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Abstract: *A shift in the social norm of meat consumption is a transition that is repeatedly called for in climate change policy discourse. Yet this rarely sets out practically how such reduction might be achieved and, surprisingly, has yet to look to vegans as a knowledge resource. In drawing upon interview data with 40 UK vegans this article outlines an initial framework toward the greater normalisation of plant-based eating via attentiveness to the elements of vegan practice. These vegan narratives illustrate how the practice is already working for a small section of the UK population. In adopting a practice theory approach, the article offers greater insights into both the obstacles and potential of pro-vegan policy which could have co-benefits across several domains of public health and sustainability.*

Keywords: *veganism, food, practice theory, social norms, climate change, sustainability*

1. Introduction

Given that global temperatures are warmer than during 75% of the Holocene temperature history (Marcott et al.), the average global temperature is over 1ºC above pre-industrial levels and 2016 was the hottest year on record for the third year in a row[1] it seems a fair assessment that we have entered a crisis with regard to climate change. In the absence of policy action toward required systemic infrastructural change to avert what may be a 4ºC rise by 2061 (Betts et al.), this article explores how a low carbon eating practice, veganism (Berners-Lee et al.) can be understood through the lens of a practice theory (Shove et.al. 'Dynamics') approach to sustainable transitions.

Agricultural production and food consumption practices constitute, alongside energy and transport, one of the main three sectors contributing to anthropogenic climate change.[2] Sustainable food practices, which are increasingly discussed in terms of co-benefits to human health and greenhouse gas (GHG) mitigation (Springmann et al.; SDC), involve the localisation of production, seasonal consumption and reducing food waste. Additionally, a low or no meat diet forms an important part of most definitions of sustainable eating practices (SDC). Construing the exact contribution of global animal agriculture is both a technical challenge and a politicised debate in itself. It is contested scientific knowledge. The well-known FAO report *Livestock's Long Shadow* (Steinfeld et al.) argued that animal agriculture contributes 18% of all GHGs (with agriculture overall 30%). A more recent FAO report claimed the figure to be 14.5% (Gerber et al.). Between these a Worldwatch report had claimed the figure to be as high as 51% (Goodland and Anhang). Even the most conservative of these figures places the contribution of animal agriculture above that of transport. Methane (CH_4) accounts for just under half of agricultural emissions with most of that coming from animal production.[3] This is significant since although it does not remain in the atmosphere for as long as CO_2 its global warming potential is 72 times higher over a 20 year period. Mitigating animal sources of methane then could make a significant contribution alongside other policies toward tackling climate change. The urgency with which cumulative carbon in the atmosphere must be faced and the relative potential amenability of food practices to change makes this an important focus of attention.

Although practice theory approaches to sustainability transitions have mostly attended to energy- or transport-related practices, this article contributes to its understandings of sustainable food practices. The main aim of this article is to explore the potential of practice theory as an explanatory framework for vegan transition, contributing further to the social science literature on food practices, critical animal studies and climate change.

The Vegan Society defines veganism as 'a way of living which seeks to exclude, as far as is possible and practicable, all forms of exploitation of, and cruelty to, animals for food, clothing or any other purpose'[4] and includes environmental and health dimensions as further justifications for the practice. Attempting to harness veganism for what is at first glance the 'environmental' cause of ameliorating climate change potentially conflicts with *initial* self-reported explanations for becoming vegan (reinforced by participants in this study) in terms of animal ethics. However, I frame this article in terms of climate change mitigation for three main reasons. Firstly, those aforementioned studies underlining the environmental and climate change consequences of diets high in meat and dairy make clear the broader ecological impact of animal commodification. Secondly, I intend this article to act as an addition to much needed lines of communication between critical animal studies and environmental social science. Thirdly and crucially, given already occurring impacts on animal (human and nonhuman) life attributable to climate change (see for example Pearce-Higgins & Green) it is not ontologically or normatively accurate to falsely dichotomise an 'environmental veganism' from a 'veganism for the animals', since the former is also the latter. As Janssen et al. found in their study, multiple meanings are important to the majority of vegans in adopting and maintaining the practice.

Climate change has emerged as perhaps the most pressing policy issue of this century, yet eating practices also speak to other environmental problems, to other health issues and clearly to ethical questions surrounding our treatment of other animals. The rapid expansion of animal production during the twentieth century, itself made possible by the availability of cheap oil, now sees the sector enmeshed in several contemporary crises. These relate to water scarcity, competition over land use, deforestation, biodiversity loss, famine, zoonoses, heart disease, links with certain cancers, obesity and the question of eroding antibiotic efficacy in humans due to their use in farmed animals. It is thus not surprising that the animal-industrial

complex (Noske; Twine 'Revealing the Animal-Industrial Complex') has emerged as a problematic set of practices and that many reports and papers are now effectively arguing for its downsizing on environmental, health and biodiversity grounds, especially in 'developed' countries (for example Bailey et al.; ETC Group; Foley et al.; Garnett; MacMillan and Durrant; McMichael et al.; Machovina et al.; Nellemann et al.; Pelletier and Tyedmers; SDC; Stehfest et al.; Steinfeld and Gerber; Tomlinson; Wirsenius et al.). The fifth assessment report of the Intergovernmental Panel on Climate Change (IPCC) similarly and belatedly included research data on dietary change under its mitigation working group.

From these large-scale analyses there is an important sociological role to focus on the normalisation of everyday practices which maintain unsustainable patterns of consumption. Veganism as a small but growing practice (in the UK approximately 1% of the adult population now self-identify as vegan[5]) that contests such normalisation should also be an obvious empirical focus because of the potential to comprehend the knowledge required to successfully perform the practice. There has been surprisingly little social science research with vegans (for exceptions see Cherry; Janssen et al.; Larsson et al.; McDonald). Moreover, as Pellow and Nyseth Brehm argue, environmental sociology can improve its critical purchase on the environmental crisis by making stronger links with the sociology of human/animal relations and emergent fields such as critical animal studies (for example Taylor and Twine). Through reference to interview data from vegans, this article explores practice theory as a potential frame for understanding how vegan practice has emerged. As a theory of social change, it affords insights into how the practice can further normalise and grow.

2. Practice Theory Approaches to Social Change

Many different infrastructures require substantial change to address a meaningful societal transition to sustainability. Animal consumption is clearly culturally entrenched and normalised and furthermore, levels of consumption in most 'developed' (and more latterly, 'developing') countries have increased markedly during the past 50 years (Sans and Combris). This itself shows how new norms can become established in a relatively short time period and points to as-

yet unexplored questions around how these transitions were achieved and to what extent they were contested.

In spite of this challenging context sub-cultural niches of practitioners such as vegans already exist. It is the premise of this article that they hold important practice competences that should be explored and valorised culturally and sociologically as potentially signposting transitions to more sustainable eating practices. In learning more about the 'doing' and 'saying' of these practices it ought to be possible to understand their reproduction.

