



## ‘It’s just pølse’: Convenient meat consumption and reduction in Norway

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### ARTICLE INFO

#### Keywords:

Meat consumption  
Convenience food  
Socio-material scripts  
Social practice theory  
Meat reduction  
Meat replacement

### ABSTRACT

Meat consumption and convenience food are both located at the heart of contemporary, industrialized, unhealthy and unsustainable food systems. In this article, we study the intersections between convenience food and ‘meatification’ of diets, focusing on the ‘pølse’—an umbrella term including both hotdogs and a range of sausages—as the epitome of convenience food in Norway. We explore how the pølse is embedded in Norwegian food practices, and why it is considered convenient in different contexts. In doing so, we seek to explain how pølse eating is co-shaped by socio-material scripting processes that further entrench meat in food practices and complicate meat-reduction efforts. The analysis is based on 52 in-depth household interviews and autophotography in four geographical contexts in Norway, in addition to 22 park interviews and survey data centering on household food and meat practices. We use a theoretical apparatus combining social practice theory, foodscapes and socio-material scripts to analyse the conveniencization of pølse. The article demonstrates how meat consumption and convenience food become entwined in specific social practices, and how conveniencization intersects with practices of care, notions of class, social expectations and normativity. Moreover, we show that despite the range of plant-based ‘pølse’ substitutes on offer, meat-eaters remain skeptical to its taste, and substitutes rather seem to offer a way into established social occasions for non-meat eaters than a way out of meat eating.

### 1. Introduction

It is well established that meat production and consumption have dramatic environmental consequences (e.g. [Parlasca & Qaim, 2022](#); [Herrero et al., 2015](#)), and that there are large potential environmental benefits from a shift towards less meat-intensive diets ([Poore & Nemecek, 2018](#); [Sun et al., 2022](#)). Yet such a transition has proven easier in theory than in practice. Even dedicated ‘meat reducers’ often struggle to cut back on consumption ([Mylan, 2018](#)). Meat consumption is deeply embedded in food cultures ([Hansen & Syse, 2021](#)) and food practices ([Halkier & Lund, 2023](#)), and facilitated by increasingly meat intensive foodscapes ([Hansen & Jakobsen, 2020](#)). The ‘meatification’ of diets ([Weis, 2013](#)) has occurred alongside and through the increased production and consumption of convenience food<sup>1</sup> since the 1950s ([Jackson et al., 2018](#)). Meatification and convenience is often deeply interlinked through the rapid expansion of typical convenient meat products like

hamburgers and sausages and the inclusion of meat in a wide range of fast foods and convenience food products like pizzas, sandwiches, instant noodles and pies ([Jackson et al., 2018](#)). Indeed, meat and meat products have historically been at the heart of food convenience developments, facilitated by technological innovations in processing, packaging and storing of meat products ([Leroy & Degreef, 2015](#)). In many ways, convenient meat products can represent the ultimate ‘effacement’ of the animal through disconnecting consumers from the production of meat ([Efstathiou, 2021](#)). While both meat consumption and convenience food have received much scholarly attention over the last decades (see for instance [Kanerva, 2021](#); [Jackson et al., 2018](#) for overviews), less attention has been given to how processes of conveniencization and meatification intersect and overlap through consumption. By analysing consumption of the convenient meat product ‘pølse’ in Norway, this paper seeks to explain how a complex set of processes from production to consumption allow convenience food to

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<sup>1</sup> Convenience food is a complex food category, encompassing a broad variety of processed and semi-processed foods including frozen pizza and ready meals, sausages, sandwiches and pies, tinned fruit and canned vegetables, bagged salads, confectionary and crisps. Although there is no clear definitional conceptualization of convenience food in the research literature, [Costa et al.’s \(2001\)](#) depiction of convenience defined at different stages - ready-to-eat, ready-to-heat, ready-to-end-cook, and ready-to-cook - is often used as a point of reference. In this context, we use convenience to describe the meat product ‘pølse’, which is a ready-to-cook product, requiring minimal time, skills and accessories to cook.

further entrench animal products in food practices, and for meat consumption to increase while complicating meat-reduction efforts.

On the provisioning side, convenience food is at the core of capitalist accumulation strategies in food. On the consumption side, it has become weaved into and enabled time-squeezed everyday lives, representing easy and accessible meals at home and on the go (Warde, 1999). It allows consumers to save time and mental effort across the food practice involved, such as planning, preparation, eating and cleaning up (Jackson & Viehoff, 2016). Previous research even suggests that in many countries the centrality of traditional domestic eating has been reduced to weekends and special occasions, whereas ‘fast and/or convenience food consumption increasingly represents the workaday nutritional choice’ (Brewis & Jack, 2005, 51). Nevertheless, convenience food is still a contested social and cultural category, with understandings seemingly sliding ‘between or across understandings of what is to be considered “proper food”’ (Halkier, 2017, 134). For instance, convenience food is understood to be making peoples’ lives simpler and more practical by facilitating less time-consuming food practices amid increasingly time-squeezed everyday lives (Southerton, 2020). It can involve stress relief and culinary enjoyment (Jackson et al., 2018), be empowering (Carrigan & Szmigin, 2006), and represent expressions of care (Meah & Jackson, 2017). Simultaneously, convenience food is often considered less healthy, more processed and less sustainable, and relatedly, a less acceptable way of providing food for the family (Jackson, 2018). Consequently, convenience food is perceived to hold ‘a low moral value’ (Kahma et al., 2016, 493).

This article focuses on the Norwegian ‘pølse’, an umbrella word including hotdogs and a wide range of fresh, pre-cooked, smoked and cured sausages, which can be considered the epitome of convenience food in Norway. Originally a preservation technique and a way of utilizing larger parts of slaughtered animals, pølse has become an important staple in Norwegian eating practices across socio-economic background, practices and geographies. According to Statistics Norway, Norwegians ate more than 57 740 tons of pølse in 2020,<sup>2</sup> meaning that the average Norwegian eats around 100 pølses annually.<sup>3</sup> The pølse may enter everyday meals, but is mainly eaten as part of specific food occasions, such as birthday celebrations or grilling. Pølse is a symbol of ‘folksy’ food, associated with enjoyment, especially for and with children (Døving, 2001), but also strongly associated with convenience. Pølse-eating makes part of a broader meatification of Norwegian diets. Indeed, meat consumption per capita in Norway doubled between the 1950s and the 2010s (Animalia, 2022). Numbers have fluctuated some over the last couple of years, but after a slight dip in the 2010s reached an all-time high of 79,7 kilos per capita in 2021 (Animalia, 2022). A significant part of this increase has taken place through a steady expansion in the consumption of convenience food, as processed meats amount to as much as half of total Norwegian meat consumption (Animalia, 2021a), and most of meat from beef and pork is consumed through products such as minced meat and pølse (Ueland et al., 2022). The consumption of these products has developed alongside broader societal trends of a sharp reduction of women housewives and more women entering the labour force since the 1970s. Alongside changes in the labour market, recipes with ready-made meats have increasingly been promoted through cookbooks, food magazines and commercials since the 1980s (Björkdahl & Lykke Syse, 2023).

