

Normalised, human-centric discourses of meat and animals in climate change, sustainability and food security literature

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Abstract The large-scale, intensive production of meat and other animal products, also known as the animal-industrial complex, is our largest food system in terms of global land use and contribution to environmental degradation. Despite the environmental impact of the meat industry, in much of the policy literature on climate and environmental change, sustainability and food security, meat continues to be included as part of a sustainable food future. In this paper, I present outcomes of a discourse analysis undertaken on a selection of key major international and Australian reports. After highlighting common themes in the ways that meat and animals are discussed, I draw on the animal studies literature to critically analyse the assumptions underpinning such policy documents. My analysis illustrates that animals are effectively de-animated and rendered invisible in these bodies of literature by being either aggregated—as livestock, units of production and resources, or materialised—as meat and protein. These discursive frames reflect implicit understandings of meat as necessary to human survival and animals as a natural human resource. A critical examination of these understandings illustrates their dual capacity to normalise and encourage the continuation of activities known to be seriously harming the environment, climate and human health, while at the same time obstructing and even denigrating alternative, less harmful approaches to food. In response, I offer some conceptual and analytical modifications that can be easily adopted by researchers on climate change,

sustainability and food security with the aim of challenging dominant discourses on meat and animals.

Keywords Meat production · Non-human animals · Critical animal studies · Discourse · Language · Emotion · Ethics

Introduction

Major research reports addressing climate and environmental change, sustainability and food security from organisations including the United Nations, the World Bank, the World Resources Institute and the Intergovernmental Panel on Climate Change (IPCC) wield significant authority and influence discussions, policy and practice at both global and national scales. As the contribution of food systems to environmental and climate change becomes better understood and recognised, the production and consumption of food are increasingly key elements of these reports.

Our largest food system, in terms of land use and environmental impacts, is the production of meat and other animal products, also known as the animal-industrial complex (Twine 2012). Globally, this industry kills over 75 billion animals annually, accounting for 14–51 % of global greenhouse gas emissions,¹ 70–75 % of agricultural land

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¹ Estimated emissions attributed to livestock typically range between 10 and 35 % depending largely on the exclusion or inclusion of deforestation and land use change (Schwarzer et al. 2012). Goodland and Anhang (2009) identify several sources of emissions that they claim have been underestimated, overlooked or misallocated in past studies. While some of their claims have been accepted by the authors of previous studies, there remains controversy around others, especially livestock respiration which comprises 13.7 % of their total figure of 51 %.

use, and 20 % of the terrestrial animal biomass (FAO 2006; Fiala 2008; Goodland and Anhang 2009; Ripple et al. 2014; Steinfeld et al. 2006). Worldwide meat production has tripled over the last four decades, increasing 20 % in just the last 10 years (Worldwatch Institute 2011), and the annual increase in consumption consistently outpaces population growth (FAO and OECD 2011). Consumption is predicted to increase a further 73 % by 2050 (Colby and Punda 2009; FAO and OECD 2011).

The extent and scale of global impacts attributed to rearing livestock for meat and other animal products are well documented, and unequivocal warnings have been issued by key organisations including the FAO and UNEP, and key figures including Lord Stern (British economist and author of the 2006 Stern Review on the Economics of Climate Change), and Dr Rajendra Pachauri (chief climate scientist for the United Nations and former chair of the IPCC).² In spite of this, there remains a consistent failure in the sustainability and climate change research and policy space to afford it proportional attention, relative to energy and transport.³ Indeed, the ongoing release of new reports, most recently from *The New Climate Economy: The Global Commission on the Economy and Climate* (Jacobs et al. 2015), consistently adds further proof that this body of literature regards meat production and consumption as part of a sustainable food future, albeit with improvements in production ‘efficiencies’ and land management practices.

But why should meat not be part of that future? Meat is widely regarded as a natural and necessary part of our food systems. It is considered to be a ‘core food’ and an ‘important’ source of protein, iron and other essential nutrients (Williams 2007; Biesalski 2005); livestock are posited as playing a vital role in economic and food security, especially for displaced and/or low income communities and households (FAO 2011); and the importance of integrating livestock and crops to create sustainable, ‘holistic’, and ‘regenerative’ systems has gained increasing support, especially on the backs of popular leading proponents such as Allan Savory (1983) and Joel Salatin (2001).⁴ Yet there are opposing arguments that regard the prevailing perception of meat as normal, natural and necessary as the continuation (and expansion) of a legacy of socially constructed practices of domination, oppression and

control over nature and ‘others’ (Nibert 2002; Wadiwel 2009; Spiegel 1997).⁵ Meat plays a subordinate (or absent) role in the diets of some past and present societies, often to the benefit of their health (Stuart 2006; Campbell 2009; Willcox et al. 2009), and well-balanced vegan diets are acknowledged as being healthful and nutritionally adequate for all life stages, as well as being associated with the lowest environmental impacts (Craig and Mangels 2009; Scarborough et al. 2014; Baroni et al. 2006). Practices that have become normalised can easily be seen as natural, and the need for animals to be part of sustainable, holistic, regenerative, and even ethical, food production systems has been challenged (Visak 2007; Speranza and Marques-Brocksopp 2015). Furthermore, the emergence of various ‘humane’, ‘happy’ and ‘ethical’ products that claim to be sustainable and assure consumers that the animals were treated ‘better’ has also been vigorously critiqued (Stanescu 2010; Todd 2009; Cole 2010, 2011; Haynes 2012). These analyses highlight that attachments to meat have their roots in social practices⁶ and normalised social, cultural, religious, symbolic and gendered understandings of ‘need’ more than in notions of its necessity for sustainable agriculture or nutritional health, a point that has been well made by many previous authors (Twigg 1983; Joy 2009; Adams 2010; Fiddes 1992; Scully 2003). Plant-based agriculture and nutrition, and different human/animal relations, have not achieved the same level of historical normalisation, and therefore constructions of the naturalness and necessity of meat are open to question. Given the significant environmental, ethical and social implications of continuing to use animals as food, this line of questioning needs to be intensified and mainstreamed.

A recent report from Chatham House states that the marginalization of livestock within mainstream policy discourse “contributes to a significant lack of understanding about the links between livestock and climate change among publics—an awareness gap” (Bailey et al. 2014, p. 22). In this paper, I draw attention to this apparent blind-spot by undertaking a critical investigation of key reports dealing with climate change, sustainability and food security to explore how and why the production and consumption of meat appears so resilient to critique. To this end, I address the question: How are meat and animals represented in key reports on climate and environmental change, sustainability and food security and what are the

² Pachauri resigned from his position with the IPCC in February 2015.

³ This ‘vacuum’ is noted in the recent Chatham House report “Livestock: Climate Change’s Forgotten Sector”, and has been the subject of much criticism directed at the December 2015 Paris Climate Talks (COP21) where the agricultural sector was excluded from most discussions and from the final agreement.

⁴ Although they in turn have been critiqued for their claims and practices (Briske et al. 2008; Stanescu 2010).

⁵ Notwithstanding circumstances where access to and availability of alternatives is limited which is a matter of distribution rather than necessity.

⁶ Which include the material infrastructures, competencies and shared understandings that constitute these practices (Shove and Walker 2010). These will vary geographically and over time, and are in turn shaped by other practices, associated for example with local and global economies, trade and aid.

implications of thinking, and writing, about them differently? Through a focus on the reflection and reinforcement of a dominant discourse regarding meat and the use of animals as food in a key range of policy texts, I illustrate its role in maintaining broader social constructions of animals and “explore how we create this reality so that it appears objective and natural” (Jorgensen and Phillips 2002, p. 33). To date, there has been no attempt to illustrate the extent to which this discourse pervades this body of literature, and how it is seriously limiting the range and effectiveness of options proposed to mitigate the environmental impacts and increase the sustainability of human activities, and improve our food security. In addressing this gap, this paper aims to draw a line in the sand and provide some corrective guidance designed to evolve the discourse on meat and animals as food.

