



Review

# What is careful livestock farming? Substantiating the layered meaning of the term ‘careful’ and drawing implications for the stakeholder dialogue

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ABSTRACT

Modern livestock farming systems typically stand out in terms of production efficiency and chain integration. However, the legitimacy of animal production systems is currently being questioned, due to social and ecological concerns. The term ‘careful’ livestock farming has been coined to reflect a production system that addresses this broader range of concerns. In this paper we argue that although the term ‘careful’ provides a useful starting point to bind together a diversity of concerns that require further attention, it lacks action-ability unless its meaning is further substantiated. Such substantiation is important to provide more concrete action perspectives both in relation to consumers as well as the diverse group of other stakeholders involved.

First, the term careful is analysed from the perspectives of consumer psychology, ethics, and organizational science, showing a high level of agreement on the underlying dynamics and layers of the concept. The resulting insights are integrated into a pragmatic map with social and temporal dimensions, combined with three basic questions: (1) what levels of psychological distance are taken into consideration when designing farming practices? (2), what are the concrete farming system/product features and their benefits?, and (3) how are the benefits distributed over the levels of psychological distance? The map and questions help to substantiate the different meanings of ‘careful’ when used in relation to animal production. We conclude with exploring actions for achieving careful livestock farming and argue that delineating and articulating concrete meanings of the term is a condition for reflection and strategy formulation in multi-stakeholder dialogues.

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## 1. Introduction

The success of current day livestock farming largely depends on its high level of chain integration and successful optimization of the production process in economic terms. However, despite its production efficiency and its contribution to the (inter)national economy, in the past decades, the legitimacy of dominant intensive animal production systems has become subject of debate by stakeholders across the chain, particularly in relation to the side effects or externalities that it causes, including animal welfare and environmental impacts [1–5]. Emerging concerns relate well beyond the (production) economics of the sector and call for reflection on the system as it currently operates. The term ‘careful livestock farming’ has been coined to reflect this development [6].

However, although there is general recognition among stakeholders that the livestock production systems should be changed, the term ‘careful’ at best indicates a general direction and not a clear road map on how to achieve it. Scrutinizing the word ‘careful’ shows that it has multiple interpretations, comparable to other fashionable terms like ‘sustainable’ or ‘responsible’. They are what Uwe Pörksen [7,8] refers to as ‘plastic words’: language that due to high levels of abstraction, malleability, and overall positive – almost appeasing – connotation, carries an inherent risk of vague or blurred meaning though displacing of more precise content. Terms like ‘careful livestock farming’ notably inspire discussion and progress—as is evident from the current special issue. However, as Pörksen points out, the lack of denotation of the word ‘careful’ can potentially disturb stakeholder dialogues because it leads to conversation partners talking about quite diverging things without noticing. Because different stakeholders enter the debate with different interests and worldviews, they may develop (inherently valuable) variations in interpretation of the term careful. This can possibly lead to pseudo-consensus and, ultimately, people abandoning the debate disappointedly, because they see too little progress. Though the concept ‘careful’ has brought stakeholders in the livestock farming network together in search for a way to deal with societal concern, it thus requires further substantiation. In this article, we will break down the notion of careful livestock farming and show that, though a diversity of interpretations exist, a clear structure underlies the term. Understanding this structure, that consists of multiple layers of meaning drawing on the dimensions of a social dilemma, allows for more systematic and precise operationalization of the term ‘careful’ in conversations. This can help stakeholder coalitions to engage in dialogues directed towards achieving more careful livestock farming systems.

Leading up to our main argument, we explore underlying tensions and tendencies that are in play when aiming for carefulness, drawing on insights from the fields of consumer psychology, ethics and organizational science. We chose these fields because the debate on the status quo of livestock production is rooted in societal (consumer) concerns, that are often ethical in nature, and that require stakeholders (organizational members) throughout the animal farming network to rethink the system. We subsequently integrate these insights, to form a pragmatic map combined with three basic questions one can ask to help substantiate the range of meanings of the ‘careful’ in careful livestock farming. In the conclusion section, we explore recommendations for actions to achieve the aimed-for carefulness, taking both optimistic as well as opportunistic views of consumers into account, and show that the proposed map and questions can be applied as a tool for self-analysis and stimulation of stakeholder dialogue. By doing so, we aim to bring more clarity and depth to the debate on livestock farming, and provide an incentive for actions beyond uttering plastic words.

## 2. Tensions and tendencies: insights from relevant fields of study

In this section, we draw on insights from the fields of consumer psychology, ethics, and organizational science, to understand the dynamics leading to multiple interpretations of careful livestock farming. From different angles, these fields of study have developed concepts that indicate that this dynamics is imbedded in several (interrelated and partially overlapping) tensions and tendencies, related to the ways human beings are wired.