Treating practices, instead of individuals, as the *primary* unit of enquiry and examining how they consolidate and change has been the focus of practice theory. Warde provides a useful recent genealogy of the concept of practice outlining its emergence as a focus of social theory in the 1970s and 1980s most notably in the work of Pierre Bourdieu. However, Warde identifies the arrival of a second phase in practice theory associated with the work in particular of Schatzki (e.g. 1996, 2002) and Reckwitz. This is of most interest to this article especially for the way in which it has been taken up and refined by social scientists specifically interested to understand transitions toward more sustainable practices (for example Shove et al. 'Dynamics'). This phase understood a practice as a patterned and routinized type of behaviour comprised of various elements (Reckwitz 249-250), and framed practices in two senses, as socially recognizable *entities* and as *performances* (Schatzki 'Social Practices'; Reckwitz). Whilst broadly consistent performances of a practice maintain its social form, changes to the everyday performance of a practice (e.g. of eating), it is hypothesized, can eventually engender change in the overall socially recognised practice entity.

This article follows the conceptualization by (Shove et al. 'Dynamics') of practice entities comprised of the following three elements – competences, materials and meaning (see fig. 1). I expand upon these further below. Their general argument is that 'practices emerge, persist, shift and disappear when *connections* between elements of these three types are made, sustained or broken' (14-5 original emphasis). They also argue that connections form between practices themselves, forming what they term 'bundles'; an example might be driving and shopping. When such bundles become integrated parts of routine social infrastructure they form what are referred to as deeply embedded practice 'complexes' (17). To underline,

elements are 'qualities of a practice in which the single individual participates, not qualities of the individual' (Reckwitz 250) which has an implication for how the framework imagines both change and intervention. Exactly what connects elements of a practice together emerges as an important question and this article makes some initial suggestions arising from the data later.

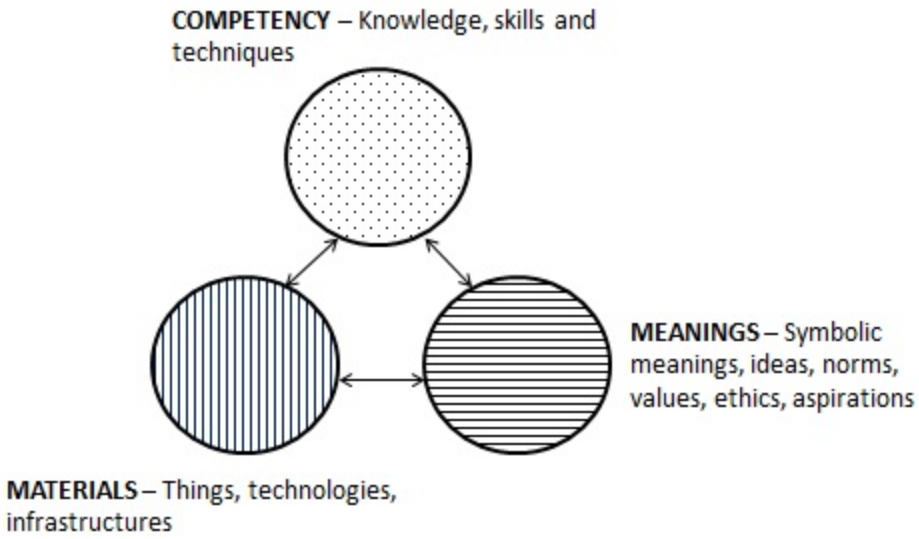


Fig. 1: Elements of a Practice. Shove et al., 2012

Practice theory approaches attend to the dynamism of elements in a practice: how shifting meanings, new materials and new forms of competency change practices and render some redundant, or to use Shove's term, fossilized. Such fossilized elements can become reincorporated into new practices such as the use of many abandoned British railways lines for walking and cycling. Fossils, like sub-cultural elements of practices, are potential resources for thinking about sustainable transitions. We might think of some benefits of a wartime rationed diet which was lower in meat consumption (Cohen), or of experiments with a New Nordic diet (Micheelsen et al.) or in the case of this article re-engaging with the historical traditions of vegetarianism and veganism. The UK Vegan Society, for example, was formed in 1944. In

addition to changing elements, practices can change when others that they may be bundled together with change. Furthermore, although the primary conceptual focus on practices may suggest a posthumanist decentring of social actors, our agency, the networks we form, remain important for understanding practice transitions. Practices pre-suppose relations. Thus the way in which populations of carriers might change can be important for the normalisation or the degeneration of a practice (Watson).

In approaching food sociologically and through a practice theory lens we are faced with various conceptual issues. The everyday practice of eating intersects with many others, notably shopping, transport, storage and cooking practices. Moreover, invisible to most food consumers is the wide array of *production* practices, modes of distribution shaping and shaped by sets of international standards, trade relationships, governance and the political economy of food. In the case of animal consumption there is also the not inconsiderable question of practices bound up in the affective and spatial management of the killing of over 70 billion farmed animals each year.[6] This reminds us that there is also an ethical context to the prescription and organization of eating practices.

This complexity and apparent weak degree of social organisation shapes Warde's opinion that eating is not in and of itself a practice entity (or integrative practice to use Schatzki's term) but is better viewed as what he terms a *compound* practice (although all practices are arguably compound and overlapping). 'Eating is formed from the articulation of different practices, including many in the long food supply chain, the domestic and commercial preparation of meals, and the organization of occasions for the consumption of food' (86). However, the social intensification of vegan eating across especially Western urban centres over the past decade has constructed an identifiable, researchable practice. On the one hand this introduces new complexities (for example, over definition and degree of adherence) but on the other presents a practice that is arguably a far more discernible and socially organised and codified practice of eating. Outside of the community of practice it is increasingly understood, at least in a dietary sense, as involving not eating foods, as far as is practically possible, from an animal source. This is a shared norm. Vegan eating is largely consistent in this respect and delimited in a way that most eating is not. A wide variety of material artefacts are on hand, as

we will see, to assist the everyday doings of veganism (see also Twine 'Materially Constituting a Sustainable Food Transition'). In the UK the Vegan Society is an active presence acting as a reference point to many in the successful performance of vegan eating (and non-eating) practices. This contrasting degree of social organization to most culturally normative *omnivorous* eating practices not only makes veganism more likely to satisfy the conditions of a practice entity but means that it is more amenable to study, and especially, as I will argue, from a practice theory approach.