Methods

A selection of key literature with a general focus on climate and environmental change, sustainability and/or food security was analysed to explore the role of discourse in the endurance of practices associated with the production and consumption of meat. The literature selected included publicly accessible reports published by one or more prominent national or international organisations, government departments, and typically involving collaborative research efforts. The affiliated organisations have a national or international standing such that the release of these reports is typically accompanied by press releases, media summaries of content, and their ongoing reference and interpretation by researchers and practitioners. In the case of the IPCC reports, it is assumed that the Synthesis Reports are more widely referenced than each of the larger Working Group reports.⁷ Based on their topic area and titles, these reports would be expected to recognise the role of animal agriculture in impacting on climate change, sustainability and food security and consider a range of potential responses. Despite a focus on livestock, ‘Livestock’s Long Shadow: Environmental issues and options’ (LLS) is included as it details a wide range of negative impacts of animal agriculture at every stage of production, and considers the influence of dietary transitions (including vegetarianism), market shifts, food security and nutritional ‘requirements’ in its assessment of sectoral trends. The scope of the report’s ‘options’ are therefore not limited to seeking production side efficiencies, and it could be perceived as providing a more ‘balanced’ and ‘objective’ perspective compared with some other reports that focus on

the livestock sector.⁸ Furthermore, LLS has had significant influence on the global discourse around meat and climate change.⁹

Following previous approaches by Stibbe in his analysis of texts produced by the animal industry, and Cole and Morgan in their analysis of vegan discourse in UK newspapers in 2007 (Stibbe 2001; Cole and Morgan 2011), this selection constitutes a ‘corpus’ of data which I can use to examine the way animals are represented across a specialist discourse. By selecting a range of reports that focus on different combinations of one or more of the areas in question—climate change, sustainability, food security, and are published by institutions with global and national perspectives, including Australia, US, UK and Europe, my analysis aims for representativeness while acknowledging that “no corpus can be everything to everyone” (Stubbs in Paltridge 2012, p. 150).

My focus on Australian reports is primarily owing to my residence there and associated awareness of what are regarded as major reports that contribute substantially to the national discourse. However, Australia’s environment and economy is, in addition, heavily dominated by the production of meat. It ranks fourth in global production and consumption of beef (Caro 2014), and in 2007–2008, the red meat industry alone accounted for 22 % of the country’s total gross value of agricultural production (Fletcher et al. 2009). An estimated 88 % of the total 405 million hectares of agricultural holdings in Australia is used for livestock grazing, not including the proportion of the remaining 12 % that is used to grow feedcrops (ABS 2013). In a country afflicted by regular droughts and water restrictions, the agricultural sector accounts for 62 % of total consumption (ABS 2015), and given the proportion of agricultural land allocated to livestock, this is likely to be primarily associated with meat production. Meat and Livestock Australia (MLA), Australia’s peak body for the

⁸ A later report by Gerber et al. (2013) ‘Tackling Climate Change Through Livestock’ builds on the findings of LLS to focus specifically on mitigation options in dairy cattle, ruminants and monogastrics. Options on the consumption side are excluded and therefore the scope of options, and perspective on animals that this report could be expected to take, are already pre-limited by its analysis of production efficiencies. I am primarily interested here in reviewing reports that, given their stated scope and aims, purport to provide a ‘balanced’ and ‘objective’ assessment of issues and options relating to environmental and climate change, sustainability and/or food security. This, and other similar reports, such as FAO’s ‘World Livestock 2011: Livestock in Food Security’, are not included in the selection for this reason.

⁹ According to Google Scholar, LLS has been cited over 1811 times. The IPCC’s 2007 impacts, adaptation and vulnerability contribution of working group II has been cited 1863 times, while the 2014 Synthesis Report has been cited 937 times. While I acknowledge this is not a rigorous measure, it does give some indication of the relative reach of LLS.

⁷ Google scholar’s citation count indicates this is likely to be the case.

red meat industry, acknowledge the contribution of meat production to biodiversity loss and changes in fire regimes, hydrological flows and soils,¹⁰ and in 2012 supported the launch of Target 100, a collaborative nation-wide industry strategy aimed at improving the environmental sustainability of Australian meat production.¹¹ The discourse surrounding meat and the use of animals within reports on climate and environmental change, sustainability and food security in a country where the production of meat creates significant issues across all these areas will be an important indicator of the seriousness with which these issues are regarded, and the extent to which meat production and consumption is seen as negotiable (or not) in the formulation of responses.

Contrasting this Australian discourse with an international perspective provides the opportunity to identify any significant variations in the nature of the discourse. A wider review of national reports may reveal cross-cultural variations not captured by my selection. While not discounting this possibility, and acknowledging that I have had limited exposure to other nationally-based reports (beyond US, UK and Europe), I have yet to encounter a major (national or international) report that tackles these topics using a different discourse of meat and animals. The selected reports are listed in Table 1.

Target audiences, where stated, include policy makers and practitioners, the private sector, civil society, “all levels, starting with local communities and extending up to global organizations” (HLPE 2012, p. 9), “the technical and the general public” (Steinfeld et al. 2006, p. iii), and “citizens and decision makers at national and community levels” (NSC 2013, p. 6). Where the intended audience is not stated, it can be inferred that policymakers and practitioners are the primary audience. However, all reports are publicly accessible and in some cases, such as the IPCC reports, content is often filtered through a range of stakeholders for dissemination to broader audiences. In this way, as the Chatham House report found, the mainstream policy discourse tends to become reflected in the public level of discourse.

For this analysis of constructions of animals as food, I asked four basic questions of each report:

1. Does the report mention meat?
2. Does the report mention animals?
3. Does the report acknowledge the contribution of meat or livestock to climate change?
4. Does the report mention plant-based, vegetarian or vegan diets?

¹⁰ See <http://www.mla.com.au/Research-and-development/Environment-sustainability/Biodiversity-vegetation>.

¹¹ See <http://www.target100.com.au/Home>.

I recorded *what* words were used in each case and examined *how* these words were used to provide further context and explore the overarching discourse in relation to meat and animals. Hence, for each question, a summary of how these words or topics are presented, illustrated with direct quotes, was entered into an excel spreadsheet which included the four questions. This gave a synopsis for each report that addressed: how (if at all) meat and/or livestock were discussed in relation to climate change; how animals were discussed; and how the topics of plant-based, vegetarian or vegan diets were presented. Additionally, I explored how, if at all, the topics of sustainability, ethics and welfare were presented.

Based on my analysis, this paper highlights common features in the ways that meat and animals are represented and discussed. I first illustrate how animals are absent in these reports, how meat production is de-prioritised, and identify the dominant discourse that is both reflected and reinforced by this pattern of treatment. By way of comparison, I then show how animals are made ‘animatedly’ present and treated as ethical subjects in other bodies of literature. This is contrasted with their absence in the analysed reports, and with how ethics *are* presented/understood in these climate change and sustainability reports. This brings me to a discussion of the resilience of meat consumption and the use of animals as food in dominant discourse, the social and cultural role of this discourse, and the potential benefits of challenging it. Finally, I present the ways in which this might be achieved—how the animal might be re-animated in this, and other literature, and where similar conceptual shifts have already taken place.