### 2.1. Careful livestock production and the consumer choice

Research on consumer judgement and choice, largely builds from a so-called multi-attribute utility perspective. This perspective, originating from the work of the economist Lancaster [9], but further developed in psychology, assumes that consumers do not derive utility from products, concepts or systems per se, but rather from the features or attributes that characterize the concept, and the benefits or consequences inferred from these features [10,11]. This is reflected in the popular statement “consumers do not derive utility from a drill, but rather from the hole in the wall that it produces”. Regarding livestock production systems, examples of features (‘what it is’) are price per kilogram meat, square metres per animal, hours of day light, and CO<sub>2</sub>-emissions, while benefits (‘what it delivers’) are interpretations of the effects of these features, e.g. on costs in relation to spending budgets, product quality, animal welfare and the environmental impact. The inferred benefits have value to the consumer to the extent that they help facilitate consumer goals as part of their motivational structure [12]. Motivational structures have stable components (related to personality, education, culture, and value structures), but also dynamic components (due to temporary (de-)activation, e.g. as a result of goal priming). Goal priorities therefore may vary between individuals (depending on personal characteristics), as well as within individuals (as a result of situational cues). In the context of careful livestock production, this implies that, how the notion of ‘careful’ gets framed in terms of features and benefits, will be crucial for the meaning and motivational power the consumer derives from it.

Consumer goals can thus be diverse, as can be benefit perceptions. But an important distinction can be made between so called ‘experience attributes’, or benefits that deliver immediate reinforcement and can be personally verified by the consumer at the very moment of consumption (e.g. convenience, taste, price), and the so called ‘credence attributes’, or benefits that do not manifest themselves locally or immediately and thus cannot easily or unambiguously be verified by the individual consumer (e.g. healthfulness, animal welfare quality, environmental impact) [13]. The latter type of benefits—that are probably more central to the concept of careful livestock farming—, often are rather abstract, uncertain, and relate to remote locations, to others, or to a later moment in time [14].

Construal level theory [15] integrates these observations into the concept of psychological distance. Psychological distance is the extent to which a situation is perceived as part of the ‘here and now’, the direct experience of individual decision making. Two observations are central to construal level theory: (1) if an event or situation is (not) part of the here and now it is psychologically represented at a low (high) level of construal, and (2) an individual’s benefit priorities (among many other factors) in the choice process differ as a result of how the concept or event is psychologically construed. At low levels of psychological construal, decisions are dominated by aspects of the situation that relate to practical feasibility (such as price and convenience) of the behaviour, whereas at higher levels of psychological construal, evaluation and decision making are dominated by desirabilities (such as healthfulness and

broader ecological and social impact) of the behaviour [16]. Also, because pros of behaviour are superordinate to cons inherent in behaviour, practical hindrances at low level of construal (such as price, convenience, and taste) get higher priority in low construal contexts (at the actual moment of choice) whereas more abstract benefits get more priority in abstract, higher level decision making situations (such as the expression of preferences and intentions rather than actual behaviour). Construal level theory can thus be used to help explain the intention–behaviour gap when it comes to socially desirable behaviours (e.g. related to careful livestock farming). Expressions of intentions differ from actual behaviour, because they represent different levels of psychological construal. Where abstract desirabilities (such as taking care of the effect on others and across longer time span) are more prominent in abstract judgments, they easily get overshadowed by practical feasibilities in the low level psychological construal that is central in actual decision contexts. This is described well by the saying ‘the road to hell is paved with good intentions’: good intentions may very well be there and be sincere, but they simply struggle to come to the forefront when it really matters—in low construal choice situations.

These inner tensions also form the core of the social dilemma theory [17,18]. According to this important stream of thought, when presented with a livestock farming related purchasing choice, consumers are faced with two basic underlying conflicts of interest: (1) a social conflict between individual and collective interests, and (b) a temporal conflict between short and long term interest. Research regarding the temporal conflict shows that ‘on average’, time delayed benefits (future outcomes) are likely to be discounted compared to sooner outcomes [19], though systematic differences exist between consumers in terms of the stable personality characteristic of ‘Consideration of Future Consequences’ [20]. In other words, some consumers do chronically incorporate future consequences more strongly into their decision making (see [21] for a review). Similarly, research regarding social conflict indicates that benefits accruing to others rather than the self are being discounted with increasing social distance, and are a stronger determinant of choice with higher levels of social identification in terms of similarity in goals and achievements [22]. However, again there are clear and consistent individual differences between consumers depending on their value structure, with pro-social (transcendent) value structures reducing the social discounting compared to pro-self (self enhancement) value structures [23].