3. Method

Between June and December 2013 forty vegans in three UK cities – Manchester (14), Glasgow (14) and Lancaster (12) – were interviewed. Pseudonyms are used throughout. Participants were recruited initially through an advertisement in the magazine of the Vegan Society, through local vegan organisations and word of mouth. Once a certain momentum was reached the sample was simple to obtain via the snowball technique. The interviews were semi-structured and open. First, participants were asked to narrate their own story of transition. Secondly, participants were asked about their everyday doing of veganism, including participants' involvement in forms of vegan social organisation and their views on vegan infrastructure. Finally, participants were asked a set of questions about transition and relationships (see Twine 'Vegan Killjoys' for an extended analysis of this dimension). Interviews lasted between 40 and 75 minutes and took place either at the participant's home, my home, in my office or in a vegan-friendly cafe. Participants were aged between 18 and 72 years, with the average age 36.8 years. Twenty-nine participants (73%) were female. Thirty-nine participants (97%) were self-defined white British/European, one was self-defined mixed-race British. Thirty-one participants (77%) either had a first degree or were studying for one. Although this study makes no pretence toward a representative sample and is instead focussed upon what can be learnt from rich in-depth accounts, the sample did reflect common assumptions about the broader UK vegan community as disproportionately female, educated and white (for non-UK commentary see Maurer 11-12; Breeze Harper xv). This article makes no further claims beyond the sample although does argue that a practice theory approach is of use to explaining vegan transition

irrespective of the cultural context of veganism under study. Clearly if only a narrow demographic is disposed toward and captured by the practice then that may be instructive for examining the meanings of veganism and those of animal-consuming practices. Such analyses can potentially inform strategies of vegan mainstreaming.

4. Elements of Vegan Practice

In exploring veganism I consider the elements that make up the practice in order to think about how they may be important for its part social normalisation, a process which is already under way in the case of countries such as the US, Canada, Germany and the UK. This construction of a useful framework is guided by the premise that vegan normalisation is necessary not just to recruit more people to the practice but to shift society generally so that more people eat diets lower in animal products. It would not be surprising if a discourse of 'reduction' is more palatable to most people than one of 'replacement' since the majority of people are fully invested practitioners of animal consumption, but my premise here is that vegan normalisation is co-productive of material infrastructure that *also makes reduction more likely*, even if that is not a satisfactory goal from an animal ethics perspective.

The elements of a practice – competences, materials and meanings – are actively integrated and shape each other. An element can form part of several different practices. Competency includes forms of embodied skill, know-how and technique. It also includes the ability to evaluate one's own performance of a practice against shared understandings. Materials refer to things, technologies and infrastructures. Practice theory foregrounds an embodied ontology and so materiality here also includes the human body (Shove et al. 'Dynamics' 23), though I add here the bodies of other animals and the materiality of plant species. Nonhuman species are enmeshed in human practices and even more so when considering food. The third element 'meanings' is used by (Shove et al. 'Dynamics') to 'represent the social and symbolic significance of participation at any one moment' (ibid.) but generally includes ideas, emotions, aspirations, values and norms. Practice theorists want to move beyond a causal understanding of many of these phenomena. Thus, when thinking about how practices change it has often been

assumed that values and norms should be individualistically targeted first in order to initiate a linear outcome of 'behavioural change'. Instead practice theorists view these phenomena as existing in a recursive relationship to practices rather than acting as external drivers to particular behaviours (see Hards; Shove et al. 'Dynamics' 143-4). Consequently, a target of intervention would be the meanings of a practice rather than the attitudes of an individual.

Policy literature on the relationship between diet and greenhouse gas emissions often shies away from advocating the total removal of meat and dairy from diet. The IPCC report mentioned above espouses a typical discourse here:
'Considerable cultural and social barriers against a widespread adoption of dietary changes to low GHG food may be expected' (36). This is certainly true in the sense of the taken-for-granted nature of animal consumption by the majority. However, it is instructive that for my sample a significant majority of my respondents reported no major problems with their transition and repeatedly referred to it as 'easy'. It should be borne in mind that the majority were transitioning from vegetarianism yet the two main obstacles reported were either extrinsic (the negative social response of non-vegans) or related to occasions such as travelling, when one was outside the comfort zone of daily routines. This sense of unexpected 'ease' may also have been, in part, a product of the sample. Despite these qualifiers if we assume the difficulty of transition that itself can become a barrier to change. I now consider the three elements of practice including the input of participants which affords insight into what constitutes successful performances of vegan eating.

4.1 Competency and Veganism

Certain themes related to acquiring competences were discernible from the data. The forms of know-how required to successfully perform vegan eating included a degree of new cooking skills, nutritional knowledge, ingredient-checking, new places of shopping as well as forms of social competency that made existing amongst normatively omnivorous culture easier. Related to these competences are various antecedent forms of know-how and methodological knowledge around how to acquire these new competences. For example, with ingredient-checking one

needs to know which are of animal origin. Moreover, if one already has cooking skills the transition is likely to be easier. Prior internet access and competency also greatly aided the incorporation of vegan competences. Social skills in accessing both online and offline support groups and organisations proved very important to consolidating transition. Only 1 participant – Maggie, a 72 year old who had become vegan in 1981 – did not use the internet in relation to her veganism. Access to material infrastructure also in many cases assumed an urban location. Thus, although for most of this sample there was a sense of ease in transition we should note that some of the antecedent forms of knowledge may assume a sense of social class privilege.

The successful performance of veganism involves a set of competences which require initial work and reproduction. Arguably misunderstood as a restrictive form of eating, most of the sample reported *expanding* their diet, eating foods that they had not chosen pre-transition. Acquiring knowledge of new ingredients and foodstuffs (materiality) and potentially new ways of cooking was an important competency for this sample. A recurrent thread here was adaptation and experimentation. Several participants embraced the challenge of cooking without animal products and many reported that veganism improved their cooking skills due to a greater need to 'cook from scratch'. Annie, 19, for example, took pleasure in such learning:

> I like experimenting with new recipes, I like getting recipes off friends that have tried stuff. I cook a lot of pasta using different sauces and stuff, I like cooking sauces from scratch. Yesterday I made vegan lasagne for the first time using a vegan white sauce and that was really cool. I've never done that before and we used ground almonds and yeast extract on the top instead of parmesan cheese and that was really nice.

Knowledge of ingredients, labels and trademarks itself constituted a further vegan competency. The UK Vegan Society runs its own trademarking scheme, but this terrain is potentially complicated by the inconsistent use of vegan labelling amongst the major UK food retailers. Many participants reported that 'ingredient-checking' was a new skill that had to be incorporated into their everyday shopping routines. As Steven, 24, outlined, 'You quickly develop a thing of going straight for the ingredients and allergy advice that says milk, eggs, etc.' In lieu of adequate labelling vegans also need to know the names of obscure animal products often unexpectedly found in products. As confirmed by my sample vegans have created the

category of 'accidentally vegan' to describe products that are vegan but not labelled or sold us such. This is of interest for highlighting that *everyone* consumes 'vegan food', a point that partly domesticates an assumedly 'alien' practice.

The subject of labelling links to competency around food procurement and the sharing of knowledge (often online) between vegans on where to find particular products in a given locale, or which restaurant has just started offering vegan options. This was the norm amongst the sample that turned to their new community of practice for knowledge and advice. Post-transition, people were more likely to augment their everyday supermarket shopping with visits to specialist shops with a higher proportion of vegan foods. Whilst a small number of participants were dislocated from a broader vegan social science, the three locations sampled all included events such as potlucks. These were experienced as being useful for sharing recipes, meal ideas, promoting positive meanings of the practice and restoring commensality. Thus Tanya, 30, suggested that potlucks 'have really helped me to try that bit more, try different ideas in cooking', and Rosemary, 64, felt that they had 'increased my repertoire of dishes'. Here we can note how social events can link together the three elements of vegan practice, a point I return to later.