Absent animals

The expression and wielding of power through language and discourse and the relation of these to social practices are widely acknowledged (Bourdieu 1999; Schatzki 1996; van Leeuwen 2008). As Jorgensen and Phillips (2002, p. 1) say “our ways of talking do not neutrally reflect our world, identities and social relations but, rather, play an active role in creating and changing them.” Language plays a significant role in creating and maintaining unequal relations between humans and animals (Jepson 2008; Mowery and Duffy 1990; Stibbe 2001; Yates 2010); Adams (1991, 2007, 2010), for instance, has extensively demonstrated how our language is structured to convey an acceptance of animal oppression, essentially normalising the use of animals for research, entertainment, sport, labour, fashion and food. In turn, the normalization of these practices reinforces the normalization of using animals in these ways. In short, normalised discourses surrounding animals as food are both product *and* productive of normalised practices of

Table 1 Details of reviewed reports

Author/affiliation	Year	Title	Pages
Australia			
Larsen, K., Ryan C., and Abraham, A. (VEIL, Uni. of Melbourne)	2008	Sustainable and secure food systems for Victoria: what do we know? What do we need to know?	146
The Prime Minister's Science, Engineering and Innovation Council (PMSEIC)	2010	Australia and food security in a changing world	80
State of the Environment 2011 Committee (SoEC)	2011	Australia state of the environment 2011	55
Garnaut	2011	The Garnaut review 2011: Australia in the global response to climate change	220
Larsen, K., Turner, G., Ryan, C. and Lawrence, M. (VEIL, Uni. of Melbourne)	2011	Victorian food supply scenarios: impacts on availability of a nutritious diet	120
National Sustainable Council (NSC)	2013	Sustainable Australia Report 2013: conversations with the future	264
Treasury and Department of Industry, Innovation, Climate Change, Science, Research and Tertiary Education (Treasury)	2013	Climate change mitigation scenarios: modelling report provided to the climate change authority in support of its caps and targets review	138
International			
Steinfeld et al. FAO	2006	Livestock's long shadow: environmental issues and options. Livestock, Environment and Development (LEAD) initiative and the Food and Agricultural Organisation of the United Nations	390
IPCC	2007	Fourth assessment report: climate change 2007: The AR4 synthesis report	52
Research Councils UK (RCUK)	2011	Global food security: strategic plan 2011–2016 (Updated 2013)	32
Giovannucci et al. United Nations Department of Economic and Social Affairs	2012	Food and agriculture: the future of sustainability. sustainable development in the 21st century (SD21) Report for Rio + 20	80
High Level Panel of Experts on Food Security and Nutrition (HLPE)	2012	Food security and climate change. A report by the HLPE on food security and nutrition of the committee on world food security	102
UNEP	2012	Avoiding future famines: strengthening the ecological foundation of food security through sustainable food systems. United Nations environment programme	80
Searchinger et al. World Resources Institute, World Bank Group, UNEP, UNDP, FARCID, FNIAR	2013	Creating a sustainable food future: a menu of solutions to sustainably feed > 9 billion people by 2050	154
IPCC	2014	Fifth assessment report: mitigation of climate change. Summary for policymakers	33

meat consumption. My analysis will show that this normalised discourse is deeply embedded within the climate change, sustainability and food security literature.

In all 15 of the reports analysed, meat is consistently presented as a necessary element of human nutrition, and the associated use of animals is implicitly assumed to be both natural and necessary. Language used clearly conveys these assumptions, although to differing degrees. While in some reports the contribution of agriculture to greenhouse gas emissions is acknowledged, as is the fact that livestock are the primary source of those emissions, meat is consistently treated as an *implicit* part of the food system (IPCC 2007, 2014; UNEP 2012). The focus of concern in these reports is the impacts of predicted climate changes on livestock and agricultural practices (IPCC 2007), the adoption of grazing land management as a cost-effective mitigation option (IPCC 2014), and the more efficient use

of food-related resources by livestock (Giovannucci et al. 2012).

On the other hand, in reports where meat is mentioned explicitly and its contribution to climate change acknowledged, the focus is on how to maintain current levels of production while reducing this contribution, i.e. assumptions regarding its necessity persist unchallenged. As the UK Research Council says: "... we need to scale up agricultural research in order to improve animal...productivity" (RCUK 2011). One of seventeen 'Menu Items' for a sustainable food future from the World Resources Institute recommends a reduction in 'excessive' demand for animal products. Another recommends shifting to a more *efficient mix* of animal products and increasing the *efficiency of ruminant livestock* (Searchinger et al. 2013 emphasis added). Furthermore, the FAO (Steinfeld et al. 2006, p. xxiii) states with authority that "[a] general conclusion is

that improving the resource use efficiency of livestock production can reduce environmental impacts.”

While these reports position animals as a natural source of food, they are consistently framed as ‘meat’, ‘livestock’, ‘ruminants’, ‘animal products’ and even ‘protein’. Animals become what Adams calls the ‘absent referent’ through the use of words and phrases whose function is to “unanchor” meat (and livestock, protein etc.) from its original referent and “...keep our “meat” separated from any idea that she or he was once an animal...keep *something* from being seen as having been someone” (Adams 2010, p. 13). Animals as living, sentient beings are thereby absented, having been de-animated, objectified and aggregated by these categorical terms as well as terms such as ‘beef’ and ‘pork’. Used in a similar way, words such as Caucasian, Asian, non-white, aboriginal, immigrant, refugee, and more recently terrorist, serve to generalise and effectively remove any sense of recognition or responsibility towards individuals in those groups, creating instead an emotional distance that can be used to facilitate their generalised (and often unfavourable) treatment based on membership of one or more groups.

Tellingly, in light of the linguistic absenting of animals as sentient beings, I found no mention of animal welfare in the majority of the reports. A small number acknowledge it as a growing concern among consumers (Larsen et al. 2008; Steinfeld et al. 2006), as something that needs to be balanced with increases in productivity (RCUK 2011), and as one of the challenges associated with intensive systems (Searchinger et al. 2013). Where the word welfare is used, it is primarily in relation to human, public or consumer welfare. Some might argue that this is fair given the objectives and intended audiences of the reports. However, this illustrates the extent to which the use of animals is viewed unproblematically within a human ‘resource’ perspective.

When it comes to ethics, the gap is even more pronounced. Only two reports mention ethics in relation to animals or meat production and consumption. In one, ethical concerns about the treatment of animals are positioned as one of many factors driving changing consumption patterns (SoE 2011), while another acknowledges that there are ethical issues associated with concentrated animal feeding operations (CAFO’s) and with meat production generally: “Perhaps the greatest challenge of meat production is that the resources used are often substantially greater than those needed for other common foods and thus present both an environmental dilemma and an ethical choice for food security” (Giovannucci et al. 2012, p. 11). However, in response, this UN report recommends a different kind of meat production: “Accounting for the resources and related pollution could make CAFOs less appealing than integrated livestock systems that do not

compete with common human foods and have few negative environmental impacts” (Giovannucci et al. 2012, p. 12).

On the whole, these reports exhibit three tendencies: (1). Direct links between animals, food and environmental impacts are to some extent recognised and acknowledged but the unanimous response is a focus on how to mitigate these impacts so that meat may retain its role in the food systems described; (2) These links are there but are obfuscated—instead of being direct and explicit they have to be made by the reader across separate sections that may link environmental impacts with agriculture; land use with livestock or food production; and food with meat; but never all at once. Animals are largely absent; (3). Meat production is largely dissociated from environmental impacts by not being treated separately from general ‘food’. There is little to no recognition of the impacts of producing meat, let alone that this warrants considering meat separately from plant-based foods. Again animals are largely absent. Each of these is described in more detail in the following three sections.¹²

(Some) recognition and acknowledgement

While animals are absented, and their use and treatment ignored or given a very low priority, many of the reports include clear and compelling evidence of the harmful effects of using them to produce food (Table 2).