This, and research in the context of animal welfare (e.g. [24–26]) suggests that broadly three segments of consumers may be distinguished:

1. A segment of consumers that is concerned about negative externalities of meat production and consumption. For these consumers, carefulness in livestock production may be a benefit in and of its own right, also in relation to their transcendental, pro-social value structure and potentially their high level of consideration of future consequences. These ‘concerned’ consumers are best characterized by a moral lifestyle as they already consider longer term impact on society as a whole in their decision making.
2. A segment of consumers that do not perceive current livestock systems as problematic. These consumers may be relatively difficult to convince by concepts like careful livestock production, simply because the social and longer term consequences have chronically low priority in relation to their dominant goal structures. For these consumers, the immediate gratification of self-interest is the most important guidance of behaviour, probably due to pro-self value orientations and low levels of the personality characteristic ‘Consideration of future consequences’. These ‘not concerned’ consumers are best characterized by an opportunistic lifestyle. Careful livestock will thus

have to ‘travel’ on other perceived self-enhancement (like taste and appearance) rather than pro social goals.

3. The third segment (and probably the largest one) is the middle-segment consisting of consumers that are moderately concerned about animal production. Consumers in this segment will consider both direct personal need gratification and longer term societal interests, and be willing to make compromises to a certain point. This segment experiences a certain level of ambivalence about these different benefit levels, but needs to be facilitated to express those societal concerns also in actual choice behaviour. It is this segment of ‘moderately concerned’ consumers that provides the greatest potential for the advancement of an economically viable (in terms of purchase behaviour) careful (in terms of societal impact) livestock production.

So, from a consumer psychology perspective, how careful is being operationalized in terms of features and benefits is crucial for consumer interpretation, evaluation and behaviour. How consumers interpret benefit inferences and prioritize differences between animal production systems/products, differs both between and within consumer segments, based on the time of manifestation (immediate or time-delayed) and the beneficiary of the benefit (the self or others at different social distances). A small part of consumers chronically takes longer-term social impacts of their behaviour into account, but when not facilitated, the largest part of consumers (‘not concerned’ and ‘moderately concerned’) will most likely act opportunistically in purchase situation.

## 2.2. Worldviews and the layered nature of deliberating moral consideration

To explore possible meanings of ‘careful’, one could turn to the field of ethics to find different views on whom or what to take ‘care’ of. Normative in character, the field of ethics appeals to the human capacity for deliberate reasoning and assumes that progress towards the empathic inclusion of others is possible – suggesting a more optimistic view of human nature. Peter Singer [27] for example contends that though altruism began as a genetically based drive to protect loved ones and group members, it has developed into a consciously deliberated choice with an expanding circle of moral concern.

There are different viewpoints within ethics on the attribution of moral standing (see [28] for a detailed discussion). In short, from an anthropocentric ethical worldview, humans only have direct responsibilities towards other humans, not towards animals or the environment. This view can include indirect responsibilities towards animals, namely when their welfare concerns other human beings (they are then perceived to have only instrumental value however, no intrinsic value). The inclusion of having responsibilities towards future generations of humans is called anthropocentric extensionalism. Other perspectives do assume humans to have direct responsibilities towards natural objects other than humans. In non-anthropocentric ethics, moral status is attributed to certain animals, sometimes to plants and lifeless objects as well. In case of a hierarchy of moral status, where humans as well as other beings have moral status, but humans are said to have more moral status, the term ‘indirect anthropocentrism’ is used. Another development of non-anthropocentric ethics can be seen at the shifting of a focus on individual living beings towards a focus on collections or ‘wholes’, like species, populations, or ecosystems, which is called holism.

Several theories of moral circles describe different ways of looking at what or whom is of more or less moral value to us, the circles being the boundary drawn around those entities in the world deemed worthy of moral consideration. In his theory of concentric circles, J.B. Callicott [29] describes an increase in attention for

the collective. Callicott combines individualistic and holistic viewpoints by distinguishing between three societies that are positioned around each other as concentric circles: according to him, humans first have responsibilities to other humans ('the society of people'), then to domesticated animals ('the mixed society of people and domesticated animals'), and finally also to animals living in the wild ('the biotic society'). The non-anthropocentric taking in account of the whole (holism) in his theory is an addition to individualistic viewpoints. This is one possible way for constructing a hierarchy of extending care.

Though Callicott's crude trichotomy is instructive, research (e.g. [30]) suggests that in practice relational ties are more representative of the moral value that we assign to beings, like persons or animals, following the concentric circle theory of P.S. Wenz [31]. Wenz states that people have multiple moral circles, in which the degree of consideration depends on the tightness of our relationship with others and their function in our lives. When we have more intense and/or more frequent real or possible interactions with a being, we attribute a larger relative moral status to that being, positioning that being closer to the centre of the concentric circles. Similar to Callicott, Wenz thus distinguishes an order in ranks: according to him, from centre to outer layer our sense of responsibility decreases. Wenz' theory shows another dynamic that plays a role in the construction of what 'careful' livestock farming entails, based on people's (perspectives on the) relationships that they have with animals and the environment, as well as with one another.

