

Standard quality as a boundary object—A conceptual study

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Abstract

This is a conceptual article that uses the concept ‘boundary object’ in order to discuss what role the loosely defined notion ‘standard product quality’ plays with regard to coordination and controversies in the Norwegian agrifood market. The boundary object theory offers a unique approach to exploring the boundaries (shared spaces) between standard and non-standard product qualities as framed by the involved actors. This theory emphasises the difference between *doing* and *being*: Analysing what quality *does* in social settings is a more informative approach than discussing what quality *is*. The core arguments are illustrated by a review of available studies of the Norwegian agrifood market. The first part of the article concludes that standard quality coordinates the hegemonic stakeholders (producers, retailers, regulators and consumers) without presupposing consensus between them. The second part of the article addresses the controversies in the boundaries between the hegemonic agricultural agrifood system and competing alternatives related to organic, terroir and animal welfare qualities. The study discerns no signs of any transformative quality turn-away from the Norwegian hegemonic agrifood system and the inherent emphasise on ‘standard product’ quality. On the other hand, this is

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not static since different interpretations of quality continuously challenge each other.

KEYWORDS

boundary object, coordination, controversies, standard quality

“Boundary objects are never neutral. Boundary objects are embedded within complicated networks of social relations. Their function is very much a product of their location within these networks and they are shaped by the power dynamics within the network” (Stoytcheva, 2020).

INTRODUCTION

Current scholarly and popular literature is filled with different definitions of what product quality *is*, with reference to things outside the term itself (conventions, strategies, preferences and standards). Less is said about what qualities *do* in diverse situations and contexts. Given that the notion of quality is socially constructed, it is often more enlightening to explore what quality does in specific institutional contexts than to simply study what quality is. One explanation for the scant attention paid to what quality does in various settings is presumably a lack of applicable concepts and theoretical frameworks to guide the required investigation. This article proposes a way forward by using boundary object theory as an analytical framework for empirical studies (Star, 2010). Based on this theory, the question to explore is what is precisely taking place in different shared spaces between organisations that refer to their tailor-made conceptions of quality?

Following the seminal work of Chamberlin (1950), a good is a bundle of characteristics such as price, quality, availability, location and time. It is objectified as a combination of properties that establish the distinctive characteristics of the good. Indirectly, the product characteristics can also be used to describe other goods, whereby relations of proximity, similarity, distance and difference are established. Customers combine, mix and rank various quality characteristics differently. Hence, to define a product is a question of positioning it in a wider sphere of goods, in a landscape of differences and similarities, among categories that are distinct yet connected (Callon et al., 2002). Such processes of relative positioning can unfold in multiple ways, and through adjustments, iterations and transformations, the actors jointly define the core characteristics of the product. An end-product is the outcome of a sequence of transformations that describe the different networks that coordinate the actors involved in its design, production, distribution and consumption. The product singles out certain actors and binds others together (Aspers, 2008). Quality is thereby a core criterion by which products and services are positioned in markets and evaluated by consumers. A precise conception of quality is fundamental when exploring structure and dynamics in agrifood markets. As underlined by Ilbery and Kneafsey (2000), quality is a complex and contested notion, the meaning of which is socially constructed and variable according to different sociocultural contexts. Unsurprisingly, the scholarly literature includes many alternative approaches to what quality *is*, conceptually and in practice. One well-known example is the distinction between products of premium, standard and economy quality (Seenivasan & Talukdar,

2016; Stræte & Lindgreen, 2008). Another example is nominal versus ordinal qualities (Bower, 2009). Further examples are credence versus observable product qualities (Lassoued & Hobbs, 2015), objective versus subjectively perceived product characteristics (Wiggins & Potter, 2003), and horizontal versus vertical product differentiation (Lutz, 1997). To define it more precisely and operationalise it, socially constructed notions of quality must refer to phenomena outside itself, such as business strategies (Maillard, 2013; Teece, 2018), individual consumer preferences (Schjøll & Alfnes, 2017; Warde, 2015), quality standards (Brunsson & Jacobsson, 2000; Busch, 2011; White, 1981) and quality conventions (Boltanski & Thévenot, 1999; Storper & Salais, 1997; Thévenot, 2001; White, 1981). In their discussion of quality conventions, Storper and Salais (1997) define worlds of production as coherent combinations of technologies and markets, product qualities and quantitative practices of resource use. A world of production is a convention that represents and reflects a logical interlinkage between products, individuals, organisations, objects and ideas. It is structured around two dimensions: (a) applied technology/organisation of production (standardised vs. specialised technology) and (b) the firms' market orientation (generic vs. dedicated market approach). The former refers to the supply side of the economy, and the latter refers to the demand side. A standardised product is made with a known, widely diffused production technology in which quality is so widely attainable that competition comes to be inevitably centred on price. From this, standard-quality products are defined as '*products that originate from production process with standardized technology and characterized by a generic market approach*' (Storper & Salais, 1997, p. 109). For decades, a scholarly debate has unfolded about the 'mainstream corporate industrial agrifood systems and the hegemonic agricultural techno-scientific complex' (Goodman, 2003, p. 2). A more pertinent question is what can be expected of what is known as the 'quality turn', that is, 'the turn to quality associated with the proliferation of alternative agrifood networks (AAFNs) operating at the margins of mainstream industrial food circuits' (Goodman, 2003, p. 3). In the same vein, Arce and Marsden (1993, p. 309) pinpointed decades ago 'the need for establishing the methodology and conceptual platforms upon which new empirical studies may be developed'. The purpose of this article is to show how boundary object theory is a useful approach for studying coordination and controversies in agrifood markets. As will be clarified in the next section, the unit of analysis and change is hence the very notion of quality, conceived of as a boundary object.