A significant element of vegan practice is competency around nutritional knowledge. The majority of participants wanted to know about this during their transition to allay any fears they (or family) may have had. The supplementation of vitamins such as B_{12} into the materiality of foods has made this less of an issue. Post-transition many vegans attain better competency around nutrition than the general population due to this process. Scientific knowledge claims around nutrition are pertinent to the terrain of sustainable food transitions. The argument from vegans is that prior scientific claims around the 'balanced diet' as necessarily involving meat and dairy products have been bound particularly to cultural norms and political economy, but that scientific nutritional knowledge advocating for veganism is now 'catching up' (for example see American Dietetic Association; National Health and Medical Research Council). Contested knowledge over nutritional quality inevitably colours constructed meanings of food practices with veganism very much located within that political field.

To illustrate the degree of social organisation at play, vegan communities of practice participate in and organize various activities that provide a conduit for competent performance. For example, the UK Vegan Society has a buddy scheme for new recruits, which several of the participants had used, in order to aid performance of the practice. Websites such as Happy Cow (happycow.net) inform practitioners where they can locate vegan or vegan-friendly stores and restaurants. This international website was well known amongst participants, often featuring in their travel planning so they could identify places to eat. It served to partly ameliorate one of the trickier dimensions of transition.

As mentioned above the social context of transition was experienced as the hardest part of transition. Friends, relatives and colleagues could aid or hinder transition in their response to veganism. This connects meanings to competences in that the contested meanings of the practice engendered a need for new vegans to devise forms of social competency to navigate a largely non-vegan social world. Carrie, 19, described having to 'hold my tongue, so that I didn't offend people, even though I wanted to (laughs), learning restraint'. Grace, 45, in reflecting on whether she had to learn any new skills during her transition answered, 'social skills (laughs), assertiveness skills, yeah'. This relates to asking about vegan options in such places as the workplace or when dining out. More generally participants reported having to deal with a significant degree of negative reaction from other people which had to be negotiated (see Twine 'Vegan Killjoys'). It was the wearisomeness of this experience that made the transition occasionally difficult rather than the more intrinsic elements of, for example, sourcing and preparing vegan food for most participants.

In thinking through the elements of practice it is similarly important to research those of the dominant practice. Space prevents me from a full consideration of these in this article. However we can briefly note routine competences associated with animal consumption. Cooking and preparing meat can be a highly skilled process. We might ask, for example, whether the UK tradition of the Sunday roast (see Southerton on the close relationship between food practices and temporalities) remains as strong, whether people still retain the preparatory know how, or whether it is now 'built in' to material kitchen appliances. Such research may

reveal early stages of practice fossilization which could be further useful for theorizing societal transition.

4.2 Materials and Veganism

As a useful illustration of the integration of elements in vegan practice, new forms of nutritional *competency* contest dominant *meanings* of health and ethics, in turn conveyed via novel *materials* in the form of novel foods, vegan nutrition guides and charts, often placed in the kitchen. Such materials simplify the process of doing veganism, acting as aids to planning shopping and practising an understanding of 'healthy eating'.

Materiality is important to the practice theory ontology which stresses the role of objects in co-constituting social life. Practices require materials, the theorization of which has opened up the area of design as potentially important to sustainability transitions (Scott et al.; Shove et al. 'Design of Everyday Life'). The animal-industrial complex draws upon a vast set of technologies and materials to bring animal products to the plates of consumers. We might think of the apparatus of molecular science pivotal to contemporary animal breeding (Twine 'Animals as Biotechnology'), specialised transportation for farmed animals, the material and temporal organisation of the slaughterhouse (Pachirat), storage technologies and food preparation objects specific to the cooking of meat and other animal products.

In thinking about how a dominant meat culture might be contested it is important here to explore the commonalities and differences between the materialities of meat culture and a counter-practice like veganism. Moreover, how does the shadow of the dominant food culture shape that of alternatives? The way in which materials are used and reinterpreted certainly represents an area in which practitioners can innovate and contest the performance of (eating) practices. If we focus on the kitchen environment arguably there is not a marked difference between what an omnivore's kitchen might contain in comparison to a vegan kitchen. A small number of kitchen artefacts are aimed at meat or egg preparation. Refrigerators used to be designed with fixed compartments for eggs; these now tend to be loose, detachable or absent. A large roasting tray aimed at cooking a whole bird can easily be used instead to roast mixed

vegetables. Vegetarian options are now mainstream in material food infrastructures but the picture with veganism is more varied. All participants were privileged in the sense of access to urban vegan or vegan-friendly restaurants and cafés, as well as supermarkets with a growing, if inconsistent, degree of vegan literacy. Veganism remains a less intelligible practice in more rural areas of the UK.

In approaching the data vegan material adaptation and substitution of dominant practices were significant themes. This highlights some of the ways in which the practice is not wholly distinct from the elements of the dominant animal-consuming culture. It also points to tensions *within* veganism over meaning and symbolism and the varied ways of performing vegan eating. For example, some vegans take a position against the consumption of meat and dairy substitutes, preferring less processed alternative sources of nutrition. Thus Michael, 25, viewed substitutes 'as something I enjoy as a treat, but I kind of still have this negative attitude towards processed foods'. The counter-argument tends to view substitution as a convenient aid to transition away from meat and dairy. This latter view was dominant in my sample with the majority of participants consuming substitutes during and after transition. Routines and habits perhaps receive the least disruption via the consumption of, for example, meat-free burgers and sausages, or plant milks. Natalie, 34, for example explained that:

> I always have loads of non-dairy milk and I quite like soya milk, coconut milk, all of those things, and yeah 'cos I'm a big hot chocolate fan so at least I didn't have to get rid of that. I'm a big cereal fan so at least I didn't have to change that, you know that was dead easy to substitute.

Although substitution might imply the possibility of a relatively simple food transition it could fail to do the work, as I discuss below, of the symbolic meanings of particular animal-based foods; in other words, a potential lack of integration between materiality and meaning. The proliferation of such substitutes in mainstream supermarkets however provides a visual presence for vegan foods: tangible evidence of the nascent normalisation of veganism. In recent years the number of dairy substitutes has soared in quantity and quality. Thus many different vegan cheeses are now available in the UK (brands such as Vegusto, Violife or Tofutti) as well as soy, hemp, oat, almond, hazelnut and rice alternatives to dairy milk. Significantly, these represent

new supermarket spaces, the emergence of which also suggests new avenues for research. Substitutes are beginning to be taken up by some caterers and restaurants which is a significant step in normalisation, choice and availability. However they remain to an extent compromised by their general higher cost.