Compared to the other Nordic countries, Norwegians are seemingly more positive towards the use of convenience food than their

neighbours, with saving time and effort highlighted as main motivations for their use (Kahma et al., 2016). While some studies have found convenience foods to be conflicting with ideas about proper family meals and that families with children thus often want to avoid them (Kahma et al., 2016), other studies have found that time-pressured families are among those consumer segments that eat the most convenience food (Gonera et al., 2021). However, while several studies have found that the cheap and accessible processed meat has become a convenient dinner choice for many families, demanding little preparation and skills (Djupegot et al., 2017; Ueland et al., 2022), this does not necessarily explain the high standing of pølse in specific food occasions in Norway. Rather, pølse seems to be considered both convenient, traditional and celebratory, and deeply embedded in a range of food practices, which could make pølse a particularly stubborn meat product in terms of reduction.

In this article, we explore how the pølse is embedded in Norwegian food practices, and why it is considered convenient in different contexts. In doing so, we seek to explain how pølse eating is co-shaped by socio-material scripting processes that further entrench meat in food practices and complicate meat-reduction efforts. The data material consists of a range of qualitative and quantitative methods, analysed through a practice-theoretical approach. We draw on Jackson et al.’s (2018) notion of conveniencization to analyse how convenience become embedded in the performance of food practices, and focus attention on ‘foodscapes’ as the spatial intersection between the provisioning and consumption of food in particular places. Specifically, we analyse how specific foodscapes are in different ways ‘scripted’ (see Fuentes & Fuentes, 2021) to make pølse convenient.

The article is structured as follows: First, we describe and discuss how practice theory, foodscapes and scripts can be used as tools for understanding and analysing the consumption of pølse in Norway. The subsequent analysis examines how particular contexts are scripted towards pølse-eating through studying how foodscapes, materialities, norms and understandings co-shape conveniencization processes. The final part of the analysis discusses meat replacement products, analysing pølse as a barrier and enabler to a transition towards less meat-intensive diets. We end with a conclusion summarizing the main results and discuss the implications of our findings.

## 2. Consuming pølse – in theory

Our analytical framework builds on theories of practice. The ‘practice turn’ in consumption research over the recent decades has produced a wealth of knowledge on how consumption patterns are shaped by mundane habits and routines, as well as how consumption decisions in everyday life are deeply shaped by and embedded in complex social and material arrangements (see Gram-Hanssen, 2021; Rininen et al., 2020; Warde, 2017). In studies of food consumption, practice approaches have been employed to study a wide range of food and food-related practices (see Hoolohan et al., 2022; Warde, 2016; Halkier, 2017, 2022), including both meat reduction (Halkier & Lund, 2023), meat avoidance (Twine, 2018) and increasing meat consumption (Hansen, 2018). From a practice perspective, consumption is approached as ‘moments’ in larger social patterns of behaviour, and the outcome of habits and often tacit knowledge rather than as the outcome of fully rational calculations and decisions (Warde, 2005). Eating is considered a compound practice, including the practices involved in supplying food, cooking, the organisation of meal occasions and aesthetic judgements of taste (Warde, 2016). A practice approach further allows us to understand food practices as part of complex sets of domestic routines, and as negotiated against a diversity of responsibilities and people (e.g. Jackson et al., 2018). Convenience plays a central role in the organisation of everyday life and is part of structuring large swings in for example patterns of mobility, energy and food consumption (Shove, 2003). We are interested in the meanings people attach to convenience food, including cultural understandings of appropriateness (e.g. Halkier, 2009, 2020,

<sup>2</sup> <https://www.ssb.no/statbank/table/10455/tableViewLayout1> While this is a significant amount, Norwegians still eat far less than other European countries, such as Czech Republic and Germany, with both 19 kilos per person per year, or Austria, with 16 kilos.

<sup>3</sup> [https://forskning.no/baerekraft-landbruk-mat/hva-er-en-god-polse/2087209?fbclid=IwAR1-4GDkdB71Mrsmbvu0FEIxcyFnWc97aAcJUZ\\_ukl\\_gTA82cPHWi5n-sOY](https://forskning.no/baerekraft-landbruk-mat/hva-er-en-god-polse/2087209?fbclid=IwAR1-4GDkdB71Mrsmbvu0FEIxcyFnWc97aAcJUZ_ukl_gTA82cPHWi5n-sOY)

2022), as well as convenience food's material agency, in particular the quite simple set of competences needed to consume it. In sum, practice approaches allow us to study how agency is distributed across material, social and bodily dimensions, or pillars (Sahakian & Wilhite, 2014), of practices, which together contribute to the consumption of pølse in Norway, as well as the role of pølse in shaping meat consumption and reduction.

Practice approaches furthermore allow analysis of connections between everyday life, social norms, the built environment and governance (Rinkinen et al., 2020). That said, recent contributions have pointed to how practice approaches have led to a rather narrow approach to consumption, often ignoring the structural conditions and contexts within which consumption takes place (see Evans, 2019; Welch et al., 2020). As Warde (2017) argues, however, theoretical frameworks will always involve privileging some aspects of social life over others and we agree with Schatzki's (2018) call for more theoretical alliances. To better understand the impact of provisioning actors on food practices, we combine a practice approach with the geographical concept of foodscapes.

Foodscapes is a broad geographical concept (see Faltmann, 2021 for overview) that allows us to add a specifically spatial approach to food practices and enables us to untangle how geographies of consumption are co-shaped by systems of provision and political-economic arrangements. Inspired by Miewald and McCann (2014), we employ the concept to approach the spatial environments in which people encounter food (see e.g. Goodman et al., 2010 for a broader understanding of the concept). In other words, we use it to study how spaces for food acquisition (e.g. supermarkets and convenience stores) and eating (e.g. restaurants and different social gatherings/eating events) co-shape the consumption of pølse, and the role of provisioning actors these. In our approach, foodscapes then represent the spatial and scalar intersection between the macro-geographies of food systems and everyday practices (see also Hansen & Jakobsen, 2020). Specifically, we are interested in the role of foodscapes in processes of 'conveniencization'. As argued by Jackson et al. (2018), a focus on conveniencization involves a shift of focus from the specific food category of 'convenience food' to the ways in which notions of convenience become embedded in social practices, and thus how food is *made convenient*. In this article, we are interested in how the specific context within which food is acquired, cooked, and eaten co-shape such conveniencization processes.