The article is organised as follows: The next section contains an introduction to the boundary object theory. Section 3 presents the research methodology. The purpose of Section 4 is to show how boundary object theory can be used to address issues related to coordination and controversies, illustrated through a synthesis of data from the Norwegian agrifood market. The discussion follows in Section 5, and conclusions are drawn in Section 6.

BOUNDARY OBJECT THEORY

In everyday language, the term boundary refers to 'edge' or 'periphery', that is, something clear-cut, well-defined and indisputable. Star and Griesemer's (1989) analytical approach is different. They define 'boundary' as a shared space that tends to be ill-defined (or moderately defined) and characterised by much ambiguity. Based on this thinking, they introduced the analytical concept of boundary object. This term originated from an empirical study of the Berkeley Museum of Vertebrate Zoology. They observed that specimens, field notes and maps of particular territories served as boundary objects, defined as follows:

'Boundary objects are objects which are plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites. They are weakly structured in common use, and become strongly structured in individual-site use. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation' (Star & Griesemer, 1989, p. 393).

As formulated by Eden (2011, p. 181), 'boundary objects are adaptable, often precisely because they are unfinished, flexible and capable of multiple interpretations so that different actors can exchange information between their worlds and put their knowledge to work'.

A boundary object 'lives in multiple worlds and has different identities in each' (Star & Griesemer, 1989, p. 409). Boundary objects are most effective when 'loosely enough defined to be usable' by different groups (Bechky, 2003, p. 733). Different actors can exchange information between their respective worlds and put their knowledge to work. Boundary objects can take both material forms (e.g., physical artefacts such as maps, strategic documents and visualisations) and immaterial forms (e.g., concepts, discourses, processes and standards). Boundary objects operate across social worlds (Storper & Salais, 1997), spheres (Walzer, 1983) and communities of practice where it is loosely defined.

Since its initiation by Star and Griesemer (1989), boundary object theory has been applied in a wide range of real-life situations, settings and contexts. For instance, Benn and Martin (2010) used the boundary object notion in their study of learning and change for sustainable innovations at a Chinese university. Håland et al. (2015) applied boundary object theory to explore how care pathways can act as tools for translation between specialist healthcare and home care services. Hawkins et al. (2017) utilised this theory when investigating learning in organisations. Ulfsdotter Eriksson (2017) showed how global human resource standards can serve as boundary objects. Harrison et al. (2018) investigated the mediating role of boundary objects in interaction processes in business networks.

Eden (2011, p. 182) highlights that 'there is great potential to apply the concept of boundary objects to food, where boundary objects could link not only the worlds of scientists and non-scientists, but also the worlds of (expert) producers and (lay) consumers—worlds that are highly diverse because of the complexity of modern food systems'. Nonetheless, only a few studies have used boundary object theory to analyse the role of qualities in agrifood markets so far. Favilli et al. (2015) focused on organic farming and organic food as boundary objects, a connecting element that helps the involved actors develop common visions, languages and goals and organise their joint activities. Hirth (2020) used boundary object theory to explore variation in the performance of veganism. Tisenkopfs et al. (2015) explored the role of boundary work and boundary objects in enhancing learning and innovation processes in hybrid multi-actor networks for sustainable agriculture. Their study clarified how a specific project successfully aligned differing actor interests. Klerkx et al. (2012) investigated the function of design process outputs as boundary objects in the implementation of novel agricultural production system concepts. They found that the interpretative flexibility of design process outputs created mutual understanding among diverse actors involved in implementing a novel agricultural production system and in mobilising support for it. Carr and Wilkinson (2005) explored how groups can use participatory natural resource management techniques to combine farmers, scientists and others at the boundary between science and farming. This can constitute a powerful force for improving the management of natural resources on farms. Table 1 summarises what the boundary objects are and do in the studies of relevance to the agrifood sector.