In exploring food materiality it is important to think of the foodstuffs themselves. The emergent part-normalisation of veganism in the UK is tied to the taste of vegan food, which in turn plays an important role in integrating positive meaning for veganism. There was a tangible sense of joy and enthusiasm amongst the participants when talking about the food they create and eat. Annie, 19, for example, used such experimentation to demonstrate veganism (see Twine 'Vegan Killjoys') to family:

> I've experimented with a few different recipes that I found online and from friends, but mostly just cakes and different kinds of biscuits and I tried a cheesecake. I made that twice actually, I made it for my grandparents and my family and didn't tell them that it was vegan and they all really liked it and then I dropped a bombshell (laughs).
>
> (What was their reaction?)
>
> They just didn't understand, they were like, how does it not have cheese in?

This suggests a material mockery of omnivores implying that if vegans can creatively fool them into believing that they are eating non-vegan food then it delegitimises their omnivorous diet. Much of the talk between vegans centres on the tastes of new foods and recipes, stressing the corporeality of the practice, the co-production of taste itself as a new competency (Hennion) and the agency of food materiality in recruiting new practitioners. Vegans have created their own verb, 'to veganize', where traditional animal-based foods are re-created in vegan form. Certain foods take on almost iconic status amongst vegans, such as the vegan cupcake, or the vegan pizza, as a celebration of pleasure in the face of prevailing austere stereotypes of veganism. Food photography shared via social media such as Instagram also appears more common amongst vegans, perhaps again as a mode of communicating the retention of pleasure and commensality, as well as indicating the intensified social organization of food practices in the everyday life of vegans.

4.3 Meanings and Veganism

The images, emotions, norms, ideas and aspirations that comprise eating practices overlap with a complex terrain of other practices. Veganism has to contend with a mythology around animal consumption, as well as the negative stereotypes (Cole and Morgan) reproduced by a hegemonic meat-eating culture that operates normatively to make defections less likely.

Food generally is culturally abundant with meaning as it intersects with other practices related to gendered, classed, ethnic, familial and generational identities. Food consumption is further bound up in cultural values pertaining to self-control, excess and pleasure. It is inescapably tied to meanings related to ethics, health and more recently, environmental sustainability.

Part of the economic success of the proliferation of Western meat consumption in the second half of the 20th century can be attributed to its symbolism which has been a resource for the discursive practices of advertisers. Consuming meat has been associated with strength, health, power, progress, status, virility and masculinity (Adams). To consume meat is presented as the normal thing to do as a human; in some ways it is a practice that has become definitional for a certain view of what the human is, of an exalted position over the rest of nature. This may be one of the most obdurate meanings surrounding meat consumption. The symbolism of meat is sometimes brought into explanations of why many developing countries have started to consume more animal-based foods, constructed as an aspirational Western practice.[7]

The association of meat with hegemonic masculinity and with nation(alism) are important to consider when theorizing the obduracy of the practice of animal consumption. If particular forms of masculinity or nationalism are socially dominant and are partly performed via eating practices we can note what Shove et al. refer to as *bundling*, those 'loose knit patterns like those based on co-location, sometimes turn(ing) into stickier forms of co-dependence'('Dynamics' 87). Here different practices reinforce each other – we might think, for example, of the co-location of men, sports spectatorship and meat consumption.

The practices of vegans can be read as showing much awareness of the social circulation of dominant meanings around animal consumption. The majority of participants, for example, were well versed in the cultural association between meat and masculinity. As a practice that could be read as challenging various hegemonies, it is not surprising that veganism has been negatively represented as extreme, as a sacrifice or restrictive, as heroic in the sense of being very difficult. Doubts may be raised about the vegan body as weak or potentially unhealthy. In response practitioners called upon various elements of meaning to contest such claims and make veganism more socially intelligible and positively valued. Various oppositional strategies to reinvent the meanings of veganism focus on pleasure, health and naturalness, and attempt to erode the symbolism of meat as definitional to, and constitutive of, a meal. Laura, 43, stated that:

> being vegan I think now how easy it is and actually how well it's made me feel, you know, healthy, I've got more energy, certainly definitely the things that have changed in my own sort of physiology over the last, it's made me, well I wouldn't really want to go back.

And Bob, 20, similarly associated veganism with health and energy:

> I feel like my diet in itself is a lot healthier, I feel great, like my energy levels have never been higher. I'm a runner and I thought it would have an impact on how I run but it's not. If anything it's been a benefit really.

Contemporary Western urban veganism stands as a good example of what Soper terms 'alternative hedonism' which occurs in tandem with a new negative aesthetics of animal products, 'commodities once perceived as enticingly glamorous come gradually instead to be seen as cumbersome and ugly in virtue of their association with unsustainable resource use' (580).

To emphasise this hedonistic meaning many vegans, as mentioned, routinely draw upon visual representation of their own meals and recipes as mentioned above. Rachel, 42, reflected upon her photography:

> I keep thinking, why do I take photos? [laughs]. I think it's just a general obsession that vegans have with food and photographing food, evidencing food as being attractive [laughs]…they feel that people see their diet as boring and lentil stew and so if they see a pretty pink cup cake or a lasagne it's like, wow our food can be sexy as well.

Such imagery often includes cakes and sweet foods which may serve to re-present veganism as pleasurable and as involving the innovative recombination of material elements rather than a sacrifice of omnivorous desire. The health benefits of low cholesterol food pleasures may also be underlined. Vegans draw upon their athletes (notably bodybuilders and long distance runners) to emphasise an association of strength, health and endurance with veganism. We might view the UK-registered Running Club 'Vegan Runners' (now one of the largest running clubs in the country) as an attempt to 'bundle' together two practices which could impact upon the meaning of each. The relative ease of veganism as noted amongst this sample is often stressed as a counter to its perception as difficult or awkward. Other central meanings circulated by vegans stress the health, environmental and animal ethics benefits of veganism, with these three usually constituting the three pillars of vegan advocacy. For this sample animal ethics framings for veganism were by far the most overriding initial factor but environmental and health discourses tended to come into play some time after transition and are expressed in the extracts below. Animal advocacy organisations have tended to foreground these three central *meanings* in an appeal to the rationality of the public. This has downplayed the everyday embedding of social actors in routine, habitual practices and has tended to over-rationalize the process of practice recruitment. Practice theory can offer a more coherent view of food transition wherein meanings are dynamically co-produced in relation with materialities, competences and other practices; and a view of actors as socially and affectively situated and actively engaged in self-constitution via practices and their elements.

Participants were offered the opportunity to reflect at the end of their interview upon what veganism meant to them. The answers, some of which are included here, provide a rich

narrative of self-reflection and ethical meaning.