One way of bringing practices and foodscapes together, is through the concept of scripts. Closely related to ideas of distributed, and in particular material, agency, scripts can involve different forms of action mediation through more or less intended material 'pathways' built into infrastructures and technologies (Akrich, 1992; Latour, 1992; Verbeek, 2006). 'Scripted materiality', according to Fuentes and Fuentes (2021, 3), inspired by Jelsma (2003), 'encourages and enables certain actions, framing these as acceptable, desirable or convenient, while simultaneously counteracting other actions, making them unacceptable, undesirable, and inconvenient'. For instance, convenience food is scripted in the sense that some of the choices concerning possible use have already been made for the consumer when purchasing the product. Taken further to the geographies of consumption in which food practices take place, what we term *scripted foodscapes* come with particular expectations of appropriate action and consumption. In other words, focusing on scripted foodscapes allows us to study how the spaces and places where people encounter and eat food are arranged for them to consume in certain ways. However, and as is clear from Fuentes and Fuentes' definition, such 'inscriptions' are not restricted to the material world, they also involve a range of social processes. In total, socio-material scripts frame certain performances of social practices as acceptable, desirable and convenient. Still, the relationships between scripts and consumers are dynamic in the sense that scripts mediate action, they do not determine it, and consumers may 'de-script' and negotiate expectations (Akrich, 1992; Fuentes & Fuentes, 2017, 2021). These different forms of scripting are highly important in shaping foodways and contributing to

the stubbornness of food consumption patterns. In the analysis, we use this theoretical apparatus to analyse how pølse is made convenient in particular foodscapes through socio-material scripting, in turn making pølse-eating a likely option across a set of eating practices.

### 3. Methods

The data material analysed in this article consists of household interviews and autophotography, park conversations and survey data centering on household food and meat practices.<sup>4</sup> The main data material consists of 52 in-depth household interviews conducted in four geographical contexts—two urban and two rural—in Norway in 2020 and 2021. Norway's capital city, Oslo, and its third largest city, Trondheim, represent the urban regions. Inland Ottadalen and coastal Søre Sunnmøre represent the rural regions. While by no means representative for all of rural Norway, the two regions exemplify two important categories of rural areas in the country; inland and coastal. Ottadalen is a valley situated in central Norway. The largest town (a city by Norwegian standards) is Otta, with a population of just over 2000. Søre Sunnmøre, just a few hours' drive away is connected to mainland Norway, but also consists of a large number of islands. The largest town (a city by Norwegian standards) is Volda with close to 7000 inhabitants.

The majority of interviews were conducted digitally due to restrictions imposed in response to the Covid-19 pandemic. One short field trip, to Ottadalen, was possible in fall 2021, where we conducted five in-person interviews and a group interview with five participants. All interviewees were also invited to submit photos illustrating different food practices. These were used actively in interviews as both a conversation starter and a way to partly bridge 'sayings' and 'doings', in other words how people perform practices versus how they talk about them. To zoom in on the particularly meat intensive practice of grilling, we also draw on 22 short semi-structured group conversations, conducted in-situ in three popular recreational areas in Oslo in June 2021; the Tøyen park area in eastern Oslo, the popular beach area of Bygdøy and Sognsvann by the forest in western Oslo. The groups consisted of 3–6 people and interviews usually lasted between five and 10 min. Both the interview data and data from park conversations were analysed inductively using coding software for qualitative data. Additionally, we build on background information from a nationally representative survey on food consumption patterns and attitudes towards meat consumption and reduction conducted and analysed for this project by the data and analytics company Kantar. While the semi-structured interviews form the main basis for analysis, we use the data from the survey and park conversations to support our findings (specified in text).

### 4. Analysis: Pølse in practice(s)

In this section, we first analyse the role and strategies of provisioning actors in shaping meaty foodscapes before zooming in on the material dimensions of scripting in particular contexts. We then move on to discussing the ways in which social expectations and negotiations contribute to scripting pølse eating. We separate these for analytical purposes, although they are often deeply interlinked and overlapping. The last part of the analysis discusses the extent to which meat replacement products can work as a barrier and enabler to a transition towards less meat-intensive diets.

<sup>4</sup> This research makes part of the larger transdisciplinary research project MEATigation: Towards sustainable meat-use in Norwegian food practices for climate mitigation more information on [www.meatigation.no](http://www.meatigation.no). MEATigation is funded by the Research Council of Norway (no 303698). The data management of this project is approved by the NSD – Norwegian centre for research data (reference number 645448).

#### 4.1. Meaty foodscapes

The system of provision of pølse has changed considerably alongside broader food-systemic changes in Norway. Pølse was originally a product made out of leftovers from slaughtering, mainly excess blood and fat from slaughtered animals, using a wide variety of added ingredients, with strong regional differences and local specialities (Bugge, 2019). However, pølse was also one of the first convenience products produced, and fast foods offered, in Norway (Bugge, 2019). A significant change that contributed to turning pølse into the product we know today was the standardisation of the pølse production process by the end of the 1970s, turning pølse into a brand (Christensen & Nilsen, 2006).

In 2008, the Norwegian anthropologist Runar Døving, who has written extensively on Norwegian food culture, claimed in an op-ed in Norway's largest newspaper that eating pølse at a petrol station is 'out' (Døving, 2008). But a visit to any Norwegian petrol station today shows that this cannot be the case. Instead, the types of pølse on offer have expanded rapidly, in petrol stations and across Norwegian foodscapes. Hip pølse joints have emerged alongside a rapid increase in burger joints targeting the middle classes in cities, and pølse is served in a number of restaurants and is the staple dish of any children's menu. Still, however, Norwegians usually buy their pølse at supermarkets, as is the case for vast majority of food shopping in the country. According our consumer survey, 29 per cent of Norwegians eat processed meat, including pølse, on a weekly basis, whereas 54 per cent report that they eat processed meat on a monthly basis. In supermarkets, a wide range of types, styles, packaging sizes and price segments are on offer. Prices can range from 30 NOK (2,7 EUR) for 1 kilo pølse (grilled) to different specialty types sold for over 250 NOK (22,7 EUR) per kilo.<sup>5</sup> Despite the diversity on offer, the most sold products are still the 'grillpølse' (precooked pølse for grilling), representing 40 per cent of total sales volume, followed by the so-called 'middagspølse' (dinner sausage) and the wiener pølse (Vienna sausage) at 23 and 20 per cent (NorgesGruppen, 2017).