### 2.3. Self-referentiality: the paradox of organization versus environment

The debate on careful livestock farming involves a variety of stakeholders throughout the animal production network: consumers, producers, retailers, NGOs and policy makers - and the relationships among them. Viewing these stakeholders as organizational members, we can turn to organizational science for relevant insights. The success or failure of the rethinking of a system and the lifting of the debate towards a constructive, transcendental dialogue [32], according to organizational theory, depends greatly on the participants' ability to be aware of and transcend self-referentiality [33]. Self-referentiality refers to the characteristic of people and organisations to perceive the environment in such a way that it confirms one's identity, without being aware of doing so. The tendency to be self-referential impedes the concretizing of the term 'careful', and thus serves as a third useful concept on our quest to substantiate 'careful livestock farming'.

In his book 'Images of Organization', Gareth Morgan [34] describes the human tendency to be self-referential as a deep systemic force to reproduce oneself through one's own perspective. The level of awareness of this force, he argues, either locks organizations into the status quo or drives their transformation. Self-referentiality should not be understood as simply a restriction to the own perspective - if one focuses on a single perspective, while being aware of and remaining open to the perspectives of others, this would amount to (in itself applaudable) specialism; self-referentiality refers to being locked inside the normative framework of one's own perspective, accompanied by a rejection of the validity of deviating perspectives, without being aware of it [35]. The awareness of this tendency, that is linked with the conception of one's identity, determines whether one sees oneself as separate from what is seen as the environment or context, or can see the inextricable interconnectedness with it. Morgan takes the holistic perspective to a higher level by suggesting that the idea of being a separate entity is a fallacy. Though recognizing how difficult it is for humans and organizations to relinquish earlier shaped limited identities and strategies that may have provided the basis

for past successes, he argues that in seeing how all labour force, local, national and worldwide stakeholders, and even competition and the natural environment, are really parts of the same pattern of organization, it becomes possible to move toward an appreciation of systemic interdependence.

In Morgan's words: "The way we see and manage change [including in livestock farming] ultimately is a product of how we see and think about ourselves and consequently how we enact relationships with the environment. The theory of self-referentiality suggests that because of their capacities for self-reflection, organizations, like individuals, have an opportunity to enact new, more systemic identities that break the rigid boundaries between organization and environment, opening the way to more systemic patterns of evolution. In the long run, survival can only be survival *with*, never survival *against*, the environment or context in which one is operating. Organizations, like individuals, have to appreciate that they are always more than themselves. New mind-sets redefining boundaries to embrace customers, competitors, and other significant elements of the environment are part of the required trend." ([36] pp. 255 - remark in brackets ours).

Looking at the issue at hand, self-referentiality fittingly explains the continuation of differing interpretations of 'careful' and diverging accompanying actions, through thinking that the own perspective, strived-for values and actions at a given moment are the ultimate deciders for what carefulness entails, and makes the urgent need for a dialogue on the various aspects of careful between all stakeholders in the livestock farming network even more clear.

### 2.4. Summary: Views of human nature and interrelatedness of insights

The tensions and tendencies that we explored above, all influence our actions with regards to livestock farming as well as our interpretations of 'careful'. Consumer psychology models, rooted in economics, show that for consumers, variation in animal farming systems and related products are interpreted and get motivational power (i.e. trigger action through goal activation) in terms of concrete features and benefits. Ample research in this field shows that there is a gap between intention and behaviour, related to the goal-driven tensions between short and long term, as well as between individual and collective considerations. A main conclusion that follows from this, is that when push comes to shove (i.e. when making purchasing decisions related to livestock production), the nature of human beings is rather opportunistic. In contrast, a more optimistic view of human nature is encountered in the field of ethics, where it is argued that, due to the human capacity for deliberate reasoning, moral progress is possible. Several theories of expanding moral circles highlight tensions between egocentric, anthropocentric and holistic ideals or assigning moral value to the relationally proximate and distant. Another important tendency that we have explored, pointed out in the field of organizational science, is the tendency to be self-referential, as opposed to what we could call open-mindedness to integrate the perspectives of others and include our environment.

The views we described also show much overlap and interrelation. The moral circle theories as well as the concept of self-referentiality can easily be likened to the concept of psychological distance. From a consumer behaviour perspective ethics or morality can be defined as the extent to which consumers consider the long term societal impact of their behaviour into account beyond their sheer personal immediate need satisfaction, and models of consumer choice typically reflect a self-referential focus. The trade-off between short-term personal interests versus longer societal implications of course does not only apply to consumers but rather to all stakeholders involved in the livestock production network. The lines of reasoning that we discussed, although

having very different starting points, thus have a lot in common.

However, even with a better understanding of the underlying tensions and tendencies, the exact meaning of 'careful' in careful livestock farming still remains elusive. So what is careful livestock farming? Are in practice individual, short term values only considered important, or are collective, long-term goals also included in the conceptualization of careful? Does careful mean taking care of humans, or also entail animal welfare and environmental protection? And are the relationally distant part of the wider pattern of relations or not?