> Treading lightly on the planet, and respecting other sentient creatures.
> (Sonia, 67)

> It means that I can walk on this planet and spend my life doing my utmost to not harm any living thing, that's probably it in its entirety really, it's not kudos for me or yeah I'm better than you, it's just about my internal values and being able to stay true to them.
> (Lucy, 45)

> I think it's just an all rounded lifestyle towards aligning your beliefs and your ethics with what you're eating and what you're consuming in the world, moving away from violence towards not just the animals but your own body and the planet. So it's a complete kind of harmony, it's congruent; it works together with your own ethics, with your own instincts. I think no-one really wants violence to be associated with their food. People don't go to Tesco and want to fight for their food or hunt for it, they want it to be peaceful, they want most of the interactions in their life to be peaceful and away from violence as much as possible.
> (James, 28)

> I think it means living a good a life as I can really. About trying not to hurt anything I suppose, as much as that is possible. But yeah just knowing that even though these horrible things still go on, it's kind of not done in my name and I hopefully haven't got a hand in those things. I can distance myself from them in that way, in a kind of useful way I suppose, 'cos a lot of people distance themselves from them in a kind of let's kid ourselves, it's not really happening kind of way. But I suppose I feel it's a kind of a way of taking action to distance myself from being involved.
> (Grace, 45)

Such examples constitute earnest takes on the moral meanings of veganism. They are representations not often heard in the mainstream media which tends to either reduce veganism to a less threatening health issue or construct it as unobtainable. They are constructions of meaning in process that re-present and perform the practice positively and as personally full of meaning. I end this section with a summary of the elements of vegan practice (fig. 2) which constitutes an initial mapping of key elements which this research finds important for the performance and reproduction of vegan eating practice.

Competences	New cooking skills, ingredient checking and label recognition, knowledge of animal derived ingredients, nutritional knowledge, knowledge of new shopping and eating out infrastructure, forms of social and technological competency.
Materials	Shopping and eating out infrastructure, vegan events (potlucks and fairs), websites and social media, cookbooks, kitchen space, vegan nutrition guides and wall-charts, vegan foods (including substitutes and plant-based foods formerly not part of everyday eating routines).
Meanings	The social construction of veganism associated with expanded choice, pleasure, progress, commensality, strength, health and fitness. Veganism as ethically meaningful; associated with peace, respect, non-violence, more ethical human-animal relations and an environmental way of eating.

Figure 2: Summary of the elements of vegan eating practice

5. Discussion

The last decade has seen numerous high-profile media coverage of links between meat, climate change and human ill-health which have had some impact on eroding the positive cultural value of meat. There exist continuing debates over the efficacy of more confrontational discursive practices amongst vegan advocates. On the face of it, animal consumption and veganism seem like undeniably antagonistic practices involved in a cultural conflict of meaning. Yet everyone

consumes vegan food more or less and other discursive practices may have more success in terms of normalisation and the encouragement of reduced and replaced consumption of animal products. It is then an open question as to whether stressing the positive, aesthetic, commensal and experiential dimensions of vegan eating practice may be a better strategy for sustainable transitions. The problem with this may be that it avoids questions surrounding animal ethics which constitute the very meanings that are so pertinent for many vegans and which were the overriding self-reported reason for *initially* becoming vegan for 95% of the sample in this study.[8] This is not to imply that animal ethics discourses will necessarily be confrontational or negative but that this depends upon their framing and communication. For example, viewing conformity to animal consumption in terms of habit, convenience and routine rather than individual moral failure is arguably a fairer and less confrontational framing, and is implied by a practice approach.

A practice theory approach to vegan transition affords various advantages. Firstly it offers ontological correctives to overly psychological understandings of social change which may dis-embed actors from their everyday enmeshment in practice and overstate the purchase of rational argument as a pretext for change. Secondly, deconstructing vegan practice according to the interplay between the three practice elements affords new framings of transition and of practice defection. Elsewhere (Twine 'Vegan Killjoys') I have referred to 'non-practising practitioners': friends and relations of vegans who inadvertently promote the practice through adopting some vegan competences and engaging with vegan materiality. This is similar to Lave and Wenger's notion of peripheral participation though it is not obvious that such people will become full members of the community of practice. We can understand their (as-yet) non-vegan status in terms of strong connections between competences and materiality (see fig. 1) but weak connections between these elements and vegan meanings. Moreover we can use this framework to understand the 'vegan-curious' as engaging with some vegan meanings but perhaps lacking competences over how one might incorporate the practice into everyday routines. Similarly, former vegans could also be understood as experiencing the loss of strong connections between the elements of the practice.

Thirdly, practice theory offers new avenues for intervention which could assist in the social diffusion of a practice. Interventions at the level of the practice that may for example involve re-crafting practices or elements, substituting practices or elements or changing how practices interlock (Spurling et al.) introduce possibilities of change that are also potentially far more rapid than appealing to individuals. In the case of veganism we can re-apply the framework in order to interpret how practitioners are already using strategies such as substitution in order to re-craft eating practices. Finally it can be convincingly argued that applying the framework also produces more systematic knowledge about the dynamics of vegan practice. This act of reflective practice deconstruction produces further understanding of veganism that importantly can contribute to shared knowledge of transition process and ultimately engender the future guiding of 'becoming vegan' wherein this practice theory framework can have a direct impact for the *self-reflexivity* of new practitioners.

6. Conclusion

It is difficult to avoid the conclusion that societal re-evaluation of human-animal relations should ideally constitute a *direct* response to the environmental crisis, based upon a transition which performs an ethical rethinking of the more-than-human. This necessarily broadens out understandings of 'sustainability' from narrow efficiency calculations to a meaning rich in interspecies ethics (Twine 'Animals as Biotechnology'; Probyn-Rapsey et al.). There are of course many practice and elemental barriers to such a re-evaluation, not least the political, cultural and economic dominance of animal consumption practices. However understanding vegan transition through a practice theory lens affords a useful analysis of a dynamic practice that is gradually gaining more practitioners. As the worst impacts of climate change unfold new spaces will likely open for veganism and linkages between its elements.

The further routinization of vegan eating practices will likely be achieved through work to develop many of the elements discussed above, connections between them, and the development of inter-practice bundling and complex infrastructure. If, as I argue, it is social relations that provide the conduit for strengthening connections between elements of a practice,

practice theory may suggest that instead of targeting 'attitudes' in minds more success in building a practice will be achieved by facilitating social contexts for the elements of veganism. Such facilitation is assisted by economic capital which is a reminder that one of the most important ways in which elements form strong bonds between each other is via the targeted investment of economic power. Further studies should examine how communities neither marked by whiteness or economic advantage facilitate or do not facilitate the coalescence of vegan practice.

Forms of nascent infrastructure have begun to have some success in recruiting practitioners and in forming commodity chains. For example, Birtchnell argues that a focus on specific *events* can be useful as a context in which all elements of a practice are given the opportunity to intersect and deepen. Events allow practices to be celebrated, given 'visibility, merit and institutional blessing' (4). In the case of contemporary veganism community potlucks, cooking courses and larger scale vegan food fairs[9] are good examples of events that do integrative work around practice elements. Birtchnell also argues that exemplary or elite practitioners utilise and draw others to specific events and practices and we can see that in the case of vegan celebrities contributing to the cultural mainstreaming and part normalisation of the practice.