High custom walls protect Norwegian meat production, and meat producers receive substantial subsidies (Vittersø & Kjærnes, 2015). While production is aimed at full self-sufficiency, Norway has seen a steady increase in pølse imports, in 2021 reaching 1600 tons (Animalia, 2021b).<sup>6</sup> Moreover, advertisement has been central to the promotion of pølse, being one of the food products in Norway most heavily advertised, all year around (Rosenberg & Vittersø, 2014, 47). Advertisements often connect pølse-eating to ideals, values and attitudes deeply rooted in the Norwegian society, playing on Norwegian traditions, Norwegian nature and outdoor life, and 17th of May (Norway's day of independence) as 'the children's day' and the ultimate day for pølse-eating (Rosenberg & Vittersø, 2014). Indeed, according to sales numbers from Norway's largest food retail corporation NorgesGruppen (2017), holidays and national celebration are central in Norwegian pølse-eating, with Easter, Christmas and 17th of May as the three high seasons for pølse sales. Moreover, pølse is advertised as the natural part of any grilling event, and is the most common item Norwegians place on the grill (NetOnNet, 2022). Grilling is a central food practice in Norway (Rosenberg & Vittersø, 2014), and a recent national survey conducted for the retailer NetOnNet (2022) found that only 11 per cent of the Norwegian population report that they never grill. Retail chains largely use sale campaigns for meat and cheap meat prices as a way of attracting customers (Vittersø & Kjærnes, 2015; Bjørkdahl & Lykke Syse, 2023). Additionally,

<sup>5</sup> <https://oda.com/no/search/?page=2&q=p%C3%B8lse> (accessed 21.02.23).

<sup>6</sup> Although the meat involved in Norwegian pølse largely originates from Norwegian agriculture, pølse production is still connected to global production networks where most of the natural intestine used for pølse and other types of sausages are imported, often from China through a third country in Europe, or from New Zealand and Australia. Norway on the other hand exports fresh intestine to China and Europe, which is refined there and re-exported.

the Meat Information Office (now MatPrat, or 'FoodTalk'), a cooperative body between different actors in the meat industry (Christensen & Nilsen, 2006), has been instrumental in promoting and increasing meat consumption in Norway through their websites, recipes and commercials (Christensen & Nilsen, 2006, see also Bjørkdahl & Lykke Syse, 2023). Indeed, MatPrat has over 200 recipes and 121 articles featuring pølse (MatPrat, 2022).

Meat producers have sought to uphold meat consumption by adapting to changing consumer demands through diversification. For instance, from the 1980s, consumers were increasingly concerned with health effects of fat, salt and cholesterol. In response, producers started to offer leaner forms of pølse (Christensen & Nilsen, 2006). Combined with the fact that a larger share of the Norwegian population avoid pork, the demand for leaner pølse has led to pølse made from turkey and chicken meat. More recently, consumers have signalled the wish for higher meat content (Kristiansen, 2022), potentially related to increased concerns for additives and processing. Hence, the specialty pølse has entered the market, promoted as products that are meatier, with more spice and more taste.<sup>7</sup> This has corresponded with the removal of previously regulated standardisation of pølse recipes, now allowing pølse producers to diversify production to include other types of meat, spice and other ingredients, as well as increase the total meat content. In addition, pølse diversification has managed to keep up with a general globalisation of Norwegian cuisine. It is now possible to buy a range of 'speciality' pølse, made by a local butcher, using organic meat or with green labelling, or styles from a number of different food cultures, for example chorizo and bratwurst. While meat in the form of pølse (as well as minced meat) has normally been consumed more extensively in households in lower socio-economic segments (Vittersø & Kjærnes, 2015), this diversification is seemingly making it more appropriate to eat pølse among adults and higher socio-economic classes. Moreover, the increasing use of quality meat in pølse<sup>8</sup> (as opposed to other remains from slaughtering) has arguably contributed to making it more acceptable as proper food.

While being a contested food product, these market dynamics and strategies have been instrumental in positioning pølse as convenience food per excellence, firmly inscribed in various food occasions that call for quick, easy and relatively 'neutral' food. Obviously, pølse has risen to this position because consumers like the taste of it, but also due to the materiality of the pølse and the socio-material arrangements—the scripted foodscapes—that contribute to making pølse convenient and appropriate. In the following, we zoom in on the materialities that contribute to facilitating pølse-eating.

#### 4.2. Conveniencizing materialities

The very materiality of the pølse makes it convenient, and especially in its hot dog shape. Its saltiness speaks to the taste buds of both young and old consumers, its shape and form makes it possible to hold, convenient to carry and easy to cook. For instance, on-the-go eating is often highlighted as a setting where the hot dog's specific materiality is optimal - easy to carry and creating minimal spillage and waste. As described by Emma in Oslo (28, living alone), the hotdog becomes the most convenient choice compared to other food alternatives:

*it is probably that it is practical, it is food you can carry around [holdemat] ... it is more practical to eat pølse than buying ... I've never done that, bought those ready pizza slices from 7/11. And it's like 'pølse is*

<sup>7</sup> While standard grillpølse, middagspølse and wienerpølse normally contain around 60 per cent meat of different kinds, sometimes including mechanically deboned meat (MDM), some speciality pølse contain as much as 80 to 90 per cent meat.

<sup>8</sup> <https://www.gilde.no/artikkel/slik-lager-vi-gilde-polser>.

*pølse*, but pizza slices look really indelicate, gross, floating around [flytende] ... not very rational really but just emotionally driven like that

Pølse in this context is part of the larger convenience category of one-hand-food, which in earlier debates in Norway been connected to individualised forms of eating and negative influence of American fast food culture, presented as a potential threat to family mealtime (Bugge, 2003). The conveniencization of pølse in on-the-go settings is also related to how it requires minimal accessories, very often only bread designed for the purpose ('pølse bread') or a 'lompe' (a flat, soft potato cake to wrap around the pølse) with ketchup.