Yet in these same reports, meat implicitly retains its dietary importance. Regarded as a “high quality protein” (HLPE 2012), reducing consumption, consuming ‘less emissions-intensive meats’, reducing grazing intensity and increasing production efficiencies are deemed the appropriate responses (Searchinger et al. 2013; Giovannucci et al. 2012; Steinfeld et al. 2006; Treasury/DIICCSRTE 2013; Garnaut 2011; Larsen et al. 2008). The implementation of more sustainable, holistic and integrated management systems is also proposed (Larsen et al. 2008; Searchinger et al. 2013), including those based on Allan Savory’s techniques (UNEP 2012).

Obfuscation¹³

In other reports, the impacts of agriculture as a generic activity are included, with *allusions* to the contribution of meat production to these impacts. However, unlike in the above reports, livestock are included as just one among

¹² These qualitatively derived categories are not necessarily entirely distinct as some conceptual overlap is unavoidable.

¹³ In this paper, ‘concealment’, ‘obfuscation’ and ‘obscured’ describe the effects of the discourse reflected in the reports and not the deliberate intents of individual authors. To clarify, I see this concealment and obfuscation as the outcomes of broader social practices where common understandings of meat and animals are circulated.

Table 2 Report excerpts on the impacts of animal agriculture

Searchinger et al. (2013)	...cattle and other ruminants are responsible for the majority of the combined emissions of methane and nitrous oxide emitted by agriculture, which makes them responsible for about 6 % of all human greenhouse gas emissions, even without counting their demands for land (p. 40)
HLPE (2012)	Slowing the global growth in consumption of livestock products will help to slow the growth of agricultural and food sector emissions... (p. 13). The role of diet change in reducing the demand for the most GHG intensive food types needs greater attention (p. 19)
UNEP (2012)	...increased production of meat and dairy products also undermines the ecological foundation of food security due to its contribution to land degradation, water pollution, biodiversity loss and climate change (p. 31)
Giovanucci et al. (2012)	Grazing land, plus land for crops to feed animals, makes up 80 percent of all agricultural land (p. 11). Livestock is responsible for more greenhouse gases than the global transportation sector (p. 12). [T]he livestock industry, if it continues unchecked on its current trajectory, will paradoxically be one of the greatest challenges to global food security and to the environment (p. 12)
Steinfeld et al. (2006)	The livestock sector is...responsible for 18 percent of greenhouse gas emissions measured in CO ₂ equivalent. This is a higher share than transport (lxxi). [It] is by far the single largest anthropogenic user of land. In all, livestock production accounts for 70 % of all agricultural land and 30 % of the land surface of the planet (p. xxi). It is probably the largest sectoral source of water pollution, contributing to eutrophication, “dead” zones in coastal areas, degradation of coral reefs, human health problems, emergence of antibiotic resistance and many others (p. xxii). The livestock sector may well be the leading player in the reduction of biodiversity, since it is the major driver of deforestation, as well as one of the leading drivers of land degradation, pollution, climate change, overfishing, sedimentation of coastal areas and facilitation of invasions by alien species (p. xxiii). Exclusion of livestock is the key method for recovery and protection of an ecosystem (p. 177)
Treasury/ DIICSRTE (2013)	Agriculture is 17 % of Australia’s emissions, not including stationary energy use or energy used for feedcrops and grazing land management (Table 3.2, p. 58). Enteric fermentation from livestock is the main agricultural emissions source (over 65 % of agricultural emissions), with beef cattle the largest contributor (p. 68). Projected international demand for beef, which in turn drives the domestic cattle herd size, is the main factor influencing agricultural emissions (p. 68)
Garnaut (2011)	...the two industry sectors that are most enmeshed by climate change and mitigation—agriculture and electricity (p. xix). When cattle and sheep digest their food, they produce methane emissions, which account for about 10 % of total national emissions (p. 141)
Larsen et al. (2008)	Worldwide, greenhouse emissions from agriculture (crop production and animal husbandry) and associated changes in land use, are estimated to exceed those from power generation and transport (p. 28). The largest contributors to Victoria’s (and Australia’s) direct agricultural emissions in 2005 were: 71 % methane from enteric fermentation... (p. 28). Direct emissions from beef, sheep, rice and dairy make these by far the most greenhouse intensive food production sectors (p. 35)

several elements contributing to any associated emissions, and meat is implicated only indirectly via indications of land used for grazing or “food production activities”. Connections between the environmental impacts of agriculture and livestock, food, animals and meat, are therefore not made so explicit (Table 3).

For instance, in its section on ‘Food and the Environment’, with subsections on Land degradation, Water, Greenhouse gas emissions, and Climate change, the PMSEIC report does not directly implicate meat production and consumption. Rather it talks about “extensive grazing”, “stock watering”, or simply the generic term “food”. Meat does however appear in later sections on Food Production, but mainly as one food type within figures describing value chains, productions and imports. A similar pattern is observable in the NSC report, where two chapters covering ‘Climate change’ and ‘Growth and the environment’ refer to “agricultural purposes/production” and “genetic strains”, while later sections on biodiversity, ecosystems and water use talk about “grazing”, “stocking rates” and “agriculture”. In this 264-page report, ‘meat’ is

relegated to appearing in one short paragraph within the ‘Food and agriculture’ chapter and that is in the context of ‘emerging opportunities’ surrounding demand and markets. The report also says that “increasing agricultural production risks placing greater pressure on our natural resources and will likely occur alongside expanding demand for these resources” (NSC 2013, p. 92). Considering the focus of this report, and its source, this seems a little obscure to say the least. With chapters on ‘Drivers’, ‘Inland water’, ‘Land’ and ‘Biodiversity’, the Australia State of the Environment Report makes no mention of meat. “(Livestock) grazing pressures” and “inappropriate grazing” are referred to in the ‘Land’ and ‘Biodiversity’ chapters, while the generic terms agriculture and food production are also used. Similarly, the IPCC’s 2007 and 2014 Synthesis Reports make no reference to meat, although it does appear in the larger Working Group reports. It appears twice only in the 43 pages of the 2014 Working Group II Chapter 7 on Food Security and Food Production Systems, and in other sections of the 2007 and 2014 reports, it is mentioned in relation to demand and production. It is not just animals

Table 3 Report excerpts indicating how connections between environmental impacts and meat production are obscured

PMSEIC (2010)	Australian agriculture is a significant contributor to the national greenhouse gas emissions profile with about 16 % of the national emissions arising directly from livestock, cropping and savanna burning with another nine per cent from net deforestation likely to be largely associated with food production activities (p. 12)
NSC (2013)	Conversion from native vegetation to agricultural land uses typically reduces soil carbon by 20–70 %. This reduction is often associated with declining soil health and significant emissions of greenhouse gases (p. 163). Of the land used for agriculture, most (355 million ha or 46 % of the continent) was used for livestock grazing on native vegetation in arid and semi-arid areas. A further 71 million ha (9 % of the continent) was modified pasture used for livestock grazing (p. 258)
SoE (2011)	Nitrous oxide is produced by a variety of natural and human-related sources (notably agricultural processes) (p. 19). Livestock grazing is the land use of greatest extent, accounting for 55 % of Australia's land area (p. 25). Algal blooms occur regularly; natural levels of freshwater, sediment and nutrient inputs have been heavily altered; and worrying levels of pesticides are found in waters near areas of intensive agriculture (p. 31)
IPCC (2014)	The AFOLU [agriculture, forestry and other land use] sector accounts for about a quarter...of net anthropogenic GHG emissions mainly from deforestation, agricultural emissions from soil and nutrient management and livestock (medium evidence, high agreement) (p. 25)

that are the ‘absent referents’ here,¹⁴ but also meat, creating another layer of obfuscation that serves to separate and obscure the links between agriculture, grazing, food production, livestock, meat, and animals.