TABLE 1 A sample of empirical studies within the agrifood sector where boundary objects play a crucial role

Empirical studies	Examples of boundary objects	Context	What the boundary object does
Favilli et al. (2015)	Organic farming	An Italian cooperative consisting of organic farmers, social farming and fishermen cooperatives, consumers	Develop common visions and consolidate the association.
Tisenkopfs et al. (2015)	Strategic papers. Codes of practice, certification systems.	Six case studies (network, associations and cooperatives in Latvia, France, Italy and the United Kingdom)	Develop shared knowledge base. Co-produce innovation. Negotiate sustainability.
Abson et al. (2014)	Ecosystem services	Ecosystem services and systems	Better interdisciplinary knowledge integration. Greater focus on normative knowledge. Ecosystem services as a transformative tool.
Klerkx et al. (2012)	Boundary spanning actors. Tangible visions.	Agricultural innovation systems	Enhance adaptive management capacity for effective reformism.

These studies of the agrifood market focus particularly on the role that various boundary objects can play in creating mutual understanding and converging knowledge and roles. They have a bent towards positive dynamics such as cooperation, mutual learning, creating shared visions, co-producing knowledge and developing compromises. Less is said about the role of boundary objects related to controversies, conflicts and disagreements. This is the backdrop for the case study in Section four where the focus is on how standard quality impacts coordination and controversies in the Norwegian agrifood market.

RESEARCH METHODOLOGY

This is a conceptual article. By definition, conceptual articles synthesise knowledge from previous works on particular topics and present concepts in new contexts. More specifically, conceptual papers aim to ‘bridge existing theories in interesting ways, link work across disciplines, provide multi-level insights, and broaden the scope of our thinking’ (Gilson & Goldberg, 2015, p. 128). Conceptual articles present original concept(s) but not necessarily original data. Jaakkola (2020) refers to theory synthesis—that is, conceptual integration across multiple theoretical perspectives—as one sub-type of conceptual articles. This approach agrees with the purpose of the article here, which is to apply the concept of boundary object in order to rethink and synthesise existing studies and findings. The boundary object concept has become well known in several scholarly debates but has still not been much applied in studies of qualities in agrifood markets. This article is the first to use boundary object theory as an analytical framework for exploring issues related to coordination and controversies in the context of the Norwegian agrifood market. This approach

implies a special interest in exploring what standard quality—as a loosely defined notion—*does* in the shared spaces between different stakeholders.

The Norwegian agrifood market has through decades been analysed from multiple angles and perspectives. There is, therefore, a large pool of descriptive, theoretical and empirical literature to select from. They offer underlying data and reflections of relevance for my discussion here. I have reviewed a total of 46 scientific articles about the Norwegian agrifood market in addition to grey literature (reports, articles in newspapers etc.). This includes different interpretations of the terms of standard product quality, organic, terroir and animal welfare as interpreted by various stakeholders (farmers, retailers, regulators, consumers). Taken together, these sources provide a valid image of the role that product qualities play in the Norwegian agrifood market. Unsurprisingly, I found no studies of the Norwegian agrifood market where boundary object theory is explicitly used.

Why is the Norwegian agrifood market an interesting case in this respect? Albeit the socially constructed notion ‘standard product quality’ is widely used in this market, it remains loosely defined across organisational borders and is subject to interpretative flexibility in tailor-made use by the different stakeholders. The case study is conducted at the meso-level, that is, in between micro- and macro-level (Richter & Dragano, 2018). The main unit of analysis throughout the discussion is the notion in which ‘standard product quality’ conceptualised as a boundary object. The contextual variables of this unit of analysis are the sub-categories of the agrifood market, such as the markets for organic and terroir-products and market for products with premium animal welfare quality.

This is an instrumental case study in the sense that its purpose is to refine theory and improve insights into a larger issue (Stake, 2006). An instrumental case study aims to improve the understanding of something more and beyond the case itself (Yin, 2014), referring here to the core concept ‘boundary object’. The purpose is to expand theory through selected illustrations, not to provide a detailed review of the case as such. The purpose is to show how standard quality—conceptualised as a boundary object—works as a device for facilitating coordination and triggering controversies between various stakeholders.

Selected parts of the discussion in the following sections also draw on the survey data from two large H2020-projects. The first project is Organic PLUS.¹ A representative sample of Norwegian respondents was asked whether they considered organic food to be better than conventional produce for their health, environment, animal welfare, the health of farmer, taste and quality, climate, soil health, local food production and biodiversity. The respondents were also asked about their barriers to buy organic food. The Norwegian panel consisted of 4750 respondents, and the response rate was 47%. This is quite a normal response rate. More details about the survey are found in Vittersø et al. (2019). The other survey of interest here was part of the H02020-project Strength2food.² A representative sample of 800 Norwegian informants was asked about their awareness and use of a wide range of quality labels (Hartmann, 2018). Results from these two surveys are included consecutively in the discussion in the next section. None of these projects make use of the term boundary object descriptively or analytically. It is the purpose of this conceptual article to rethink these data through the analytical lenses of boundary object theory.