### 3. Substantiating careful livestock farming: mapping layers of meaning

To specify the multiple possible meanings of careful livestock farming, we propose the use of an adapted concentric circle representation (Fig. 1), combined with three questions. This pragmatic map-and-questions can be used as a tool for self-analysis and for stimulating the stakeholder dialogue, because it provides direct insight into the layers of meaning involved when talking about 'careful'. The model reflects aforementioned insights, though instead of repeating the seeming dichotomies of earlier described tensions, it emphasises the principle of transcending and including (the workings of which will be clarified with the help of a Russian babushka doll metaphor).

The circles in the figure illustrate a hypothetical increasing inclusion of care on basis of a combination of temporal, relational, and spatial psychological distances or levels of abstraction. Positioned in progressively wider circles around ourselves are: loved ones (human and animal), group members (e.g. locals, farmers, or fellow countrymen), people in general, all living beings (incl. farmed animals), the biosphere (i.e. the earth/environment), and

future generations. The map is hypothetical, for individual people may vary in whether they draw the circles to this extent or include all elements—however, we propose this general depiction, as a pragmatic starting point of a dialogue on who or what is included in an assumed conceptualization of careful, and how. The total of the levels (however many circles are drawn) can be imagined as a full babushka doll, with each circle from the inside out broader than the previous yet also including it: e.g. group members include but transcend loved ones, and all living beings include but transcend livestock animals, human beings, as well as the self. In practice levels can be (and are) omitted and each level is not inherently better than another, but: the ones picked to play a role determine the chosen dimensions of careful.

With this map, the discursive confusion regarding careful livestock farming becomes more tangible: depending on the set of parties to extend care to, the meaning of 'careful' diverges. The more refined meaning behind the use of the word 'careful' can be traced by answering the following questions:

- 1) What levels of psychological distance (which circles) are taken into consideration when designing farming practices?
- 2) What concrete farming system (product) features intended to help achieve carefulness are formulated, and what are the related benefit inferences on each selected level? Or conversely: What benefits on each selected level are formulated, and what are related concrete farming system (product) features?
- 3) How are the benefits distributed over the levels?

The first question relates to whom or what care is extended to, the answer showing the extent to which impacts on longer-term, social objectives are considered next to immediate personal satisfaction. The second question operationalizes this consideration into concrete norms, such as environmental standards, living conditions

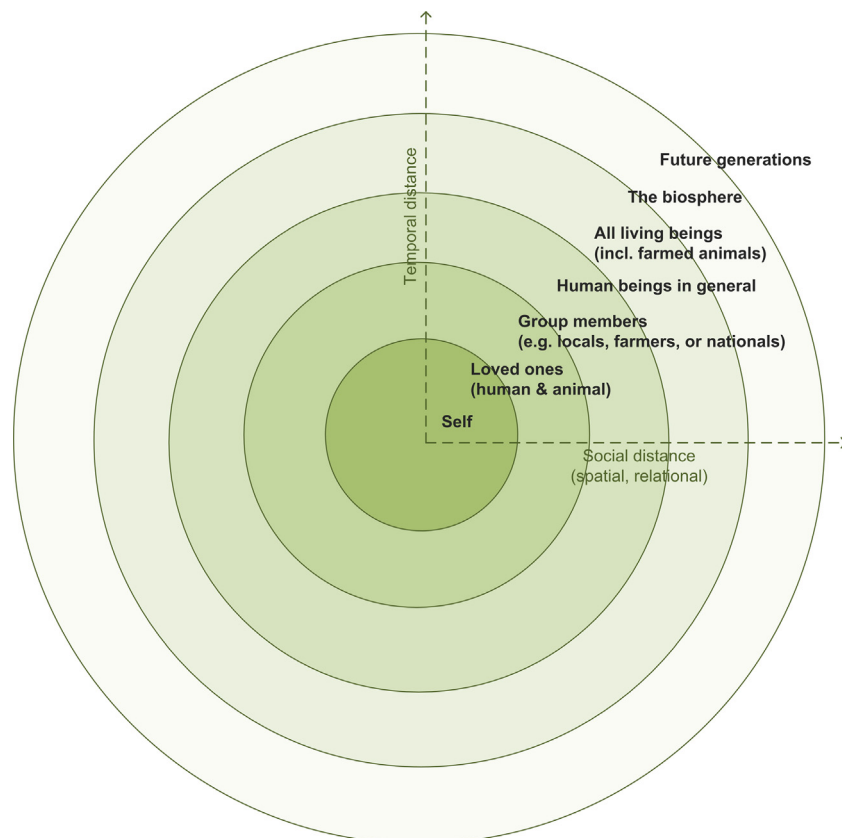


Fig. 1. Layers of increasing inclusivity of care on basis of social and temporal dimensions.

for animals, and price measures, and inferred or intended consequences such as decrease of environmental impact, increased animal well-being and influence on purchasing power, reflecting interests and concerns regarding livestock production. The third question sheds light on the balancing of these interests and concerns, indicating whether some of the selected levels of abstraction are prioritized over others. Combined, the answers to the questions provide the term 'careful livestock farming' with explicit content.