Certain material environments also script the consumption of pølse, particularly in spaces with few other options, such as kiosks and petrol stations frequented when on the go or in specific leisure venues such as malls, zoos, amusement parks etc. Both our urban and rural interviewees spoke directly of such places, for example Elisa in Oslo and Vigidis in Sunnmøre:

*Because we were, conveniently enough, at the zoo in Kristiansand this weekend. And there it is completely impossible to eat anything but pølse and hamburgers (Elisa, 37, family with children)*

*And it can typically be, if we are some sort of trip, drive the children to the airport or pick up from the airport. Then we buy different sorts of pølse on the way home (Vigidis, 57, family with children)*

Such spaces are clear examples of what we analyse as scripted foodscapes. While it in reality is possible to eat a range of other types of food at most of these places, the material setting makes pølse the most accessible and convenient alternative.

A central aspect is also how cooking materials and technologies used in specific eating practices facilitate the consumption of pølse. Here, disposable grills represent a central example, widely used for outdoor grilling in parks and beaches during the summer. Disposable grills are sold in supermarkets and petrol stations, often placed centrally in stores during the summer season, making it practical to buy together with other supplies on the way to outdoor grilling occasions. The grill is light (ca. 600 g) and quite small (a common version measures 31,5x26x5,5 cm), the heat is not very strong and does not last very long. Hence, the disposable grill is not suitable for products that require complex cooking procedures. In several of the interviews and conversations, the preparation of pølse on a disposable grill was presented as common sense:

*You do not start with hefty tenderloins on a disposable grill in the park, right (Teodor, 39, partner, Oslo)*

*Participant 1: It is just that, on a disposable grill i mean, then it is [pølse] that is the easiest to grill really.*

*Participant 2: There is not enough power in it for a steak, you know (Group conversation 4, Bygdøy, Oslo, 8 people)*

The quotes above clearly point to the material limitations of the grilling technology itself and represent a clear example of how agency is distributed between participants and socio-material arrangements in practices (Schatzki, 2010; Wilhite, 2008). Our informants also reflected on how it was so easy to buy pølse on their way to meeting friends or family outdoors, as the material elements of the meal are few, and little or nothing has to be brought from home (which facilitates impulsive plans). Indeed, during outdoor grilling of pølse, conveniencization is to a larger extent connected to the whole sequence of events leading up to the specific meal occasion. One of our group participants explained how this had become an almost automated process that required minimal planning:

*And it is just like integrated in my body, or my head, that a pack of sausages and bread is just so easy, right. I just came from home, went by the supermarket and then here, so I was not so keen to stop and plan really (Group conversation 3, Sognsvann, Oslo, 10 people)*

People also seem to value the minimal waste produced by pølse

eating. However, when discussing how waste was dealt with afterwards, many informants admitted to throwing away leftovers, justified with lack of storage and high outdoor temperatures, or that 'it is just pølse'. As expressed by Josefine in Trondheim (25, living with partner):

*When I grill and if someone does not finish the package of pølse and then just throws the rest, then it is a bit like, well, people have a very distanced relationship to what really goes into making that pølse when you just throw it without thinking about it.*

The quote above points to how the materiality of pølse is seemingly facilitating an already strong distancing between meat and animals. While consumers seem to be increasingly concerned about both animal welfare and sustainability (Bugge & Schjøll, 2021; Loughnan et al., 2010), research has demonstrated how consumers engage in twin processes of denial and rationalisation to uphold their high intake of meat (Syse & Bjørkdahl, 2021; Volden & Wethal, 2021). In this context, the shape and form of pølse carry little, if any, resemblance to its animal origin, which potentially facilitates a more careless use and waste of the product.

Indeed, certain practices come with clear material scripts (Fuentes & Fuentes, 2021) built around and enabling the pølse as an obvious and desirable alternative. While the pølse itself is clearly a convenient product, the quotes above illustrate how processes of conveniencization are also part of the organization and accomplishment of mundane food practices, the ways in which provisioning, cooking, eating and wasting allows for a certain degree or kind of ease.

#### 4.3. Negotiating socio-material scripts

Beyond the material arrangements and systems that facilitate the consumption of pølse, certain social negotiations and expectations also come into play, in turn contributing to scripting pølse-eating. This is linked to normativity in the sense of both acceptability and legitimacy in the performance of practices (Halkier, 2022; Schatzki, 2010). For instance during events such as children's birthday parties, pølse is considered the 'normal' food to serve. According to Bugge (2019), pølse was introduced as food for children's and youth parties already during the 1980s, representing tradition and modernity simultaneously. Here, conveniencization is connected to the limited amount of waste and spillage (discussed above), but also has a larger social component, as explained by Anna (28, Oslo, family of four):

*And it is also extremely easy to serve pølse at kids' birthday parties ... Really, really, really practical when you have loads and loads and loads of kids coming and that it is something you know that everybody likes and everybody knows and everybody knows what to do with, not a lot of mess.*

In the above, Anna links conveniencization to the fact that she does not need to manage or challenge expectations, as both children and adults tend to expect pølse as part of this social event. Anna goes on to explain how she knows that she could have served other types of food, but that would have forced her to discuss the alternative food choice with her children and perhaps also to a larger extent investigate whether these other foods would match the preferences of their guests. Hence, serving pølse becomes the easier and more convenient choice due to relatively strong socio-material scripting.

##### 4.3.1. Pølse as care

Pølse, and in particular the hotdog version, has often been considered as mainly children's food in Norway (Døving, 2001). Indeed, when discussing pølse, a dominant theme revolves around children, and the eating of pølse is negotiated and justified in relation to practices of parenting and care. The pølse is depicted as a type of food that all children like, and serving pølse seems like a strategy for avoiding struggle, a path of least resistance, as exemplified by Elisa:

*We often grill with friends who have a grill. Or we bring our small grill to somewhere where we go swimming or something. Then we usually have pølse. Mainly. And some vegetables. [...] Simply because the kids eat it, without even thinking twice. And it's easily accessible everywhere, wherever you are (Elisa, 37, family of four)*

Elisa also said that she would have liked to have vegetarian alternatives to pølse, for example vegetables on stick (grønnsaksspyd). She even said that you could probably buy those premade, but that she found it 'simply too cumbersome in everyday life'. This also speaks to how the materiality of the pølse makes it possible even for quite small children to hold and eat it without the parents assisting, contributing to its conveniencization. Among our interviewees, serving pølse to children was further connected to children not being particularly open to new tastes and spices, and the fear of them refusing to eat what was served. As Elisa elaborated:

*Well, the children do not like spicy things that much. So they get to taste the [speciality] pølse, but most often i try to buy something leaner for them. So that they at least are not that fatty. But they just want ... they just eat one pølse and then they are done (Elisa, 37, family of four)*

In the above quotation, Elisa makes the point of giving leaner pølse to their children, compared to speciality pølse. However, the issue of health was seldom mentioned in relation to children eating pølse in our interviews, neither the nutritious aspects nor potential suffocation risk (Altkorn et al., 2008). Rather, interviewees explained that pølse was sometimes brought only for the kids, whereas the grown-ups ate something different, particularly for grilling. This was explained with the children being impatient and not eating that much food. While preparation of convenience food often has been placed in opposition or contrast to care, serving convenience food can thus also be understood as an expression of care (see also Meah & Jackson, 2017). For instance, serving pølse to the children becomes a way of attending to children's immediate needs; giving them what they know and love, and managing their hunger in a fast and simple way given their lack of patience in waiting for prolonged preparations. As food practices often are deeply habituated (see e.g. Warde, 2016), pølse as part of grilling with children is a clear example of scripted food contexts, representing both what is expected and an act of care:

*And then we have to have pølse if we have grandchildren visiting [...] that is mainly for them [the grandchildren], we are not that fond of pølse ourselves (Elida, 69, living with partner, Søre Sunnmøre)*

The pølse also enters into the family dinner, although in a slightly different way. The family dinner has been depicted as an important ritual of everyday life, as quality family time (Daly, 2001) or a 'anchor points of daily life' (Southerton, 2020). This ritual is considered potentially threatened by convenience food (Bugge & Almås, 2006), both in relation to health and cooking skills (see Braun & Beckie, 2014 and Halkier, 2017 for discussions). Our informants discussed how pølse was not really considered proper dinner, but that they could add pieces of pølse to dinner recipes to make dishes more attractive to the children:

*And pølse, or we do not really eat pølse but it is like in a pie or sausage stew or things like that ... [...] We have had some sausage in pie, for the children ... (Aurora, 36, family of four, Oslo)*

Varieties of the latter statement, that they do not really eat pølse, were quite common among our interviewees. This may speak to the fact that pølse comes with certain class connotations and implicitly to pølse as a contested food in relation to health and nutrition (discussed further below).

#### 4.3.2. Negotiating pølse eating across social settings

Social interaction is considered central in shaping everyday food practices (Halkier, 2020). Among our interviewees, many meal occasions involved forms of social negotiations, particularly meal occasions

taking place outside the home and with people outside the household. In many of these occasions, main importance centered on the other people participating, and the wish to preserve a certain ambiance, or perceived social expectation. Sigrid (39, family of four, Oslo) talks about turning to the pølse when she does not want to disturb or disrupt the specific social setting:

*at least on such occasions [grilling with neighbours] ... when we are not sitting around the kitchen table at home, but we are outside and among lots of people and everything should somehow flow, we do not want any friction, you know .. everything should just slide somehow, then it's the good old grilled pølse (Sigrid, 39, family of four, Oslo)*

The quote above also demonstrates elements of identity construction, by wanting to be perceived as a harmonious family in a social setting where you do not necessarily know the other participants that well. However, similar expectations can come into play in settings with close family, as described by Målfrid (51, living alone, Trondheim) when talking about visiting her parents with her grown-up children:

*it is typically my parents who are responsible for grilling [...] so then there is a lot of meat-pushing [...] all types of pølse*

Målfrid explains how these grilling events represents a precious social context for her and her children, joining the three generations together. Moreover, because they never grill at her house, this becomes an out of the ordinary activity with the grandparents, which she does not want to challenge. Clearly, serving pølse seems to enter into the equation when the food itself is considered subordinate of the social setting. The food is necessary, but not central, in contrast to other meal occasions where a different set of expectations comes into play. As explained by Solfrid (40, family of three, Sunnmøre):

*Well, if I for instance go to our closest friends here with children of the same age as my son, and they are really close friends, there we usually buy like, and set the bar really low (lavterskel), pancakes or pølse with bread, just because – well it is about meeting and being together and you are many people together [...] the important part is about being together one afternoon, so then we just set the bar low and often [do] what the kids like. But if they were to be invited for dinner after bedtime that would have been something different, right?*

The social negotiations and expectations discussed above feeds into broader understandings of normativity or what is considered the normal thing to do in specific settings (Evans et al., 2012). Moreover, as Halkier (2017, 144) suggests, 'the larger the degree of informality, the easier convenient food is taken into a social meal as expected and accepted'. In many of the occasions discussed here, serving pølse is not considered a statement, rather it is a non-statement, it is classless, it is neutral, and non-provocative, which Anna (28, family of four, Oslo) reflects on in the following:

*I kind of feel that pølse are so 'default' at a condominium party. Had I brought some kind of fancy ... some fancy vegetable dish I would have felt it was more like that; 'I have made something, look what I have made'. I don't know, pølse is somehow completely neutral, it is completely neutral, it says nothing about us, it's just pølse.*

In some settings, the pølse has established such a strong footing that departing from the 'normal' would be considered a major statement, potentially also a political or moralistic statement, which in turn could 'upset' the social setting and create an uncomfortable ambiance. Hence, such meal occasions can be understood as scripted towards pølse eating.

#### 4.3.3. Contested convenience

Although pølse is eaten in all segments of Norwegian society, it does come with popular connotations. Among our interviewees, it was obvious that many felt guilty about eating pølse. Indeed, half of the Norwegian population reports that they want to moderate their intake of pølse, according to a study done by the Norwegian Health Directorate

(Helsedirektoratet, 2020). This could be explained by health concerns as well as the continued cultural importance of ‘proper dinner’ (Bugge & Døving, 2000), based on the so-called plate model divided in three parts; starch/carbohydrates, meat/fish (protein) and vegetables (Bugge, 2005; Sundet, 2021; Varela et al., 2022).<sup>9</sup> As Åshild said when asked about grilling practices: ‘... I have to admit that we also eat some pølse. I like it. I know eating lots of pølse is not very healthy, but we find it tasty’. Or Arnstein (30, lives with partner, Oslo), who explained the convenience of pølse but simultaneously described a sort of shameful feeling:

*... it's a funny phenomenon, the disposable grill and pølse. It is the most easily accessible, you don't have to plan anything, just grab some from the supermarket, often in combination with pilsener. And then at least you have some kind of hot meal, which in reality doesn't even taste particularly good. When I think about it it's a funny thing [...] If we were to compare to, like, proper grilling nations, then it's somewhat embarrassing to think about it, but, yeah, that pølse and like pølse-disposable grill. I think it is steered a lot by what is available and tradition.*

Many consider pølse as a dubious kind of food, with its cultural appropriateness somewhat contested, particularly as dinner. This is in line with Hand and Shove (2007), arguing that the use of convenience food is always socially negotiated between being practical, being something that improves the meal and potentially being something that threatens the quality of food. Indeed, several of our older interviewees said that they had stopped eating pølse after their children had moved out. Some interviewees were also directly opposed to the idea of for example buying a pølse on-the-go.

