

Sustainable governance and management of food systems

Ethical perspectives

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edited by:
Eija Vinnari
Markus Vinnari



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1. Investigating the elasticity of meat consumption for climate mitigation: 4Rs for responsible meat use

S. Ejlertshov¹, M. Korsnes², A. Møller Gabrielsen³, T. Finstad⁴, F. Gierew⁴, C. Dyresen⁵, A. Hansen⁶ and U. Weis⁶
¹Programme for Applied Ethics, NTNU, Høgskoleringen 1, 7491 Trondheim, Norway; ²Interdisciplinary Studies of Culture, NTNU, Høgskoleringen 1, 7491 Trondheim, Norway; ³Philosophy and Religious Studies, NTNU, Høgskoleringen 1, 7491 Trondheim, Norway; ⁴Psychology, NTNU, Høgskoleringen 1, 7491 Trondheim, Norway; ⁵Cultural Geography, Wageningen University, Droevendaalsesteeg 3, 6708 PB Wageningen, the Netherlands; ⁶SCUM, University of Oslo, Problemveien 7, 0315 Oslo, Norway; sophia.ejlertshov@ntnu.no

Abstract

What Tony Weis (2007) describes as the process of 'meatification' of global diets implies that meat has moved from the periphery to the centre of human food consumption patterns. 'Demeatification', putting meat consumption back to the periphery, is desirable both for reducing agricultural emissions implicated in the energy-grain-livestock system, and for responding to ethical commitments to human and animal welfare and to global justice. But what does it take to 'demeatify' food consumption? This paper investigates the cognitive, psychological and moral dimensions of meat consumption. We design a suite of interventions aimed to test the social and moral 'elasticity' of Norwegian meat consumption, scaled from less to more intrusive, as follows: (1) diffusion of information on: (a) climate and ethical impacts of large-scale meat production; (b) physical and mental health effects of meat consumption and production for consumers and for farm and abattoir workers; (2) experience-based interventions: (a) commercial propaganda spots for meat consumption reduction or climate-friendly meat alternatives; (b) creating 'live' simulations facilitating facing animals, farm workers and production systems as moral agents, e.g. via experiencing low-scale organic farming vs large-scale industrial farming; and; (3) instilling a personal meat allowance for selected groups of consumers. Response variations will be analysed using control experimentation and qualitative methods, attending to demographic characteristics including gender. Demeatification policies responding to the 'elasticity' of meat consumption in Norway have a higher chance of being socially robust.

Keywords: meat consumption, climate, social practices, food practices, principle-based ethics

Meatification and demeatification

What Tony Weis (2007) describes as the process of 'meatification' of global diets implies that meat has moved from the periphery to the centre of human food consumption patterns. 'Demeatification' – putting meat consumption back to the periphery – is desirable both for reducing agricultural emissions implicated in the energy-grain-livestock system and for responding to ethical commitments to human and animal welfare and to global justice (e.g. Aurdal and Løyland Ormhol, 2013; Logstein, 2016; Ursin, 2016). The impact of meatification on climate change has been especially highlighted recently.

The key role of livestock farming in contributing to global greenhouse gas emissions became widely known with the publication of the FAO report 'Livestock's long shadow' (Steinfeld, 2006). Why is meat so problematic for the climate? It is now well known that livestock's ecological 'footprint' (Weis, 2013) can be felt not only in the atmosphere, methane gas emissions, CH₄, being the most highlighted ones in cattle farming, but also on the 'lithosphere', on lands converted and/or used to cultivate feed for livestock, and in the hydrosphere, as the phosphorous and nitrogen used to fertilise food crops enter

the water system (Willet *et al.*, 2019). The size of meat's impact is significant. The livestock industry is currently estimated to utilise 40% of global arable land, 36% of calories produced from crops, 29% of all freshwater used in agriculture while it produces 14.5% of all human greenhouse gas emissions (Froggatt *et al.*, 2019). Meat and dairy provide just 18% of calories and 37% of protein, yet use 85% of all farmland (Poore and Nemecek, 2018).