This highlights another tendency of these reports, which is to sideline the topic of meat altogether, the overall implication being, to the reader, that it constitutes a non-issue.

Dissociation

While the links have been separated in the preceding reports, they can still be made if you know what language to look for, and how to interpret it. However, two reports are noteworthy for not drawing any connection between meat and environmental or climate impacts. In fact, the UK Research Council's ‘Global Food Security: Strategic Plan 2011–2016’ does not identify emissions contributions from any part of the food system. Intended to inform policy and practice at the level of producers and government, the plan supports research that responds to and manages “the challenges facing the UK food system and related global issues, including the many challenges confronting the developing world in the face of environmental and demographic change” (RCUK 2011, p. 1). Greenhouse gas emissions are mentioned once as just one of several environmental impacts of farming, fishing, food processing and manufacture, storage, transport, retail, consumption and waste disposal. The need to reduce greenhouse gas emissions throughout the supply chain is also acknowledged but framed in terms of reducing “the emissions intensity of agricultural production” (RCUK 2011, p. 10). Recognising that “reducing greenhouse gas emissions from ruminant

livestock is an important and related priority” (RCUK 2011, p. 17) the authors suggest tackling it through “studies of animal nutrition and gut biology”. Indeed, “increasing energy and *protein* conversion efficiency” (RCUK 2011, p. 17, emphasis added) is the over-riding aim.

The second report is from a university-based research centre in Australia—the Victorian Eco-Innovation Lab (VEIL). One of the aims of their 2011 report ‘Victorian Food Supply Scenarios’ is to “consider how the provision of nutritionally adequate diets might impact on the quality of our natural resource base and the ecological and economic health of Victoria” (Larsen et al. 2011, p. 2). The 120-page report mentions the overall contribution of food to greenhouse gases but not different types of food, and not meat production. This is a stark omission considering these emissions are a key focus of the report and the disproportionate contribution of meat and dairy products (per kilogram and per calorie) has been widely acknowledged (Berners-Lee et al. 2012; Hamerschlag 2011; Hoolohan et al. 2013; Weber and Matthews 2008).

Meat and dairy are portrayed as necessary components of a “nutritious” diet and this assumption flows through the report's discourse on “core foods” which includes a “meat group”. Furthermore, the report warns of potential “shortages” in dairy and lamb resulting from a switch from grazing to crops—conveying an almost alarmist assumption of the dietary necessity of these products. However, the previous VEIL report (Larsen et al. 2008) is cited by this report and acknowledges the impacts of meat production in terms of both greenhouse gases and water consumption (Table 2). This report also says that “a diet with more plant foods and less of some meats and dairy will have lower environmental impacts”, and that “Victorian analysis has suggested that a vegetarian diet has half the virtual water content of a standard meat-rich diet” (Larsen et al. 2008, p. 127). Yet, ignoring these earlier findings, the later report follows dietary guidelines that are over

¹⁴ Referring to Adams' notion that “[l]ive animals are the absent referents in the concept of meat.” As she says, “[t]he absent referent permits us to forget about the animals as an independent entity; it also enables us to resist efforts to make animals present” (2010, p. 66).

15-years old and remarks, again with alarmist undertones, that in two of their three scenarios that involve reducing the proportion of grazing land, there is “not enough dairy production capacity” (p. 53) as a consequence, and in one of these scenarios, an additional “shortfall” in lamb by 2060. Yet this latter scenario is also noted as being the only one “that is able to maintain large emissions reductions out to 2060, and meets IPCC expectations for emissions reductions by 2050” (p. 60).

These two reports exhibit the most obvious failure to acknowledge the disproportionate impacts of meat within the food system and the opportunities afforded by plant-based options—even based on their own previous research. Global and environmental changes, environmental impacts of food production, greenhouse gas emissions and resource use are included as key parameters in both reports and yet, as with all the reports included in this study, they fail to look more critically at meat. This has the effect of concealing and downplaying the diverse and distinct impacts of meat production as compared with other foods.

This downplaying of meat and obfuscation of its impacts occurs across several of the reports. In their 2012 report, the UNEP acknowledges the impacts of meat and dairy production (as do other UN publications), but avoids any further critical analysis (UNEP 2012). In discussing how to abate land-based pollution and reduce land degradation, there is no mention of meat production—a key contributor to both. There is instead a vague statement advising a reduction in the “impact of food production on resources and the environment by encouraging consumption of foods that require smaller amounts of resources than others” (p. ix). The report refers to the potentially negative impacts of a reduction in the size of the livestock industry, including economic instability, and observes that advice on meat consumption as part of a sustainable diet is likely to vary from place to place. Integrated livestock management is the preferred way forward.

Reports from the Australian Government exhibit a similar reluctance to connect bodies of knowledge from different areas of its own operations. Based on a sectoral breakdown of the country’s emissions profile, various Australian Government reports note that agricultural emissions are comparable to and sometimes higher than those for transport (Garnaut 2008; DoE 2015), that 88 % of Australia’s agricultural land is used for livestock grazing (ABS 2013), and that a significant percentage (30 % by some estimates) of the remaining land is used to grow feed crops (principally barley, oilseeds, sorghum and oats) for these animals (PWC 2011; see also, Spragg 2008). Yet the ‘Sustainable Australia Report’ (NSC 2013) does not reference this information, and while the Treasury report (Treasury/DIICCSRTE 2013) does acknowledge that Australia’s agricultural emissions are higher than those

from transport (p. 58), agriculture is dealt with in Chapter 3, after Transport. This is partly explained by agriculture being excluded from emissions pricing. However, rather than simply ignoring agriculture, the report claims that “Low-emissions options in agriculture are less extensive than in the energy sector, but include fertiliser application methods, animal management practices and animal diets” (p. 29). Here, the notion of ‘less extensive’ options, presented as scientific fact, reveals the inherent acceptance of the necessity of meat, obscuring the fact that changes in human diets might be worthy options for consideration.

Despite providing evidence of the impacts of meat production and consumption, these reports go to great lengths to avoid addressing this area of human activity in any critical way. The assumed ‘need’ for meat production and consumption to continue leads to recommendations and proposed solutions that simply modify the way these practices are done (Table 4). Assumptions regarding the necessity of meat production and consumption are not challenged in any way.

In the few cases where alternative diets are acknowledged, they are very much downplayed, dismissed and not explained in full (Table 5).

In this section on ‘Absent animals’, I am not suggesting that the absenting of animals is the cause of the failure on the part of this body of literature to more critically examine the role of meat in our food systems. Rather, I regard the absenting of animals that I have highlighted as both symptom and cause of their overarching failure to acknowledge alternatives to animal agriculture, and meat-oriented diets, that deliver demonstrably better environmental, health and ethical outcomes. Being a reflection of a dominant discourse, the roots of this failure extend beyond this body of literature where meat consumption and regarding animals as a human resource are understood to be natural, normal and necessary across a wide array of interrelated social practices. As long as the dominant discourse makes it unusual and provocative to talk about animals and meat differently, there will be a reluctance (or socially prescribed inability) to follow where the numbers clearly lead, step outside the normalised conventions and consider all alternatives. At the same time, continuing to follow these conventions reinforces the absenting of animals. The absence of animals as living beings, their presence only as an agriculture resource, the acceptance of meat consumption as integral to the human diet, and dismissal of plant-based alternatives are all common, and mutually constitutive, features of these reports, and of broader social practices. In the following section, I discuss some of the wider effects of this normalised discourse and explain why it is not just for environmental, health or ethical reasons that we need to change our relations with, and discourse surrounding, animals as food.