This article has provided an initial framework for thinking about sustainable food transitions using practice theory focussed upon the possibility of veganism as a low carbon eating practice. This remained limited here to a consideration of the practice elements and their integration. Further analyses will go into more detail around these elements and the process of transition. Moreover, this approach should be developed further to consider practice bundles (how veganism relates to other practices), nascent vegan or reduced carbon complexes and the animal-industrial complex drawing upon practice theory. Practice theory has already offered much to environmental social science. This article has endeavoured to strengthen this contribution and has raised issues of clear import to critical food studies and critical animal studies.

Finally, environmental sociologists should avoid turning practice theory by default into a sociology of the micro scale or of merging into the depoliticised individualist focus of much

behaviour change research (Shove 'Beyond the ABC'; Webb). Food practices, like those related to energy and transport, are systemic and global. The everyday practices of a *multitude* of differently socially positioned practitioners are key for practice theory in grasping the scale of the problem facing contemporary societies which continue to be tied to a political economy (Sayer) that is anything but sustainable.

Notes

[1] See https://www.theguardian.com/environment/2017/jan/18/2016-hottest-year-ever-recorded-and-scientists-say-human-activity-to-blame

[2] The following link presents a sectorial breakdown. It's worth noting that some emissions from, for example, land use changes and transport are attributable to agriculture. See https://www.theguardian.com/environment/2011/apr/28/industries-sectors-carbon-emissions These sectors are difficult to separate out from each other in practice and therefore I would encourage fellow social scientists in this area to be suspicious of sectorial approaches and instead also do work that approaches their intersection. For example, the United Nations Environment Programme (UNEP) state that "nearly 21% of fossil fuel used by humans goes into the global food system" (see http://www.unep.org/resourceefficiency/Home/Business/SectoralActivities/AgricultureFood/tabid/78943/Default.aspx).

[3] This is an FAO figure reported by Worldwatch, see http://www.worldwatch.org/agriculture-and-livestock-remain-major-sources-greenhouse-gas-emissions-0

[4] I am referring to the original Vegan Society, based in the UK, see https://www.vegansociety.com/go-vegan/definition-veganism

[5] This is data from a poll conducted by IPSOS MORI, released in May 2016. See https://www.vegansociety.com/whats-new/news/find-out-how-many-vegans-are-great-britain

[6] From FAOSTAT the total 2011 figure, excluding aquatic animals, was 72,336,940,002 (72.3 billion).

[7] Such explanations need to be cautious and should consider the political economic context of dietary shifts in specific places.

[8] Thirty eight out of the forty participants reported animal ethics reasons as primary, with two participants indicating health reasons as the initial most important reason for becoming vegan.

[9] The UK presently has a vibrant network and busy calendar of vegan food fairs. The largest of these are by the VegFest organisation (www.vegfest.co.uk), presently occurring in London, Bristol, Brighton and Glasgow; with further notable festivals in Manchester, Leeds and most other major UK cities. These events each attract thousands of visitors.

Works Cited

Adams, Carol. The Sexual Politics of Meat: A Feminist-Vegetarian Critical Theory. Continuum, 1990.

American Dietetic Association. 'Position of the American Dietetic Association: Vegetarian Diets.' Journal of the American Dietetic Association, vol.109, no.7, 2009, pp.1266-82.

Bailey, Rob, Antony Froggatt, and Laura Wellesley. Livestock – Climate Change's Forgotten Sector. Global Public Opinion on Meat and Dairy Consumption. Chatham House, 2014.

Berners-Lee, Mike, et al. 'The Relative Greenhouse Gas Impacts of Realistic Dietary Choices.' Energy Policy, vol.43, 2012, pp.184-190.

Betts, Richard, et al. 'When Could Global Warming Reach 4°C?' Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences, vol.369, no. 1934, 2011, pp.67-84.

Birtchnell, Tom. 'Elites, Elements and Events: Practice Theory and Scale.' Journal of Transport Geography, vol.24, 2012, pp.497-502.

Breeze Harper, A. Sistah Vegan – Black Female Vegans Speak on Food, Identity, Health and Society. Lantern Books, 2010.

Cherry, Elizabeth. 'Veganism as a Cultural Movement: A Relational Approach.' Social Movement Studies, vol.5, no.2, 2006, pp.155-170.

Cohen, Maurie. 'Is the UK Preparing for "War"? Military Metaphors, Personal Carbon Allowances, and Consumption Rationing in Historical Perspective.' Climatic Change, vol.104, no. 2, 2011, pp.199–222.

Cole, Matthew, and Karen Morgan. 'Vegaphobia: Derogatory Discourses of Veganism and the Reproduction of Speciesism in UK National Newspapers.' The British Journal of Sociology, vol.62, no.1, 2011, pp.134–153.

ETC Group. Who Will Feed Us? Questions for the Food and Climate Crisis. ETC Group, 2009.

Foley, Jonathan, et al. 'Solutions for a Cultivated Planet.' Nature, vol.478, 2011, pp.337-342.

Garnett, Tara. 'Livestock-related Greenhouse Gas Emissions: Impacts and Options for Policy Makers.' Environmental Science and Policy, vol.12, no.4, 2009, pp.491-503.

Gerber, Pierre, et al. Tackling Climate Change Through Livestock – A Global Assessment of Emissions and Mitigation Opportunities. Food and Agriculture Organization of the United Nations (FAO), 2013.

Goodland, Robert, and Jeff Anhang. Livestock and Climate Change: What if the Key Actors in Climate Change Are… Cows, Pigs, and Chickens? Worldwatch Institute, Washington DC, 2009.

Hards, Sarah. 'Social Practice and the Evolution of Personal Environmental Values.' Environmental Values, vol.20, no.1, 2011, pp.23-42.

Hennion, Antoine. 'Pragmatics of Taste.' The Blackwell Companion to the Sociology of Culture, edited by Mark Jacobs and Nancy Hanrahan, Blackwell, 2004.

IPCC. Working Group III Contribution to the IPCC 5th Assessment Report Climate Change 2014: Mitigation of Climate Change. United Nations, 2014.

Janssen, Meike, et al. 'Motives of Consumers Following a Vegan Diet and Their Attitudes Towards Animal Agriculture.' Appetite, vol.105, 2016, pp.643-651.

Larsson, Christel, et al. 'Veganism as Status Passage – The Process of Becoming a Vegan Among Youthsin Sweden.' Appetite, vol. 41, 2003, pp.61-67.

Lave, Jean, and Étienne Wenger. Situated Learning: Legitimate Peripheral Participation. Cambridge University Press, 1991.

MacMillan, Tom, and R. Durrant. 'Livestock Consumption and Climate Change: A Framework for Dialogue.' Food Ethics Council/World Wildlife Fund, 2009.

McDonald, Barbara. '"Once you know something, you can't not know it" – An Empirical Look at Becoming Vegan.' Society and Animals, vol.8, no.1, 2000, pp.1-23.