In recent years the consumption of meat as one of the factors influencing climate change has become mainstream. Articles in the international press now claim that 'avoiding meat and dairy is the single biggest way to reduce your impact on earth' (The Guardian, 2018). However, what is not clear is how societies are transition to low emissions food systems with the speed needed to meet 2030 climate goals. Meeting global climate targets implies, for the average global citizen, a 75% reduction in their meat consumption, and for citizens in the Western hemisphere, a 90% reduction (Froggatt *et al.*, 2019). The planetary health diet recommended by the EAT-Lancet Commission includes a 14 g daily allowance of meat (beef, lamb or pork) – a sausage weighs on average 80 g.

What does it take to 'demeatify' food consumption?

In this paper we investigate the prospects of 'demeatifying' the Norwegian diet. Our assumption is that strong paternalistic control over diets would create significant backlash. We are thus interested to investigate how elastic existing practices already are.

Food, with the practices that go into its making, and the systems that provide it, has become a complex sociotechnical phenomenon (Fine, 2013; Shore *et al.*, 2012; Wardle, 2014). The corporatisation, mechanisation, bureaucratization and the associated scale and logistics of food provisioning in the Western world mean that very few of us will harvest our own food directly. If so, it is mostly as a special cultural activity like picking berries or mushrooms, hunting or cultivating's one garden. To understand how – at what stage and in which way – common food practices can be shifted to reach the multiple sites, scales and speed needed to address climate change we need concerted interdisciplinary and transdisciplinary action (Estachou, 2016). And we need to engage with key stakeholders from the multiple directions and different levels at which food practices are organized.

We have identified four approaches originating from distinctive disciplinary milieus as ways of investigating how 'elastic' social and cultural Norwegian meat consumption is. The term 'elasticity' is often used in economics to talk about the flexibility of supply and demand with regards to pricing. Here instead we are interested in the socio-cultural flexibility of consuming meat. The four approaches we propose to study the socio-cultural elasticity of meat consumption are:

1. Humanities: understanding the historical, cultural and moral foundations of meat consumption, through history, philosophy and cultural studies
2. Social science: investigating the pliability of actual food practices on the level of households, individuals or other groups, using empirical data collection and experimentation with different dietary practices
3. Psychology: exploring the role of emotions in shaping organisational practices around meat
4. Arts: investigating and creating new imaginaries for meat utilizing approaches from artistic research and applied theatre.

In what follows we focus on approaches from within the humanities and briefly connect to the other approaches in conclusion.

The 4Rs or the elasticity of responsible meat consumption

Our main research question is how pliable Norwegian meat consumption practices are. However it is not any type of elasticity we are interested in. We are specifically interested in the scope for what we dub the '4Rs' of responsible meat consumption within existing food systems:

1. Reducing the amount of animal-based proteins used
2. Replacing animal-based protein with plant-based, or insect-based alternatives
3. Refining processes of utilization of animal-based protein to minimize emissions, loss and waste
4. Recognising animal-based protein as precious, i.e. recognising the people and the animals involved in meat production.

These four principles are derived by analogy to ethical principles guiding the use of animals in research, the so-called 3Rs, namely: the imperatives to reduce the number of animals needed to make a scientific inference, to replace animal experiments with other types of research, and where not possible to replace 'more' with 'less' sentient creatures, and to refine the experimental setup so it minimizes the discomfort and/or distress inflicted upon the animals (Russell and Burch, 1959). The 4Rs are explored here from the perspective of consumers.

There are no such principles guiding the use of animals in farming given the farming industry intrinsically relies on increasing its resources of which animals are one. The current profile of climate change however opens up a way to re-appreciate meat – indeed what we articulate as the fourth principle of recognizing the preciousness of meat above given planetary boundaries. We proceed to reflect on how these 4Rs can be modulated from a cultural-social perspective, that is we look at cultural factors that could stretch current food practices along the 4R aspects.