Table 4 Report excerpts in support of continued and increased meat production

RCUK (2011)	[Need to]...improve animal...health and productivity... (p. 10). Minimise pre- and post-harvest losses of...farmed animals (p. 16)
Searchinger et al. (2013)	...large opportunities exist to intensify the output of milk and meat (p. 7)
HLPE (2012)	Improving productivity to allow farmers to reduce substantially the GHG emissions per unit of output (meat and milk) should be a priority (p. 18)
UNEP (2012)	More integrated production systems would reduce livestock wastes and greenhouse gas emissions, and increase input and resource efficiency (p. 43)
Steinfeld et al. (2006)	...there is a need to accept that the intensification and perhaps industrialization of livestock production is the inevitable long-term outcome of the structural change process that is ongoing for most of the sector (p. 283)
PMSEIC (2010)	Sustained supplies will be required of fish and seafood, poultry, eggs, red meat and of low fat dairy products... (p. 41). Chickens are the most efficient sources of animal protein (p. 22)
Larsen et al. (2008)	Livestock play an important part in mixed farming systems and provide essential inputs (manure) that will increase in importance as conventional agricultural input costs increase (p. 123). There are a number of additional reasons why meat (including red meat) will continue to play a part in diets even as environmental costs and constraints are felt... (p. 128)
Larsen et al. (2011)	...availability of enough meat for a nutritious diet is unlikely to be a concern in any of the scenarios (p. 68)

Table 5 Report excerpts minimizing the viability of non-meat options

Searchinger et al. (2013)	Shifting even 20 % of beef consumption to virtually any other animal product, let alone a vegetarian alternative, could reduce land use demand by hundreds of millions of hectares (p. 111)
HLPE (2012)	While the debate about the relative merits of diets that are entirely vegetarian versus those that include some meat products continue, there is little debate about the observation that excessive meat consumption has harmful health effects (p. 73)
Larsen et al. (2008)	The surprisingly low environmental benefit of the vegetarian diet is attributed to the substitution of meat products with cheese, which is highly processed and in some cases actually has a higher footprint than primary meat products such as pork. The authors acknowledge that substitution of legumes and soy rather than just cheese would improve both the nutritional and environmental elements of this diet, but attribute this limitation to insufficient data (p. 126)

Effects of a normalised discourse on animals as food

Contrary to providing an objective, scientific analysis of our situation with regard to climate change, sustainability and food security, these reports are steeped in a normalised discourse regarding the necessity of meat production and consumption. This has the effect of significantly shaping and constraining the range of options being considered to tackle some of the most pressing global issues facing human societies. Hence the continuation, and indeed expansion, of practices shown to be seriously harming our climate, natural environment and human health is encouraged, while the emergence of new, or the acknowledgement of existing, approaches to food that cause less harm is precluded.

However, the implications of continued and increased meat consumption go beyond the environment, human health and ethical issues associated with the turnover of >8.5 million animals every hour—they also include social impacts. A dominant discourse, or rather the ideology it sustains, “obscures the nature of our unequal societies and prevents us from seeing alternatives” (Machin and Mayr

2012, p. 25).¹⁵ In addition, a dominant discourse—in this case, common understandings regarding our relations with ‘other’ animals—extends across interrelated practices, here being those in which any living being is similarly ‘othered’ as a consequence of their categorisation by gender, ‘race’, sexual orientation, religion and many other characteristics (Adams 2010; Spiegel 1997; Deckha 2013). This makes the uncritical reflection of this discourse in these reports all the more pernicious because its relation to, and role in shaping, a range of social practices (and in precluding alternatives) that may or may not involve meat or animals is not considered.

Scholars have also argued for connections between the commodification of animals and the objectification and ‘consumption’ of women (Adams 2010; Douglas 2013; Glasser 2011). These associations are deeply embedded

¹⁵ Machin and Mayr are referring to the ways in which dominant ideologies may have unequal consequences for different individuals, groups, societies, cultures etc. and these inequalities become normalized and naturalized. I argue that a similar inequality is enacted, and normalized, to the exclusion of alternatives, by the ideology that insists on human’s unlimited access and entitlement to animals and nature.

historically and culturally, often imbued with supposed humour (most commonly via images of hyper-sexualised animals or animalized and sexually objectified women to advertise food) and defended with charges of politically correct moralising, making them especially difficult to shift. However, when women are constructed as meat, to be pursued, preyed upon and consumed, and when animals are objectified, disempowered and their meat sexualised, we see the reflection and reinforcement of patriarchal genealogies of power linked to ownership of and power over *man's* chattels (literally cattle) including slaves, women, children and animals. The implications of these links between the oppression of others ('other' 'races', genders, classes, ages, abilities and species) for the continued enactments of oppression that meat consumption requires have been the subject of extensive scholarly work (Nibert 2002; Torres 2007). Indeed, investigations focused specifically on those working in abattoirs and meat 'processing' operations have uncovered conditions that foster 'race' and gender discrimination (Fitzgerald 2010; Ilea 2008; Nibert 2013; Simon 2013), and associations with increased aggression, local crime rates and inter-human violence (Beirne 2004; Eisnitz 2006; Fitzgerald et al. 2009; Stull and Broadway 2012; Richards et al. 2013). However, the human and species oppression involved in meat production remain largely absent from food system studies.

Indeed, the use of animals for food and the necessity of meat are more often treated as given facts across much of the academic literature dealing in some way with food. This includes consumption studies, agro-food studies, cultural studies of food, studies using behavioural, psychology and marketing approaches, nutritional and dietary studies, quantitative studies of various kinds, and even animal welfare-oriented literature (Goodman et al. 2010; Paterson 2006; Guthman 2003; Watts et al. 2005; Brunori 2007; Roe 2006; de Solier 2013; Bennett 2007; Alkon and Agyeman 2011; Vandamme et al. 2010; Bassett 2013; Cumberlege et al. 2015; Parfitt et al. 2013; Bock et al. 2014; Becker 2004; Grunert 2006). Though there are of course notable exceptions (Todd 2009; Lockie and Collie 1999; Evans and Miele 2012; Vinnari and Tapio 2012). However, there are several other bodies of literature that have a long history of conceiving our relationships with food and animals differently.

To think and act in a different language—reclaiming 'sentimentality'

The use of animals as food is questioned and challenged across several fields of academic research. These include feminist theory and research (Adams 2010; Dunayer 1995; Gaard 1994; Harper 2010), ethics (Gelfer 2013; Nibert 2013;

Scully 2003; Stallwood 2013), philosophy (Agamben 2004; Wolfe 2008; Deleuze et al. 1987; Derrida 2003; Nussbaum and Sunstein 2004; Regan 1985), psychology/social psychology (Bastian et al. 2012; Prunty and Apple 2013; Loughnan et al. 2014), communication and media studies (Freeman 2014; Broad 2014; Pick 2015; Todd 2009; Frye and Bruner 2012), animal studies, post-human and biocentric approaches (Acampora 2006; Haraway 2008; Plumwood 2003; Whatmore 2001; Wolfe 2010) and more recently critical animal studies and intersectional literature (Cudworth 2011; Twine 2010 Walby et al. 2012).¹⁶

Although they may reach different conclusions regarding the value or rights of animals, what these bodies of literature commonly share and demonstrate is an awareness that "...language protects those it is meant to serve" (Gaard 1994, p. 21). They expose and interrogate the linguistic mechanisms by which animals are portrayed as resources for human use thereby allowing inherent assumptions—to be examined for a more truly 'objective' assessment of their legitimacy. Across this literature, animals are given life—they are animatedly present, albeit to varying degrees, and their relegated position within dominant discourses is foregrounded and problematized, as the following excerpts illustrate.