For example, in regular current-day politics, production, trade and consumption of livestock, the main emphasis lies on bestowing care to the own group and the self in the form of profit maximization and food safety. Careful livestock farming in this case is composed of many features related to industrializing, up-scaling and intensifying such as heads per square metre, annual livestock loss, feed costs per kilogram meat, and providing a product that is free of contaminants and disease through for example measuring veterinary drugs residue levels. Associated benefits are income maximization for farmers and chain actors, and disease prevention for consumers. Financial gain for individuals and the sector is considered important, though not at the expense of the safety of consumers, indicating a relatively balanced distribution of the benefits over the selected levels. However, in an increasing number of cases, the meaning of careful is extended to more levels, by inclusion of attention for animal welfare, environmental impact and/or long term global food security—whether by extending care directly to other living beings, the biosphere and/or future generations, or indirectly, by extending care to citizens and the taking into account of their concerns, or (even more indirect) by realising that the image and revenue of the company would suffer damage if one does not show some form of corporate social responsibility. The list of associated features and benefits of course grows with the inclusion of more levels, as does the amount of trade-offs that have to be made. The distribution of benefits over the selected levels is not always an even one: the meaning of 'careful' can vary from sufficing with simply bestowing 'some care' to parties whose interests are taken into consideration, or a hierarchy of concern such as brought forward in the moral circle theories, to balancing all interests as well as possible. Recapping, a non-plastic reference of 'careful livestock farming' thus requires firstly an answer to the question whom or what 'care' is extended to. Then it requires the articulation of this care into the associated livestock farming (and/or product) features and benefits, therewith making underlying knowledge, convictions and values salient. The concluding prerequisite for specifying 'careful' is identifying the prioritization and balancing of the benefits to the selected parties.

Through the associated line-up of and emphasis on certain circles, the underlying tensions and tendencies can be felt. The closer to the centre the selected levels are, the closer to home relationally, the less collective-minded, and the shorter-term oriented the approach is (even within the realm of taking care of the self, short-term pleasure seeing and longer-term health protection can be distinguished as separate levels). Extreme emphasis on certain levels points at self-referentiality, seeing the self or the own group (or any of the designated circles for that matter) as something separate from or independent of the context of the other circles. This for example is the case in extreme animal rights activism where people are no longer considered important, but is also present when in the design of production systems profitability is considered as the sole driver of action. Without prescribing what allocation of 'careful' is *better*, the map encourages a precise, non-plastic, formulation of the chosen interpretation. In addition, it does point out which direction more 'care-full' interpretations take: the more levels are allowed to play a role and the better the accompanying benefits are balanced, the more complete and nuanced the dialogue on careful livestock farming becomes. The suggested principle of transcending

and including is important to realize, for it reframes the seeming dichotomies of the earlier described tensions into paradoxes, showing that though inevitably there will be trade-offs (both the upsides and downsides of a particular choice will become very clear when features and benefits are made explicit), careful can have an 'and-and' nature. The map thus offers the possibility to see the self as separate from the environment *as well as* part of a larger context, and notice that extending care to include other humans, animals, the biosphere and future generations, does not necessarily have to mean renouncing oneself or the making of a profit, but can *include* that.

#### 4. Implications for achieving carefulness

The current societal debate on livestock production has brought impacts on longer term, societal levels more to the forefront, not only at the level of consumers, but across all stakeholders in the livestock production network. The emergence of concepts like careful or sustainable livestock farming reflects a widely felt need for change—a transition towards a system on basis of inclusion of longer-term and societal benefits. In relation to the layered meaning of careful livestock farming, this leads to the question how such a transition, a series of gradual improvements or shifts along the different dimensions of carefulness, can be realized, and what activities on the part of multiple stakeholders are required for this. Managing livestock production can be done in ways that vary in terms of amount of interference and joint endeavour. In this section, we will first explore the main routes for enhancing demand for careful livestock farming in theory and practice, to conclude with concrete recommendations for achieving carefulness that arise from this analysis.

##### 4.1. Theory and practice of enhancing demand for careful livestock farming

If careful livestock farming is the aim, fitting farming initiatives must be developed, but success is largely contingent on there being a demand for the products of those farming systems. Three main routes to enhance demand for careful livestock production can be distinguished: (1) leaving it to the market; (2) increasing perceived value; and (3) regulation of supply. After discussing these policy directions in relation to the lessons learnt from the field of consumer psychology, we shortly reflect on their usage and place in the current (Dutch) practice of enhancing demand for careful livestock farming.