While Vittersø and Kjærnes (2015) found that eating processed meat was most widespread among low-income segments in Norway, the increased supply of speciality pølse, discussed above, seem to have made it possible to express at least some degree of elevated taste also through pølse-eating. In fact, eating a high-end pølse was often presented in opposition to eating traditional grilled pølse. Beyond distinction strategies, such stories involved reflections around cultural understandings regarding what constitute proper food. Speciality pølse was by many seen as more proper, due to production processes (e.g. locally made or handcrafted), higher meat content, or both. Maud (50, living alone, Oslo) said she wanted to eat ‘clean’ and ‘good’ meat, represented by organic and small-scale production, acquired through alternative food networks such as the REKO ring.<sup>10</sup> She was opposed to eating pølse, unless it was ‘properly made’.

*But to grill a well-made pølse, that is more ok. Then it has to be properly made, you know. From a butcher or something.*

Among our interviewees in rural Ottadalen, similar qualifications were used to distinguish proper and ‘honest’ locally produced food from industrially produced convenience food:

*We have bought quite a bit of pølse from "Mat i Skjåk" ('Food in Skjåk', local brand), because they are very good. And then there is meat in it, not just things you do not want to know about. Then you get proper products. Apart from that I try to stay away from such industrially processed food (Maiken, 52, living with partner, Ottadalen)*

In other words, pølse is negotiated against understandings of what is considered proper food in certain occasions (Halkier, 2017). Still, the standard pølse retains an interesting position as both highly popular and

highly contested, as both a mundane and a festive food, and as a source of both pride and embarrassment. A more recent trend further complicates the pølse category, as an increasing variety of plant-based pølse has entered the market.

#### 4.4. Demeating pølse?

Alongside an increased popularity of flexitarian diets and a rapid expansion in meat-replacing products in Norwegian foodscapes, the pølse seems to play a central role as both barrier and potential enabler of less meat-intensive diets. The pølse is a highly processed product and as phrased by Tina (30, Oslo, lives with partner), ‘there is an insane distance between pølse in the store and the pig as an animal, right. An actual living being.’ Philosopher Sophia Efstathiou (2021) argues that convenient meat products like pølse and burgers have detached the meat from the animal—‘deanimated’ the meat (Vialles & Noilie, 1994)—to such an extent that it has ironically opened a space for excluding meat all together. And certainly, although some of our interviewees complained that they could not find vegetarian pølse at petrol stations, the meatless pølse is now widely available in Norwegian supermarkets, especially in urban areas. A few of our informants saw these as good replacements. As put by Børge in Sunnmøre, with the ambition to start buying vegetarian pølse: ‘when the kids eat pølse, the could just as well, if they like vegetarian pølse that is, they can just as well eat vegetarian pølse as a Gilde [meat brand] pølse’.<sup>11</sup> Similarly, since most pølse are not considered particularly interesting culinary experience, they can in theory easily be replaced. As one of the participants in our park interviews stated: ‘I think it is not like extremely important for me to grill meat, but often it is the cheapest and easiest. To just grab a pack of pølse. But ... it could just as well have been something else.’ (Group conversation 4, Tøyenparken, Oslo, 4 people).

The emergence and increasing popularity of plant-based meat analogues are examples of the reconfiguration and ‘rescripting’ of meat-intensive food practices (Fuentes & Fuentes, 2021). They thus involve significant potential as a convenient way to reduce meat consumption without significantly altering food practices. This seems to resonate with those who want to avoid meat all together. Studies, including our own nationwide survey, show that about half of Norwegian vegetarians eat meat-replacement products on a weekly basis, but less than a third of Norwegian flexitarians do the same (Bugge & Bahr og Henjum, 2021). For our vegetarian participants, the pølse replacements were welcomed products allowing them ‘finally’ to become properly part of Norwegian meal occasions, particularly grilling. As explained in one of the interviews:

*I became a vegetarian 10 years ago, and that was completely different. Then it was maybe the case that I had to grill corn, that there were no alternatives to pølse. But now, they are almost completely the same, and then it is much easier to participate, to be social, because then you can sort of eat partly the same as the others, only that it is not meat (Group conversation 1, Tøyenparken, Oslo, 4 people)*

Instead of challenging the grill setting, vegetarians can now easily adapt to the socially expectable through pølse replacements. However, to many of our interviewees, the vegetarian pølse is still considered a poor replacement and remains seemingly unpopular. Among our interviewees interested in reducing meat consumption, there were two main concerns related to these products. The first concerned the taste, and the perception that they could not compete with the taste of the real deal. Interestingly, and perhaps speaking to the position of the pølse, several informants were of the opinion that while vegetarian burgers could taste good, the pølse could not be replaced. As put by a young man in the Tøyen park who was in the process of grilling a vegan pølse: ‘It

<sup>9</sup> This is also recommended by Norwegian health authorities, although the most recent version says one-third vegetables, one-third boiled potato, whole-grain rice, or barley rice, and one-third fish, meat or vegetarian, the latter including beans, lentils, peas or ‘products of these’ (Helsedirektoratet, 2021).

<sup>10</sup> The REKO ring is a local initiative, administered by The Norwegian Association of Farmers and Smallholders, where sale of food products take place directly from the farmers and food artisans who produce to the consumer. See <https://www.rekonorge.no/>.

<sup>11</sup> Gilde is a brand belonging to Nortura, a farmer co-op and Norway’s largest meat producer.

tastes like fart. Pølse is the only substitute you cannot get. If you say you have had a good veggie pølse that tastes like meat, then that's a lie.' (Group conversation 3, Tøyenparken, Oslo, 6 people). The other concern was that meat-replacement products in general were considered suspicious in pretending to be something they are not, i.e. meat. Relatedly, they were considered unhealthy due to their processed nature and the, to our interviewees, unclear ingredients. This echoes findings from other studies. For example, Varela et al. (2022) find that consumers in both Norway and France are skeptical towards industrial meat replacements, categorising them as 'highly processed' and thus unhealthy. That said, these products may become more normalised in the future, as they have only recently become widely available in Norway.