Identification means that relationships with animals are redefined; they are no longer instruments, means to our ends, but beings who deserve to live and towards whom we act respectfully if not out of friendship. (Adams 2010, p. 128).

...the law has not developed any doctrines that require that animals be treated differently because an animal is different from inanimate property, such as a tool. Rather, the law only requires that animal property not be "wasted" or that animals not be killed or made to suffer when there is no legitimate economic purpose. (Francione 1995, p. 35).

The animal is a word, it is an appellation that men have instituted, a name they have given themselves the right and the authority to give to another living creature. (Derrida and Wills 2002, p. 392).

Re- envisaging ourselves as ecologically embodied beings akin to rather than superior to other animals is a major challenge for western culture, as is recognising the elements of mind and culture present in animals and the non-human world. (Plumwood 2003).

¹⁶ Intersectional studies recognize that the systems of power on which all forms of oppression, domination, inequality and social difference rely are relational and "continue to fundamentally shape questions of in/justice across human and nonhuman cultural terrains" (Deckha 2008, p. 267).

Table 6 Report excerpts showing ethical consideration for humans

RCUK (2011)	[Concerned about]: equity and other ethical issues around access to food (p. 10)
Giovannucci et al. (2012)	The world's hungry are not just numbers. They are people—poor women and men struggling to bring up their children and give them a better life (p. 6)
Searchinger et al. (2013)	[Recommended measures] have rewards beyond food security in the form of saved lives, improved education and health, and greater autonomy and gender equality (p. 46)
HLPE (2012)	care must be taken to anticipate the consequences of proposed adaptations on gender-specific workloads and whether they may exacerbate existing inequalities between men and women, or be used to preserve existing gender norms (p. 51)
IPCC (2014)	Issues of equity, justice, and fairness arise with respect to mitigation and adaptation” (p. 5). Social, economic and ethical analyses may be used to inform value judgements and may take into account values of various sorts, including human wellbeing, cultural values and non-human values (p. 5)
Larsen et al. (2011)	Trade operating within a global market framework inevitably includes extreme disparities of wealth and power, therefore there are ethical issues (as well as economic) involved in decisions about what we trade and with whom” (p. 84)

Within the realm of the factory farm, what we have discovered is life completely denaturalized, life as completely produced and constructed (p. 148)...It is a sense of life meant as pure production, pure use-value (p. 151). The slaughter of animals is never simply the killing of animals, but rather the production of corpses for consumption. (Stănescu 2013, p. 153).

We can note assumptions of muscularity in the successful performance of masculinity and the normative role of meat in supposedly fulfilling this. We can further note the gendering of affect and an expectation that it may be deemed ‘unmanly’ to care about the suffering of other animals. (Twine 2013, p. 9).

When the use of animals as food and the ‘necessity’ of meat are viewed in this light—as co-constituted outcomes of socially constructed beliefs and practices—the degree of concealment and obfuscation accomplished by the reviewed reports becomes apparent. Questions of human/animal relations are now foregrounded across a wide range of disciplines and the persistent gap in climate science and environmental literature has been recognised by a number of critical scholars. For instance Twine notes an absence of reflexivity regarding the ethics of dominant human/animal relations (Twine 2013), and a reliance on technology and the promise of a “productivist livestock revolution” (Twine 2012, p. 13), while Cole notes an insistence on the healthful and environmentally friendly properties of meat (Cole 2010). Others critically foreground the focus on energy and transport while noting that the mitigation potential and ethical questions of meat production and consumption remain neglected or given a low priority (Cassuto 2010; Eshel and Martin 2006; Nordgren 2011; Ripple et al. 2014).

Broader implications of this gap are indicated by demonstrated connections between the treatment of animals and inter-human violence, violence against women and many forms of human oppression. However, an

approach that considers ethical and societal issues associated with the use of animals as food sits uneasily with science-based, climate change, sustainability and food security literature. Such issues are generally regarded as sentimental or irrelevant to the task of ‘practical’ decision-making (Cole 2011; Deckers 2009; Mowery and Duffy 1990; Parry 2011). However, while ethical considerations may not extend to animals in these reports, they do extend to humans, as Table 6 illustrates, and so the ‘sentimentality’ of caring for human life is regarded as an essential element of proposed solutions, rather than an irrelevance.

Social equity and human welfare are recognised priorities in all but one of the reviewed reports. In contrast, welfare and ethical considerations regarding the use of animals as food, commonly viewed as sentimental concerns, are consistently excluded from reports in which they, or more accurately the products derived from them, play a central role. Reclaiming consideration for animals from the realm of sentimentality to become part of our normal ethical remit is one way to start challenging the resilience of the discourse around meat consumption and the use of animals as food. However, ethical consideration for animals is unlikely on its own to generate fundamental change in practices involving meat and animals as food. Without simultaneously addressing the resilience of ‘meat’ in social practices, this ethical consideration is likely to be limited to increasing welfare standards.

The resilience of meat—a different kind of practice ‘element’

Meat consumption can be regarded as a part of everyday practices much like energy use, motorised transport and general consumption of goods. Yet efforts to draw attention to, let alone change, existing practices involving meat are typically met with staunch resistance evidenced by for instance a 10 % increase in Australia’s per capita meat

consumption since 2001 (Wong et al. 2015)¹⁷ and its position among the top 3 per capita consumers of meat worldwide. From November 2009 to November 2014 the production of beef, veal, mutton, lamb and pig meat in Australia increased nearly 25 % while the number of animals slaughtered for this meat increased almost 13 % (ABS 2009, 2014).¹⁸ I suggest that practices involving meat differ from other practices such as energy use and transport, which seem more amenable to change, in two important ways that highlight why they receive less attention and the need for a different approach if they are to be more effectively challenged.

Implicating a living ‘other’

First, meat consumption is a different kind of practice as it relates to a living as opposed to inanimate ‘other’. Those human activities that directly implicate the lives of others ought to be subject to more critical scrutiny. We have laws and regulations in place to guard against fair work, child labour, slavery, human trafficking and exploitation, and although they admittedly are not failsafe, they recognise that we as a whole take ethical and moral issue with activities that involve using another person unfairly for personal gain. It is clear from my analysis that animals’ lives are of little consequence in the efficient balancing of inputs and outputs and this seems at odds with our ethical and moral regulation around the use of other humans. That we unquestioningly see it as our right to use animals, and have no ethical or moral problem with it, seems inconsistent with the way other ethical concerns are implicitly acknowledged, including in quantitative studies. Analyses and reports such as those I have reviewed here consistently fail to recognise what is, by their own quantitative calculations and evidence, the elephant in the room, which is the possibility of a food system that does not include animals. There is a dissonance between what is clearly a logical and valid line of enquiry and the characterisation of that line of enquiry as sentimental at best, and mostly irrelevant. Part of this has to do with the unquestioned acceptance, reflected in language and discourse, of our right and need to use animals as a resource.

Emotional routines

This leads to my second point of difference. Our attachment to the use of animals as food is not just practical and economic. It is also emotional. Emotional attachments to meat are powerful

¹⁷ Although there have been changes in the types of meat being consumed.