###### 4.1.1. Leaving it to the market:

One could argue that simply relying on market forces will suffice to accomplish sufficient carefulness. This first possible route rests on the assumption that the market will self-regulate; that if concern with livestock production gets more momentum, it will automatically generate market demand to which the supply side will adjust. Indeed, a trend can be seen in consumer concerns leading to the development of more careful farming systems and innovative products to meet the new demand. Also, there are producers that themselves take the initiative for incorporating more careful production concepts, in terms of fair trade, animal welfare or environmental impact. From a higher perspective this can be seen as a sign of (the start of) a transition towards more inclusive carefulness.

However, the supply is still largely restricted to two extremes, conventional and organic—in which organic has remained a small segment. Looking at consumers and their behaviour, we have seen that only a small part of consumers (the 'concerned' segment) consciously deliberates while purchasing, taking long-term and

collective goals into account and balancing various elements of sustainability or carefulness. Organic livestock farming products, catering to this segment, however appear to be less appealing to the main stream consumer. The big middle segment of ‘moderately concerned’ consumers, though adhering importance to broader social and temporal levels, will only incorporate these in their purchasing behaviour when facilitated to do so. From a consumer-oriented perspective, it can thus be argued that purchasing behaviour constitutes an inadequate measure of societal concerns, and that relying on the demand side of the market to achieve this carefulness leans too much on a positive view of human nature.

#### 4.1.2. Increasing perceived value:

Careful livestock farming can also be more actively promoted, by increasing the demand through the recognition and valuation of the societal benefits of a system and its products. This is the route of communication, awareness raising and education—a route that, when used in isolation, relies heavily on the optimistic view that intention leads to behaviour. As consumer psychology suggests, methods increasing perceived value of a system and its products will expectedly reach primarily the ‘concerned’ segment of consumers (that by and large is already convinced of that value), and possibly (part of) the ‘moderately concerned’. Increasing of perceived value will expectedly only have a real impact on a larger share of consumers, if long-term or societal benefits can be made personally and instantly relevant, thus justifying a higher willingness to pay.

#### 4.1.3. Regulating supply:

The third main route is that of regulating supply. This route entails the sector as a whole taking responsibility to achieve a certain standard of livestock production practice beyond current minimum legislation, for example through signing covenants; or the government imposing new legislation. The steps taken on this route are usually small, but, because they are implemented by the sector as a whole and reach all consumer segments, they have a big impact. Another example of regulating supply are supermarket chains leading the development by gradually enhancing the minimum levels of carefulness of meat products that are offered, or by offering ‘intermediate’ products (in between regular and organic), therewith catering to the ‘moderately concerned’ consumer segment. Important to notice is that interaction between stakeholders is inherent to these kinds of system innovations: whether originating from a sense of corporate social responsibility or encouraged by pressure from concerned consumers or NGOs, decisions to interfere on the supply side reflect a inclusion of longer-term, social dimensions, deliberated by an assembly of stakeholders.

Of course, a case can be made for objecting to drastic interference with market forces, arguing that the chosen change is imposed on consumers and based on a rather opportunistic view of human consumers in purchasing situations. However, without the option to interfere on the supply side (or at least facilitate or ‘nudge’ [37] consumers to opt for products with a higher standard), an opportunistic view of consumers will likely promote inertia on sector level, as is captured in the sentiment “they may be concerned, but the lump of consumers are not going to buy more expensive alternatives, so why bother changing?” In other words: without demand, there will be no change, and regulating supply is a proven way to create demand.

#### 4.1.4. Embedding of these strategies in Dutch practice:

Looking at current practice regarding livestock farming, several of these strategies are already in use—though they are driven from various interpretations of ‘careful’. Awareness raising initiatives can be encountered based on all definitions of careful that

we described using our circle map (in fact, the map itself is an example of awareness raising). NGO campaigns are a good example of increasing perceived value through encouraging deliberation, as is the labelling of products. Labelling, if well-chosen, can also contribute in making less deliberate purchasing behaviour more careful, appealing to the ‘moderately concerned’ segment of consumers, such as in the case of the ‘Puur & Eerlijk’ label (see [38] for a discussion). The development of apps like the Dutch ‘Superwijzer’ [39] provides consumers with a multitude of product features and benefits, as well as the freedom to enter personal priorities and find their own balance. Influencing consumer behaviour by ‘nudging’ products and the environments they are offered in, to activate appropriate (high) construal levels, is a method that is under discussion in our context of promoting demand for more careful products (though it is applied lavishly by companies and retail in trying to get consumers to buy products of a certain brand). The most effective action from a consumer-oriented perspective, being the removal of non-careful products from being offered in retail, has up till now been limited to an allocation of careful that includes maximally members of the group and, to a lesser extent, animals and the biosphere: imposed and self-imposed standards on company, national and EU level, have ensured that products that are sold over the counter are careful in the sense of ‘free of disease and contaminants’, as well as still profitable; minimum rules for the treatment of animals are secured in animal welfare legislation; treaties have been signed regarding environmental impact; and more recently in the Netherlands several supermarket chains have started to take meat from castrated pigs out of their assortments. Whether in the future such supply-regulating standards will be developed to ensure the demand needed for a transition to increasingly inclusive interpretations of careful livestock farming systems, remains to be seen, but is not unimaginable.