CASE STUDY: THE NORWEGIAN AGRIFOOD MARKET

Contemplations of what boundary objects *are* and *do* must be addressed in the context in which they are embedded (Star, 2010). Core dynamics and essential contextual factors of the

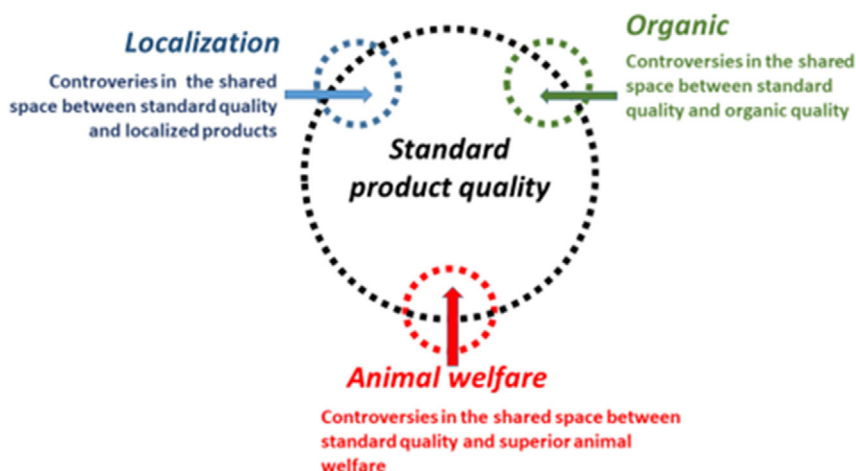


FIGURE 1 Overview of the illustrative case

Norwegian agrifood sector have been analysed from multiple perspectives over the last decades. The hegemonic position of retailer chains is a recurrent theme (Richards et al., 2013; Skaar, 2017; Stræte, 2008). The barriers for small-scale producers gaining access for their products to the consumer market is another much debated topic (Agata et al., 2019; Amilien & Hegnes, 2013; Jervell & Borgen, 2004). Such studies provide useful information about main actors, networks, institutions, conventions and regulations. What is still lacking, however, is more in-depth studies of how the very notion of quality—perceived here as a boundary object—facilitates coordination and increases controversies in the boundaries between different stakeholders in the market.

The point of departure here is that no clear-cut and ubiquitous definition of standard quality exists that fits every actor and purpose. On the contrary, there are various tailor-made versions of standard quality that are dedicated to specific categories of actors and their specific needs and purposes. By perceiving standard quality as a boundary object, the first question to address is how and why standard quality has gained a hegemonic position in the market. The second question is how three alternative product qualities (localised food, organic products and superior animal welfare) challenge standard qualities (cf. the three overlapping circles in Figure 1).

How standard product quality facilitates coordination without presupposing consensus among the hegemonic stakeholders

How do different hegemonic stakeholders tailor standard product quality to their respective dedicated use? Many tangential terms are in use for ‘standard product quality’. One example is ‘bulk-products’, which is defined as ‘homogenous and often unpackaged goods sold by weight or volume and where the competition is essentially centered on price’ (Stræte & Lindgreen, 2008). Other tangential notions are ‘low budget product’, ‘soft discount’, ‘hard discount’, which all refer to competitive situations dominated by low-price products. Furthermore, ‘uniform quality’ and ‘uniformed products’ are almost synonymous with ‘standard quality’. ‘Uniformed products’ are identical with respect to taste, content and packaging. Uniformed products are increasingly

marketed by boundary object theory by large-scale producers and retailer chains in the form of private brands (Richards et al., 2013).

More specifically, what role does 'standard product quality' play for the different categories of actors? We start with the farmers' cooperatives and continue with retailers, consumers and regulatory authorities. Products of standard quality play a decisive role for stakeholders that jointly constitute what Goodman refers to as 'the mainstream corporate industrial agrifood systems and the hegemonic agricultural techno-scientific complex'. Who then are they and how do they tailor the notion of standard quality to their dedicated vocabulary and use?