Reduction

Eating is not only taking in nutrition, it is connected to occasions. By occasions we understand the social cultural settings where eating takes place. Reducing meat consumption involves shifting practices around meat consumption, i.e. meaning, competencies and materials (Shore *et al.*, 2012). For example, the idea that one must have three central daily meals (breakfast, lunch, dinner) structures occasions for eating and what types of meals can 'pass' as these, while types of eating (barbecue, picnic, feast, Christmas dinners) also come with a certain script. There are certain situations where having meat is expected, and certain types of company where having meat may be expected. Reducing meat consumption in this case would involve altering the occasions for meat consumption, expectations for performing certain social relationships through food or altering associations between, for example, 'meat' and having a barbecue, or altering materials (animal or plant-based) that go into these occasions.

Another important dimension of action here could be gender. The connection between meat consumption and gender is well established with meat being symbolically linked to masculinity and power (Adams, 2010; Allen *et al.*, 2000; Cavazza *et al.*, 2015) and red meat regarded as 'the quintessential masculine food' (Fiddes, 1991). Research has shown that women are twice as likely to endorse vegetarian beliefs as men (Kalof *et al.*, 1999), and according to a recent Norwegian SIFO survey, women outnumber men when it comes to all the main reasons for reducing meat (health, environment/climate and animal welfare) (Bugge and Alfnes, 2018). These findings confirm previous Norwegian research showing that women are more likely to have negative attitudes towards (red) meat (Kubberød *et al.*, 2002a) and that more men than women display positive attitudes towards meat (Kubberød *et al.*, 2002b).

As women still take the main responsibility for the preparation of food in family households (Bugge, 2015), the increase in women's positive attitudes towards meat-reduction seems promising. There are,

however cavers within this line of reasoning. For one, the attitudes of Norwegian women towards meat are by no means unison. For instance, the number of female hunters is increasing and the young female hunters 'Jegertvillingene' have become cultural icons with their tv-show based on their fascination for hunting, killing and eating wild animals. In a gender equality perspective this is an interesting development as women are entering a field previously reserved for men. However, it demonstrates a new type of ambiguity concerning the gendering of meat that would be interesting to explore further.

Replacement

How elastic are Norwegian food practices in replacing meat? Historical evidence shows that at times when shifts in dietary practices were sought new competences – via cookbooks – and new materials were sought out. In this case a lot of the challenges with replacing meat will have to do with a lack of adequate knowledge of how one can replace the meat. More information, cookbooks and equipment to help people familiarize themselves with what foods are sources of protein and what gives you the kind of textures and energy that you want is at the centre of this information-gathering.

Food such as meat was regulated by a quota system during world war II and some years after in Norway. Each consumer would get a weekly or monthly quota of meat set by the national nutritional expertise. The measure was two-sided. First, it was to make sure that everyone had enough to eat and, second, it was supposed to regulate imports. This mirrors current needs on a planetary scale – to ensure food security for a growing world population and to stay within safe planetary boundaries. The interesting thing about past efforts is that cookery book authors became vital for giving consumers advice on how to make due in a time when food provisioning was lacking. That is, new recipes, new dishes and influencers were needed for consumers to manage the transfer to harder times without too much suffering. So, besides any form of meat rationing or the promotion of meat reduction, this also means that one has to take the responsibility of suggesting new cookery practices and techniques through education.

Refinement

How easy it is to refine meat practices to produce less waste and loss is also largely a matter of new and better training. Key competences here might include learning to cook and to process leftovers as part of new meals. Perhaps developing new modes to assess one's needs better, using Smart Hides and AIs that can manage our food and food waste more efficiently than us is another alternative (Russell *et al.*, 2017).

It has been a cultural phenomenon of our times that people look for food in the trash of retail corporations – a practice called 'dumpster diving' (Barnard, 2016). This is a new practice undertaken, though it is illegal in several countries, not out of poverty or lack in one's own resources but as an act of reducing food waste. Though the commercial industry uses virtually every part of the animal as a source of food or myriad industrial substances which is very effective, household practices do not stand to be 'rationalised' in the same manner. Dumpster-diving practices can create an awareness of what is still edible, although meat is often avoided in dumpster-diving too. 'Dive your own dumpster' could be a mode to reflect on the scale of food waste we produce.