McMichael, Anthony, et al. 'Food, Livestock Production, Energy, Climate Change, and Health.' The Lancet, vol.370, no.9594, 2007, pp.1253–1263.

Machovina, Brian, Kenneth Feeley and William Ripple. 'Biodiversity Conservation: The key is Reducing Meat Consumption." Science of the Total Environment, vol.536, 2015, pp.419-431.

Marcott, Shaun, et al. 'A Reconstruction of Regional and Global Temperature for the Past 11,300 Years.' Science, vol.339, 2013, pp.1198-1201.

Maurer, Donna. Vegetarianism – Movement or Moment? Temple University Press, 2002.

Micheelsen, Arun, Lotte Holm, and Katherine O'Doherty-Jensen. 'Living with the New Nordic Diet.' British Food Journal, vol.116, no.8, 2014, pp.1247-1258.

National Health and Medical Research Council. Australian Dietary Guidelines. http://www.nhmrc.gov.au/guidelines/publications/n55. Australian Government, NHMRC, 2013.

Nellemann, Christian, et al. The Environmental Food Crisis – The Environment's Role in Averting Future Food Crises. A UNEP Rapid Response Assessment. United Nations Environment Programme, GRID-Arendal, 2009.

Noske, Barbara. Humans and Other Animals. Pluto Press, 1989.

Pachirat, Tim. Every Twelve Seconds – Industrialized Slaughter and the Politics of Sight. Yale University Press, 2011.

Pearce-Higgins, James, and Rhys Green. Birds and Climate Change: Impacts and Conservation Responses. Cambridge University Press, 2014.

Pelletier, Nathan, and Peter Tyedmers. 'Forecasting Potential Global Environmental Costs of Livestock Production 2000-2050.' Proceedings of the National Academy of Sciences, vol.107, no.43, 2010, pp.18371-18374.

Pellow, David, and Hollie Nyseth Brown. 'An Environmental Sociology for the Twenty-First Century.' The Annual Review of Sociology, vol.39, 2013, pp.229-250.

Probyn-Rapsey, Fiona, et al. 'A Sustainable Campus: The Sydney Declaration on Interspecies Sustainability' Animal Studies Journal, vol.5, no.1, 2016, pp.110-151.

Reckwitz, Andreas. 'Toward a Theory of Social Practices: A Development in Culturalist Theorizing.' European Journal of Social Theory, vol.5, no.2, 2002, pp.243 – 63.

Sans, Pierre, and Pierre Combris. 'World Meat Consumption Patterns: An Overview of the Last Fifty Years (1961–2011).' Meat Science, vol.109, 2015, pp.106-111.

Sayer, Andrew. 'Power, Sustainability and Well-being: An Outsider's View.' Sustainable Practices – Social Theory and Climate Change, edited by Elizabeth Shove and Nicola Spurling, Routledge, 2013.

Schatzki, Theodore. Social Practices: A Wittgensteinian Approach to Human Activity and the Social. Cambridge University Press, 1996.

---. The Site of the Social – A Philosophical Account of the Constitution of Social Life and Change. Pennsylvania State University Press, 2002.

Scott, Kakee, Conny Bakker, and Jaco Quist. 'Designing Change by Living Change.' Design Studies, vol.33, no. 3, 2011, pp.279-297.

SDC (Sustainable Development Commission). Setting the Table - Advice to Government on Priority Elements of Sustainable Diets. Sustainable Development Commission: London, 2009.

Shove, Elizabeth. 'Beyond the ABC: Climate Change Policy and Theories of Social Change.' Environment and Planning A, vol.42, no.6, 2010, pp.1273-1285.

Shove, Elizabeth, et al. The Design of Everyday Life. Berg Publishers, 2007.

Shove, Elizabeth, Mika Pantzar, and Matt Watson. The Dynamics of Social Practice – Everyday Life and How it Changes. Sage, 2012.

Soper, Kate. 'Alternative Hedonism, Cultural Theory and the Role of Aesthetic Revisioning.' Cultural Studies, vol.22, no.5, 2008, pp.567-587.

Southerton, Dale. 'Habits, Routines and Temporalities of Consumption: From Individual Behaviours to the Reproduction of Everyday Practices.' Time and Society, vol.22, no.3, 2013, pp.335-355.

Springmann, Marco, H. et al. 'Analysis and Valuation of the Health and Climate Change Co-benefits of Dietary Change.' Proceedings of the National Academy of Sciences, vol.113, no.5, 2016, pp.4146-4151.

Spurling, Nicola, et al. 'Interventions in Practice: Reframing Policy Approaches to Consumer Behaviour', Sustainable Practices Research Group Report. www.sprg.ac.uk/uploads/sprg-report-sept-2013.pdf 2013.

Stehfest, Elke, et al. 'Climate Benefits of Changing Diet.' Climatic Change, vol.95, no.1, 2009, pp.83-102.

Steinfeld, Henning, et al. Livestock's Long Shadow: Environmental Issues and Options. Food and Agriculture Organisation of the United Nations, 2006.

Steinfeld, Henning, and Pierre Gerber. 'Livestock Production and the Global Environment: Consume Less or Produce Better?' Proceedings of the National Academy of Sciences, vol.107, no.43, 2010, pp.18237-18238.

Taylor, Nik, and Richard Twine, eds. The Rise of Critical Animal Studies – From the Margins to the Centre. Routledge, 2014.

Tomlinson, Isobel. 'Doubling Food Production to Feed the 9 Billion: A Critical Perspective on a Key Discourse of Food Security in the UK." Journal of Rural Studies, vol.29, 2011, pp.81–90.

Twine, Richard. Animals as Biotechnology – Ethics, Sustainability and Critical Animal Studies. Routledge, 2010.

---. 'Revealing the "Animal-Industrial Complex" – A Concept & Method for Critical Animal Studies?' Journal for Critical Animal Studies, vol.10, no.1, 2012, pp.12-39.

---. 'Vegan Killjoys at the Table - Contesting Happiness and Negotiating Relationships with Food Practices.' Societies, vol.4, no.4, 2014, pp.623-639.

---. 'Materially Constituting a Sustainable Food Transition: The Case of Vegan Eating Practice.' Sociology, published online first 2017.

Warde, Alan. The Practice of Eating. Polity Press, 2016.

Watson, Matt. 'How Theories of Practice Can Inform Transition to a Decarbonised Transport System.' Journal of Transport Geography, vol.24, 2012, pp.488–496.

Webb, Janette. 'Climate Change and Society: The Chimera of Behaviour Change Technologies.' Sociology, vol.46, no.1, 2012, pp.109-125.

Wirsenius, Stefan, Fredrik Hedenus, and Kristina Mohlin. 'Greenhouse Gas Taxes on Animal Food Products: Rationale, Tax Scheme and Climate Mitigation Effects.' Climatic Change, vol.108, no. 1-2, 2011, pp.159–184