#### 4.2. Recommendations for achieving careful livestock farming: embracing paradox and diversity

Recapping, we have seen that, though in theory achieving increasing carefulness through deliberate reasoning is possible and associated positive expressions of human nature in consumption behaviour do exist (as reflected in the ‘concerned’ consumer segment), in purchasing situations the lump of people (the ‘moderately concerned’ and ‘not concerned’ segments) act opportunistically. Naively leaning on a solely positive view of human nature leads to less change than is called for based on societal concern, but an utterly opportunistic view of human nature on its own also sustains inaction. We therefore argue that more optimally enhancing demand for careful livestock farming starts with embracing the paradox between optimistic and opportunistic. Taking both the optimistic as well as the opportunistic nature of consumers as a given, it becomes clear that leaving the transition solely to the consumer is not an effective option, but instead, a combination of the discussed routes is the recommended course, including encouraging the use of deliberate thinking, as well as making non-deliberated behaviour less incompatible with careful alternatives. Considering our discussion of effects and current usage of the different routes, relevant recommended actions, in order of impact on the demand for careful livestock farming, are: (1) the improvement of minimum standards on sector level, (2) retail regulating supply, (3) nudging, (4) clear positioning and communication of carefulness of products in purchasing situations, (5) and awareness raising.

An inference of like importance, is that the transition towards careful livestock farming systems calls for a *joint and balanced effort of all stakeholder groups involved*: the livestock sector, government, NGOs, retail, and consumers. As our story has pointed out repeatedly, there likely will be differences in operationalizations of and emphasis on specific meanings of careful, between as well as

within stakeholders parties. Taking this into account we argue that, instead of aiming for consensus on a 'one size fits all' approach to careful, the transition towards careful livestock production is best served by *embracing diversity* and allowing space for the formation of an *assortment of coalitions*, both within and between sector and societal stakeholders. Such coalitions best arise from processes of self-organisation in which the partners find each other on the base of a feeling of interdependence [40,41].

These coalitions, pursuing divergent delineations of careful livestock production, will expectedly reveal a much greater diversity of consumer segments and demand than is currently exploited—especially within the big middle segment 'moderately concerned' consumers, that is dissatisfied with regular livestock products, but does not opt for organic. Based on the assumption that more personalised supply will generate a higher willingness to pay, identifying intermediate consumer segments can lead to the development of a *wider variety of products and related livestock production systems*, differing in terms of the positioning on different circles and operationalization of features and benefits.

However, the first and vital condition to be able to engage in any of the aforementioned actions for achieving careful livestock farming, of course is *taking away the discursive confusion*. The circle map and questions outlined in this article, can help to recognize the layered meanings of 'careful', formulate more precise definitions, and own up to them. The selected levels, the formulation of concrete features and benefits, and their balancing, reflect an individual or organization's sense of identity, interests and concerns. Awareness of the own selected meaning of 'careful' in relation to other's interpretations as well as the direction of increasing inclusivity, thus provides organizational members with an opportunity to break through their inclination for self-referentiality and recreate their identity in relation to the context it is entrenched in [42]. But most importantly, substantiating the concept of carefulness allows stakeholders to engage in a meaningful *dialogue* with each other. This communication form, in which distance is taken from right/wrong-schemes and in which trade-offs and paradox are accepted, invites people to examine and even embrace differences in backgrounds and perceptions, and acknowledge inherent assumptions and mechanisms [43].

The example of food safety (thoroughly embedded in Dutch practice) shows that taking care of the self and making a profit can be done not only in spite of but *by* taking care of larger circles, and that allocation of carefulness beyond the self and profit can indeed be defined and institutionalised in a combined effort of consumers, producers, retail and government. Integrating and differentiating between different perspectives, forming coalitions of stakeholders based on shared visions of careful livestock farming, however requires on-going dialogue and openness to possibilities of gradual change as well as shifts in perceptions, by all stakeholders. Recognizing that the diverse and layered meanings of careful constitute an *opportunity* to further the transition to careful livestock production, and acknowledging that with increasingly inclusive and nuanced interpretations of careful balancing the accompanying interests grows increasingly complex and following-up with appropriate actions grows increasingly challenging, one thing is clear: whatever the delineation of 'careful' is, it should no longer remain a plastic word.

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