The **agricultural producer cooperatives** play a fundamental role in the Norwegian agrifood market (Brunstad et al., 1997; Tennbakk, 2002). These market-dominating producer cooperatives in dairy and meat production pay their farmer-members according to the principle of NARP-pricing (Net average product pricing) (Fousekis, 2016; Nilsson, 2018). The farm-gate price of milk is a weighted average of the net return obtained in different markets (Gaasland, 2010). All revenue from price discrimination in dairy sub-markets is passed on to the cooperative members in the form of an increased milk price. The natural variation between raw products from different cooperative members is thereby levelled out. This is in line with the cooperative's overall objective to offer their members the best farm-gate prices on milk, as an average for all members, independent of the prices obtained on finished products in different end-markets (milk, cheese, yoghurt, etc., for consumption). The international quality classification schemes ISO 9001 and ISO 2200 are used, in addition to the voluntary Norwegian quality scheme KSL (Kvalitetsystem i landbruket). The quality certification system in Norwegian agriculture). In the meat sector, the overall objective of the cooperative is to maximise prices on members' deliveries of whole carcasses.³ The international quality classification scheme EUROP is used in order to give members the right price according to characteristics and qualities of the meat (the meat percentage; Johansen et al., 2006). A challenge for all full-scale slaughterhouses and meat processors is to 'sell the entire animal'. With respect to premium-quality products, this is problematic since only a minor part of the animal can be sold at a premium price. The promotion of standard-quality products, without any promises concerning the production process (placeless) and other superior and non-standard quality attributes, is thereby an important task for the cooperative. Cooperative members are subject to incentives that make the production of non-standard raw commodities risky. In sum, the producer cooperatives' preference for mass production of standard-quality products follows logically from their overall purpose, ownership form and inherent logic of production.

What role does standard quality play for the **large retailer chains** and their integrated wholesaler organisations? Over the last decades, the retail sector in the Norwegian agrifood sector has been consolidated and has gradually formed into an oligopolistic market structure (Jacobsen & Dulsrud, 2007; Ness & Haugland, 2001; NOU, 2011; Richards et al., 2013). Three large retailer chains have gradually taken control of the consumer market by streamlining logistics, reducing transaction costs and utilising economies of scale. In a study of the development in grocery store structure, product range and product prices, Alfnes et al. (2019) found that the Norwegian retail sector is characterised by much smaller shops with a limited product range, compared to Sweden and The Netherlands. This situation implies that hard and soft discount quality concepts dominate the consumer market, supplemented by a limited number of full range chains. Each of the three hegemonic retailer chains has set up dedicated, exclusive and tailor-made wholesale systems. A study of the market concentration at different levels of the food production chain in Norway concluded that the relative differences in purchasing terms posed a significant entry barrier (Skaar, 2017). Economies of scale in purchasing imply that it is challenging for small and new chains

with premium-quality products to attain low competitive unit prices from suppliers. The large retailers are in a position to set the premise for chain partners both downstream (consumers) and upstream (producers) (Alfnes et al., 2019; Instefjord, 2019; Strøm, 1999). The fundamental objective of retailers is to maximise output per square metre in shops. Large volume products with a high turnover rate serve this objective best. The higher the sales volumes, the better the position of the shop. Premium-quality products with a relatively small sales volume are placed in marginal areas of the shop (high up, low down, in 'remote' corners of the shop). This choice-editing mechanism has proved very efficient (Busch, 2016; Dulsrud & Jacobsen, 2009; Gunn & Mont, 2014; Richards et al., 2013). It is rational for the large retailers to give priority to easily-sold standard-quality products with high turnover rates. The retailers are in a position to channel the choices of upstream actors (producers) and downstream actors (end consumers). They have effective measures to further utilise their advantageous position. This powerful position enables them to impact all other stakeholders in the agrifood market. In sum, the market-dominating retailers' preference for popular mass-produced standard-quality products follows naturally from their overall objectives, strategies and production logics (Busch, 2016; Dulsrud & Jacobsen, 2009; Konkurransetsynet, 2005).

Norwegian agriculture is subject to detailed **market regulation** (Brunstad et al., 1997; Bullock et al., 2016; Espeli, 2008; Gaasland, 2010; Sorensen & Tennbakk, 2002). This system of market regulation levels out the natural variation between members with respect to qualities. It provides basic security for farmers but offers little incentive to invest in the production of non-standard raw commodities. There is an intimate interplay between the cooperative form and market regulation in Norwegian agriculture due to the fact that the cooperatives have been delegated responsibility for implementing essential elements of the market regulation. Regulation in one way or another also implements a standardised definition of quality, which in practice turns out to be an interpretation of quality that strongly resembles the wholesalers' interpretation (Busch, 2016; Lien & Døving, 1996). The standards specify the form, size and other easily observable product search attributes. More complicated attributes, such as taste, has little place in market regulation. This is not surprising, given that regulatory measures depend on objective parameters to legitimately control and sanction producers. The unintended consequence of this is that a relatively narrow conception of quality is incorporated in market regulatory measures.

'**Consumers**' is an unorganised category of people that tacitly endorse the standard-quality convention in which they are embedded (Jacobsen & Dulsrud, 2007). Consumer behaviour tends to be depicted from three different perspectives, that is, rational choice, conspicuous consumption and 'habitual choices', respectively (Jacobsen, 1999; Strandbakken et al., 2015; Warde, 2015). Eating has proven to be subject to substantial habitualisation and inertia. This is reflected in the routine behaviour of consumers that sometimes follow an 'auto-pilot' type of logic. Consumers are first and foremost loyal to their eating and purchasing habits (Southerton, 2013). Consumers' taste is formed through the mechanisms used by retailers and producers and channelled to them through the provision system (Busch, 2016). Once established, consumers' habits and routine-like purchasing remain relatively stable and reflect loyalty to their eating preferences.