## 5. Concluding discussion

Meat consumption and convenience food are both located at the heart of contemporary, industrialized, unhealthy and unsustainable food systems, and are closely connected. In Norway, the vast majority of meat is consumed either as processed products or as embedded in different forms of premade meals. Minced meat, meatballs and hamburgers are highly popular products, but the pølse remains the most important convenient meat in Norway. This paper has analysed the role of the pølse in Norwegian food practices, focusing on understanding how pølse is both a dish for special occasions and one of the most mundane and 'neutral' food items in Norwegian food culture.

We have used a social practice approach combined with what we conceptualise as scripted foodscapes to study how socio-material arrangements contribute to the conveniencization of pølse. This theoretical apparatus enables an analysis of how pølse is embedded and conveniencized in a range of food practices, facilitated by specific materialities, meat-intensive foodscapes, social expectations and cultural understandings. Together, these create strong socio-material scripts that entrench meat in food practices and complicate meat-reduction efforts. Through the meat- and pølse-intensive foodscapes of Norwegian petrol stations, the role of the pølse as the champion of Norwegian grilling practices, its centrality in children's menus at restaurants or its role in different forms of celebrations, we have shown how the specific context within which food is acquired, cooked, and eaten co-shape such conveniencization processes. Both the materiality of the pølse itself and its dominant position in big parts of Norwegian foodscapes contribute to making pølse convenient. The contemporary Norwegian foodscapes clearly co-shape the high demand for pølse, through systems of provision, advertising, price and the organisation of food environments. Many food practices are heavily scripted towards pølse eating. The popular practice of outdoor grilling is a particularly good example of socio-material scripting, in which the material qualities of the pølse, the disposable grill and social expectations together make pølse the most appropriate food choice. It is certainly possible to grill something different, but very often that alternative would be plant-based versions of pølse. Conveniencization occurs through the different practices involved in the compound practice of eating, from picking up pølse and bread at the supermarket, through the ease of cooking them and eating using only one hand, to minimal waste production.

While pølse is consumed across ages, its convenient position is often particularly expressed in relation to children. We have argued that pølse eating is inscribed in many social practices involving children, such as birthday celebrations, grilling and national holiday celebrations. It is seen as a guarantee for getting kids to eat and be content, and is widely considered the perfect food for trips. Convenience is yet again central, but conveniencization intersects with practices of care, social expectations and normativity. Moreover, pølse is also tradition, in turn contributing to upholding deep-rooted norms of pølse eating during specific occasions. Moreover, the pølse is considered neutral and non-provocative, and avoiding pølse could in many occasions be considered a disruptive action or a major statement. This in turn, makes pølse a

particularly difficult product to replace, reduce or imitate.

Convenience food in general tends to be normatively contested, both in terms of how much convenience is expectable in everyday meals, and in which contexts convenience is acceptable (Halkier, 2017, 2022). Pølse is no exception. We have demonstrated how pølse in many ways is seen as a 'non-proper' meal, particularly as dinner. While the pølse remains popular, it is widely regarded as unhealthy, with around half of Norwegians wanting to moderate their intake. This, we argue, is related to powerful social norms and understandings concerning what constitutes a 'proper' meal (Bugge, 2005; Bugge & Døving, 2000). Such understandings are in turn co-shaped by notions of class, and, in some social segments, a strengthened focus on health, natural food and meat reduction. Interestingly, these concerns enter less into the equation when pølse is discussed in relation to children and celebrations. Other studies have found that convenience food is less acceptable in social settings when associated with something unhealthy or when representing the whole meal (Halkier, 2017). Pølse, however, does both, and is still considered the expectable and acceptable choice across many social settings, thus sliding across and between many dominating food discourses. The fact that pølse is embedded and inscribed in various food practices considered 'out of the ordinary' occasions throughout the year, makes it somewhat acquitted from food considerations that steer other parts of our informants' diets. For instance, in households actively seeking to reduce their meat consumption, pølse was often considered 'outside' this project, which generally centered on everyday dinners. This relates to Halkier's (2022, 57) point about expectable consumption in relation to convenience food, where '[t]here is an awareness that convenience food might be seen as "a wrong thing to do", yet this is overruled by the "naturalness" of the social expectation expressed'.

One of the strategies employed by the meat industry to justify the pølse as proper food has been the introduction of the high quality pølse – containing more meat and different tastes. This, we argue, has made it more acceptable to eat pølse also among adults and higher socio-economic classes, in turn further entrenching the central role of pølse in Norwegian food practices. Another response from food industry actors is the plant-based pølse. While many of our vegetarian participants saw these as welcome additions that made it easier to participate in particular social practices, there was considerable scepticism towards both the contents, taste and health effects of these replacement, resonating with other research in both Norway and elsewhere (Varela et al., 2022). Thus, whereas the specificity of the pølse could offer a space for meat substitutes, and is one of the areas in which substitutes are readily available on the market, these substitutes rather seem to offer a way into social practices scripted towards pølse eating for non-meat eaters than a way out of meat eating for meat eaters.

## Ethical statement

Hereby, I Ulrikke Wethal, consciously assure that for the manuscript "It's just pølse": Convenient meat consumption and reduction in Norway' the following is fulfilled.

- 1) This material is the authors' own original work, which has not been previously published elsewhere.
- 2) The paper is not currently being considered for publication elsewhere.
- 3) The paper reflects the authors' own research and analysis in a truthful and complete manner.
- 4) The paper properly credits the meaningful contributions of co-authors and co-researchers.
- 5) The results are appropriately placed in the context of prior and existing research.
- 6) All sources used are properly disclosed (correct citation).
- 7) Both authors have been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.



8) The research plan and data management is approved by the NSD – Norwegian centre for research data (reference number 645448).

### Declaration of competing interest

No conflict of interest.

### Data availability

The authors do not have permission to share data.

### Acknowledgements

We would like to thank the two anonymous reviewer for highly constructive comments. Previous versions of this article have also been presented at AAG 2022 and RGS 2022, as well as at several workshops of the MEATigation project and for the research group on Sustainable Consumption and Energy Equity at Centre for Development and the Environment. We would like thank participants for all the helpful comments and suggestions. This research was funded by the Research Council of Norway, through MEATigation - towards sustainable meat-use in Norwegian food practices for climate meatigation (no. 303698), and Include - Research centre for socially inclusive energy transitions (no. 295704).

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