart (2009) draw strongly upon sources of information and expertise that reside in the world of formal scholarship and research (either in the academy or in government). However, much of this research has been of a style and content that has provided a rather limited and narrow account of food waste. Our intention in the rest of this monograph is to provide an opportunity for the parallel work of social scientists working on food waste to be considered.

In sum, this *Sociological Review Monograph* aims to begin remedying several lacunae: not only the notable gulf between the new politics of food waste and the (lack of) attention it has received in sociological researches generally, but also the absence of food in the sociology of waste and the absence of waste in the sociology of food. And so having summarized the ‘new’ politics of food waste and introduced the key themes, theories and approaches that seem to characterize the new social scientific scholarship on food waste, we now hand over to the individual contributors. In reading these, we trust that it will become apparent that sociology can engage usefully with the issue. Additionally – and following in the wake of Martin O’Brien’s plea (2007) for a sociology of the ‘rubbish society’ – it should become apparent that a substantive focus on food waste helps to think through a number of concerns in contemporary sociological thinking and theorizing.

Notes

- 1 See also Hawkins and Muecke (2004).
- 2 See also Clark and Scanlan (2010).
- 3 More recent estimates (WRAP, 2011; see also Quedest *et al.*, forthcoming) suggest the total volume of household food waste has reduced to 7.2 million tonnes. This is still enough to fill Wembley Stadium nine times over.
- 4 <http://www.lovefoodhatewaste.com> (accessed 21 August 2012).
- 5 <http://www.lovefoodhatewaste.com/recipes> (accessed 21 August 2012).
- 6 <http://www.feeding5k.org/> (accessed 21 August 2012).
- 7 <http://www.bbc.co.uk/news/world-europe-17540287>.

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