To sum up, the socially constructed notion of 'standard-product quality' plays an essential role for all hegemonic actors in the Norwegian agrifood market, notwithstanding the fact that they use tailor-made interpretations according to their specific use in accordance with their different self-interests. The interpretative flexibility of the notion of standard product quality becomes more clearly when taking into account that standard product quality is a boundary object.

All stakeholders prioritise products of standard quality despite the differences in their individual interests. The actor-specific use of standard quality reinforces and enables coordination of the hegemonic categories of actors without presupposing consensus between them. I shall refer to this situation as *equifinality*, meaning that a given, joint end-state is reached by many different means in the hands of different stakeholders. The gains from conforming to ‘standard product quality’ are significant for all involved parties. Now recall the initial question inspired by Star (2010): What does standard quality do? The answer according to the illustrations above is that standard quality coordinates the hegemonic industrial and regulatory actors without presupposing consensus between them.

How the hegemonic standard quality is challenged by superior (above-standard) qualities

The conclusion so far is that standard-quality products have a hegemonic position, in accordance with what Goodman (2003, p. 2) refers to as ‘the mainstream corporate industrial agrifood systems and the hegemonic agricultural techno-scientific complex’. This conclusion is interesting with respect to the alleged quality turn in agrifood market (Busch, 2016; Goodman, 2003; Ilbery & Kneafsey, 2000; Kuraj, 2019; Murdoch & Miele, 1999; Murdoch et al., 2000; Nygård & Storstad, 1998). Standard product quality is not a static phenomenon. It is constantly challenged by products with superior (above standard) qualities, particularly related to product characteristics such as organic production methods, localised origin and superior animal welfare. How do these qualities challenge the strong position of standard quality? There are multiple controversies to account for in the respective shared spaces between the organisations in question.

Standard product quality is normally placeless in the sense that no reference (promise) is given for product characteristics related to the geographical origin of the foodstuff. The question to be addressed here is whether a shift can be observed from placeless standard quality towards products with superior qualities related to localised origin and terroir? In other words, what are the main controversies in the shared space between standard quality products and localised products? Multiple empirical studies conclude that no significant shift can be observed from standard to localised (Amilien & Hegnes, 2013; Haugrønning, 2018; Vittersø et al., 2005). However, producers, retailers and consumers do pay much attention to *national* origin (Hartmann et al., 2019; Roos et al., 2016). This interest is manifested in consumers’ willingness to use the quality scheme ‘Enjoy Norway’ (Nyt Norge). This label guarantees that approved products consist of raw commodities and ingredients from Norway. ‘Nyt Norge’ is administrated by the Norwegian Agricultural Quality System and Food Branding Foundation (Matmerk), whose mission is to develop quality and competitiveness in Norwegian food production (Halkier et al., 2017). ‘Nyt Norge’ is designed as a meta-label (Dendler, 2014) and has a larger scope and scale than products signalling ‘local origin’ and ‘terroir’ only. In a survey from the Strength2Food project, 95% of the informants reported that they recognised ‘Nyt Norge’, and 70% said they take this label into account when they do their shopping (Hartmann, 2018).⁴ *National* origin thereby appears to be more important to consumers than products branded as local, localised and/or terroir (Amilien, 2011). Other empirical studies confirm that the vocabulary associated with local food is considered unclear in the eyes of consumers (Amilien, 2011). ‘Local food’ has even been referred to as a ‘chameleon notion’ in the sense that it changes its meaning as it moves through different networks and contexts (Amilien et al., 2007). The Norwegian Agricultural Quality System and Food Branding Foundation also administers the ‘specialty’ label (spesialitet) as well as the Norwegian equivalents of protected designation

of origin, protected geographical indication and traditional specialty guaranteed (Hegnes, 2013). The great majority of the approved users of these origin labels are small and medium-sized businesses that sell their products to smaller, targeted market segments. The greater part of the specialties and products with the protected designation is of a premium nature, reflecting that producers aim to appropriate a quasi-rent that justifies the extra costs. Measured in terms of market shares, these products only play a minor role in the Norwegian agrifood market. The Norwegian agricultural authorities pay a great deal of attention to these quality schemes, but the wider public does not uniformly endorse the basic idea that 'local and regional origin' is a preferred quality attribute (Amilien & Tocco, 2019; Hartmann, 2018; Kuraj, 2019). This is clearly advantageous for Norwegian providers of mass-produced agrifood products that promote products of standard quality (Borgen, 2011; Kuraj, 2019).