¹⁸ Chickens are not included in the ABS figures for meat production and slaughtered ‘livestock’—they are effectively absented twice being neither meat nor livestock.

and generally explained through a common set of scripts that are consistently drawn on as evidence of its natural-ness and necessity. Eating meat contributes to good health, strength and above all, the performance of masculinity. It tastes good (although taste is of course also socially constructed: See Bourdieu 1984; Hennion 2007; Hayes-Conroy and Hayes-Conroy 2008), and the hedonistic pursuit of enjoyment and pleasure through ‘the good things in life’ is broadly construed as an unassailable human right. Meat is seen as an inviolable part of key rituals of sociality where to deny the meat would be to also deny that sociality and risk exclusion. Eating meat is a natural part of life and has contributed to our evolved status as *Homo sapiens*, and furthermore, the life purpose of these animals is to provide meat—what would happen to them if we didn’t eat them? What these and other scripts provide is a pre-defined emotional outlet where any conflicting or uncomfortable feelings that might arise in reference to the realities of meat production, can be tamed, deemed inappropriate and channelled through these rationalising emotional routines that make ‘sense’ of these initial responses. They permit an escape from the realities and complexities of meat production in favour of a constructed historical narrative that places man over beast—the natural hunter with dominion (i.e. rights) over nature. Cole and Stewart highlight this process in relation to the childhood socialisation of human-nonhuman relations through channelled empathy that serves to “insulate dominant practices from critical questioning” (Cole and Stewart 2014, p. 8).

One of the aids in removing possible links to a potentially more emotional and visceral experience of animals and meat production is language that distances and subdues the animated nature of animality and fleshiness making it all but hidden or absent, as illustrated in the reviewed reports which represent animals in abstract terms. In contrast, language that maintains connection with the living, sentient ‘beingness’ challenges the scripts where affective responses most often find refuge and encourages a more transparent, though perhaps more emotionally troublesome, consideration of our treatment and use of animals. To what extent understandings of what is necessary and natural with regards to animals and meat can evolve is a question that can hopefully be foregrounded through a change in language, which is what I propose in the next section.

Reanimating the animal

Reanimating the animal in climate change, sustainability and food security literature will start to problematise the co-constitutive¹⁹ scripts, emotional routines and dominant

¹⁹ Meaning that they shape one another in an ongoing sharing and co-evolution of meanings, content and physical competence.

discourse associated with the production and consumption of meat. This is necessary to foreground ethical concerns around the use of animals, which may be regarded as a sufficient end in itself. More anthropocentrically however, it also allows for more comprehensive assessments of the kinds of food systems that might help address a range of related issues, from environmental degradation and climate change, to health and equity. The normalisation of a narrow range of options, to the exclusion or dismissal of others, amounts to a disservice to the pursuit of sustainable food futures. My reanimation proposal aims to instigate some conceptual and analytical shifts that cast our use of animals as food in a different light, the aim being to start to de-normalise the status quo and normalise alternative options. It comprises the following five modifications to be adopted by researchers, organisations and government departments responsible for producing publicly available research in the fields of climate change, sustainability and food security:

1. Acknowledge non-human animals as living, sentient beings and avoid terms that aggregate, materialise and otherwise treat them as an inanimate resource. This starts to unsettle the dominant discourse so that non-human animals can no longer be rendered invisible within considerations of food systems and their impacts.
2. Once non-human animals have been re-animated, assumptions regarding their ‘natural’ and ‘necessary’ role as meat, or even more generically food, become more open to question as they no longer fit so seamlessly within this unsettled discourse. This affords another route to critically approach these assumptions,²⁰ drawing from, and more consistent with, the evidence these reports already reference regarding the harmful impacts of meat and the viability of plant-based diets for all but a few human societies.²¹
3. Account for the social and political contexts and impacts of meat production and consumption, rather than simply environmental and production-oriented measures. A more comprehensive view of the impacts and costs of using animals as food, showing how this use relates to broader economic, political, and social systems that perpetuate human exploitation and social inequality, will allow for more balanced assessments regarding their continued, and increased, use in these reports. The perpetuation of human as well as species oppression via meat production and constructions of animals as food needs to be more widely reported and understood.
4. Acknowledge the presence and role of dominant food discourses. As long as the social construction of our current systems of meat production remain concealed behind enduring naturalised notions of ‘need’, the broader economic, political, social and environmental implications of this industry continue to be justified and traded off in some way, and the opportunity for alternative food discourses to be given fair, unbiased consideration is suppressed.
5. Engage with the social and natural science knowledge base and empirical research on vegetarianism and veganism. This would acknowledge existing scholarship in this area and start to integrate a different discourse of meat and animals.

These measures together constitute an effective counter-discourse that challenges the normalisation of dominant human-animal relations and their associated practices (Cole and Stewart 2014). Similar conceptual shifts have occurred in science literature in relation to the importance afforded the natural environment. Gaining momentum especially from the 1960s onwards, the environment is now an intrinsic part of everyday discourses and practice. Similarly, the recognition of social concerns was formalised in the 1990s as triple bottom line accounting and corporate social responsibility became mainstream practices. It would nowadays be considered remiss for an investigation to not acknowledge environmental and social dimensions that are in any way relevant. These conceptual shifts have led to real outcomes and changes in practices that have benefited the environment and people’s lives. In the same way, I conceive a shift in the discourse around animals and meat as one means to alter or at least question existing practices, revealing new, and urgently needed possibilities for food systems that were previously unimaginable. The current discourse constitutes a significant impediment to immediate and effective climate change mitigation. Its persistent domination not only exacerbates the problems we face, it also limits our range of responses to what have been demonstrated to be the least effective options.

Conclusion

In this paper, I have illustrated how the normalisation of animals as a material resource for human use is reflected and reinforced in discourse and associated language used to describe practices of food/meat production and consumption. I have shown that this way of describing and justifying animals and meat is prevalent across a body of literature that is keenly aware of the impacts of meat production and consumption, and is attempting to find

²⁰ In addition to concerns regarding the nutritional value or adverse health impacts of meat.

²¹ Where access to adequate nutrition may be geographically and not just economically limited.

solutions to problems of climate change, sustainability and food security. Despite often implicitly, and explicitly, acknowledging the significant contributions made by meat production and consumption to each of these issues, this literature routinely downplays or fails to mention the viability of plant-based diets. The language used in these reports in reference to animals and meat, and the manner in which they are presented as inherently natural and necessary elements of our food system, contributes to the continued absencing of the animated, sentient lives of these animals and facilitates the routinisation of emotions to justify their use in the face of what might be problematic feelings associated with their machinistic treatment and slaughter. Finally, I have proposed five ways to reanimate the animal in this body of literature to trigger a conceptual shift in the way that their use as food is regarded.

Language that re-animates and a critical approach to discourses of food are a good start. However, they are not sufficient to tackle the resilience or 'stickiness' of discourses and practices surrounding meat production and consumption. Significant economic, social, cultural and emotional values attach to meat and these are especially resistant to question and will undoubtedly be hard to overcome. Some argue that the only effective challenge to existing practices will come from external forces, such as land and water scarcity, or as meeting increasing demand becomes untenable and other options, such as in vitro and fake meats, become more economically viable and socially acceptable. However, until that time, the immediate implications of population growth and increasing per capita consumption of meat for land and water use, environmental degradation, pollution, depletion of fish stocks, climate change, human health and social equity demand that researchers and policy makers take a much more critical approach to agriculture, sustainability and food security and begin to question the normative assumptions used to inform current research. Furthermore, human-centric notions of the 'life purpose' and value of animals designated as food need to be destabilised. Only then will their use, in any way, become a topic worthy of serious ethical consideration creating a valid counter-discourse to current efforts to 'solve' the problems of meat by producing it more 'sustainably', making it 'healthier' and treating the animals more 'humanely'.

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