Recognition

Western life is commonly represented as technological, digital and urban. What stays invisible is the scale of predation routinised in modern food systems – we today eat, on average, twice as much animal flesh as our grandparents did, and we are twice as many people on the planet. Processes for slaughter and processing animals have been mechanised to an impressive degree: 140 chickens per minute and

1,300 hogs per hour are killed in some US industrial farms, a rate that still is perceived as having room for optimisation (Blomberg, 2019).

A fourth direction in which meat consumption in Norway could be elastic is in recognizing the value of each and every animal, farmer and worker that contributes towards the production of meat (Beig *et al.*, 2010). In very general terms, most people think that harming animals is bad. But we still continue to eat animals, including animals reared in large-scale industrial settings. This has been dubbed the 'meat paradox' (cf. Loughnan *et al.*, 2010; Urisin, 2016). One way to approach this type of 'industry recognition' is to set up new routines and rituals – perhaps to look to 'good old' Protestant values on valuing and honouring the meat meal that happens usually once a week (on a Sunday).

One inspiring approach here is the ethics of the encounter. Levinas (1969) developed an understanding of ethics as a mode of being. In his account, ethics is not about action reasoned through principled normative ethical theories to their practical conclusion – attempting to, for example, maximise the greatest good for the greatest number (utilitarianism), to act in a way that respects one's moral duties or can be universalised to the rest of mankind in a similar situation (Kantianism), to accomplish virtue (e.g. courage as the golden mean between the vices of cowardice and recklessness), or to maximise care in relationships with significant others (care ethics). Rather, for Levinas, ethics consists in an experience non-translatable to cognitive inference-making which happens when one stumbles upon the other as a being radically different to oneself and calling oneself to pause one's spontaneity (routines or practices) against this, what Levinas calls 'the face' of the other. For Levinas, ethics is what happens when the face speaks. Levinasian ethics has been recently developed to speak to the questions of animal ethics (Elstathou, 2019) and can be extended to consider human-animal relationships in meat consumption.

The heavily mechanised mode of producing, distributing and purchasing meat arguably functions as a way to efface the people and animals involved in its production. By extending work pursued to analyse human-animal relationships in laboratory settings one can identify five types of technology structuring human-animal relationships within meat consumption chain: (1) architecture: the buildings, often windowless, fenced and isolated 'islands' (Wels, 2013) in oceans of monocultures, where meat producing animals are kept, reared, and where they are slaughtered; (2) protective equipment used by people working in these sites; and respectively packaging used to protect the meat products from contamination – what can also function to obscure the extended face (body and face) of these animal others; (3) entering and exit protocols for the spaces where meat is processed – what provides an opportunity to shed one's 'ordinary', non-professional identity besides its manifest purposes such as sanitation or safety; (4) identification tools and conventions – how livestock animals and meat products are identified in the process of producing them, e.g. the use of numeric systems versus personal names; (5) protocols for handling animals and the opportunities created for human-animal interaction, empathy or play. Such modes of structuring human-animal encounters can be investigated as ways of blocking the face (face and body) of the humans and animals in meat, and correspondingly offer opportunities to intervene and enable facing the humans and animals involved in infrastructures of meat provision systems.

Conclusion

We have attempted to offer a scheme for investigating the elasticity of meat consumption practices in Norway following a theoretical framework of 4R principles: reducing, replacing, refining and recognising meat as precious.

In conclusion we clarify that the 4Rs for responsibly using animals in food systems are interconnected, reduction will often come with recognition and the other way around, for certain animals, refinement and

replacement can both benefit from new training and skills, proper refinement and waste minimisation opening up ways to reuse meat or leftovers and to then reduce consumption.

The approach pursued here focused on the contributions that history, cultural studies and ethics could bring to the discussion. However, equally important is work along empirical social science pathways to engage with households and business actors on reducing, replacing, rethinking and recognising meat, as well as mobilising artistic creativity and imagination to facilitate a collective shift in how we value and use meat to build community.

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