What about the controversies in the shared space between conventional standard quality and *organic* qualities? The Norwegian agricultural authority is determined in its ambition to promote the production and sales of organic products. However, the actual market shares for organic products calls for sobriety. In 2018, the market share for organically produced meat was 0.5%, 2.3% for dairy products and 2.4% for fruit/vegetables (Directorate, 2019). Despite some growth in absolute terms, organic products are not in a position to challenge standard-quality products based on conventional (non-organic) production forms. A study under the EU project OrganicPlus⁵ asked representative samples of consumers from seven European countries whether they thought organic food was better (than non-organic) for peoples' health, environment, animal welfare, the health of farmer, taste and quality, climate, soil health, local food production and biodiversity. The survey revealed that the Norwegian respondents differ from the rest of the countries and had the lowest 'agree/fully agree' scores for all nine statements. The Norwegian respondents, more so than in the other country samples, answered 'don't know' or 'no opinion' (Vittersø, 2019). How can this be? Many of the organic products are of premium quality, slightly more expensive, but probably within the financial means of the majority of consumers in the Norwegian market. The explanation is that the very notion 'organic' is subject to multiple interpretations and ends up painting a confusing picture (Seufert et al., 2017). Is organic, in the eyes of consumers, related to more healthy nutrition? Superior animal welfare? More environmentally friendly production processes? Given the current climate crisis, are organic values actually perceived as more important than the value of reducing carbon footprints? A number of worthwhile values fight for the limited attention of consumers, and the capability to momentarily capture the fleeting attention of consumers is important to win this battle. The organic quality scheme Debio guarantees a certain, specified agronomic practice, according to internationally harmonised and controlled standards as defined by The International Federation of Organic Agricultural Movements (IFOAM) ((John, 2010). Some farmers market their products as organic without referring to or complying with the Debio standard because they disagree with its definition of organic qualities.⁶ Nonetheless, some consumers seem to add quality attributes associated with human health and taste to the label. This might be explained in part, at least, by consumers' need to construct an identity as responsible consumers. The low sales of organic products in Norway is explained by the fact that organic conflicts with the idea that conventional and standard quality in Norway is 'good enough', that is, conventional produce in Norway can be considered as 'organic light' and/or 'organic enough' (Børresen, 1995; Kvakkestad et al., 2018; Vittersø & Tangeland, 2015).

What about controversies in the shared space where standard quality meets superior animal welfare? A high standard of animal welfare is a prestigious project for the Norwegian agricultural authorities as well as the national meat and dairy industry (Borgen & Skarstad, 2007; Forsberg, 2011; Kjærnes et al., 2007). There is a tacit understanding between the authorities and the

farmers' organisations that animal welfare should be perceived as a basic common undertaking for the entire national agrifood industry and problems should be solved through joint efforts by all the involved parties. The implication is that animal welfare is not considered an appropriate domain for company-specific differentiation in order to boost the sales of the companies in question. Animal welfare has traditionally been perceived as a competition-free zone. There exist a few quality labels that might draw consumers' attention to animal welfare, but only a minor segment of consumers pay attention to these labels when shopping. Good animal welfare is valued but should be included as an integral part of 'standard quality' rather than being singled out and differentiated as something 'better than standard' (Valiente-Riedl, 2013). Indeed, it is an integral component of the meta-label 'Nyt Norge'. The problem associated with the latter strategy is obviously that 'superior animal welfare' schemes would overshadow or even obscure the animal welfare standard associated with standard-quality products as stated in the Norwegian Animal Welfare Act (Forsberg, 2011). This is not perceived as legitimate in the Norwegian context (Bøe et al., 2014).

This illustrative case shows that the loosely defined notion of standard quality is in the hands of the hegemonic actors but that their hegemonic interpretation of standard quality is challenged by other stakeholders. This powerplay unfolds in the shared spaces between the stakeholders, where different interpretations of quality meet. To sum up, the following controversies are at stake in the locus between standard quality and superior qualities:

- Whether or not *Norwegian* origin trumps qualities related to local/localised/terroir so that the latter is perceived as unnecessary and costly quality attributes.
- Whether or not conventional agrifood products in the Norwegian context are '*organic enough*' so that organic is an unnecessary quality attribute.
- Whether or not animal welfare as specified in the Norwegian Animal Welfare Act is animal-friendly enough. What is also at stake is whether animal welfare is perceived as a credence quality that legitimises differentiation at the product level.

Let us now sum up the discussion. Star and Griesemer (1989) claim that many cooperation models begin with the idea that cooperation between parties can only begin after a consensus is reached. They found this thinking to be untrue. In fact, their research showed that consensus was rarely reached, and when it was occasionally reached, it often turned out to be fragile. Cooperation nonetheless continued without problem. How can this be? Their assumption was that coordination does not presuppose consensus. The assumption is confirmed in the first part of this case study, where the properties of standard quality as a boundary object explain how the major actors maintain their power. Standard quality is an equifinal outcome of different actor-specific processes. They all concentrate on their dedicated and tailor-made self-interest and end up with hegemonic power in the market.

The second part of the study addresses the question of how potential superior-quality products challenge 'standard-quality' products. What is at stake for the various actors when they 'meet' each other in shared spaces, and what are the controversies? The illustrative case shows that controversies are whether or not 'standard quality' is '*organic enough*', '*localised enough*' and whether the animal welfare regulations and standard as defined in the Animal Welfare Act are '*sufficiently good*'. The empirical study further confirms that the hegemonic position of standard-quality products allows greater efficiency for some (i.e., the largest actors) but at the cost of reducing variety (Busch, 2016). Attempts to implement more diversity—such as organic, localised and superior animal welfare—are hampered. This study discerns no signs of a dramatic transformation from

'standard quality' to premium qualities, that is, no dramatic quality turn. Rather, the different interpretations of the quality concept challenge each other, which leads to only minor modifications (Barjolle & Sylvander, 1999).

CONCLUSION

I argue that standard product quality satisfies the definition of a boundary object, loosely defined in common use and tailor-made in dedicated use. In this case, this discerns the significance of equifinality. Seen as a boundary object, standard quality is coordinated without consensus and underlines the benefits of conforming to standard quality. However, standard quality is not static, as it is challenged by the non-standard qualities, geographical, organic and animal welfare.

What is the value added of using boundary object theory as an analytical framework in organisation studies? First, a great deal of attention has been devoted in the scholarly literature to the fact that firms and other organisations are bundles of capabilities (Peris-Ortiz et al., 2019; Schoemaker et al., 2018; Teece, 2018). Boundary object theory reminds us that organisations are not only bundles of capabilities but also bundles of dynamic boundaries. Second, the case illustrates that power issues should be explicitly incorporated into the analysis of boundary objects and subsequently into theories of organisational boundary-spanning organisations. Shared spaces are arenas and loci where controversies unfold (Sánchez-hernández, 2011). Organisational boundaries are typically conceptualised in terms of economic efficiency. Transaction cost economics is the most prominent theory in that respect (Mettepenningen et al., 2009; Williamson, 2013). But organisational boundaries also need to be investigated from perspectives such as identity, learning and power distribution (Santos & Eisenhardt, 2005). Boundary object theory is clearly useful in that respect. As summarised by Stoytcheva (2020), boundary objects are never neutral. They are embedded within complicated networks of social relations. Their function is very much a product of their location within these networks. The approach in this article differs from other studies based on boundary object theory in that more attention is paid to the drivers of coordination and controversies across organisational boundaries. Organisational boundaries are not necessarily simple arenas for developing mutual understanding and harmony. Loosely defined boundary objects and the shared spaces in which they are located can be subject to a great deal of rivalry and complex power games. Boundaries between organisations are sites of conflicts and negotiations of interests, as well as translations of meaning, that are never power-neutral (Huvila, 2011). Boundary object theory can open up complex social fields where actors not only (dis)agree on, for example, various interpretations and understandings of what quality is. This theory is useful in focusing on the challenging and information-rich issue of what quality *does* in these social settings. More empirical studies based on boundary object theory are called for in order to further develop its theoretical underpinning and research methodology. Boundary object theory is not yet a readily developed and full-fledged theory with a clearly defined methodology. I hope this article nevertheless has shown that boundary object theory can be fruitfully applied as a valuable conceptual supplement to more established theories like for instance convention theories.

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ENDNOTES

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- ² The Strength2Food-project was funded under the Grant Agreement No. 678024. Website: Strength2food.eu.
- ³ Interview with Director of Agricultural Meat Cooperative.
- ⁴ OrganicPlus. Deliverable 2.2, Authored by Gunnar Vittersø et. al. 'Report from survey on public opinion regarding contentious inputs', page 49. Version 1.2, 31. October 2019.
- ⁵ OrganicPlus. Deliverable 2.2, Authored by Gunnar Vittersø et. al. 'Report from survey on public opinion regarding contentious inputs', page 49. Version 1.2, 31. October 2019.
- ⁶ Interview with a farmer who produces and markets products according to the Debio/IFOAM quality standard for organic products.

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CONFLICT OF INTEREST

The author declares no conflict of interests.

DATA AVAILABILITY STATEMENT

Research data are not shared.

REFERENCES

- Malak-Rawlikowska, A., Majewski, E., Was, A., Borgen, S.O., Csillag, P., Donati, M., Freeman, R., Hoang, V., Lecoecur, J.-L., Mancini, M.C., Nguyen, A.Q., Monia, S., Tocco, B., Torok, A., Veneziani, M., Vittersø, G. & Wavresky, P. (2019). Measuring the economic, environmental, and social sustainability of short food supply chains. *Sustainability*, 11(15), 4004. <https://doi.org/10.3390/su11154004>
- Abson, D.J., Von Wehrden, H., Baumgärtner, S., Fischer, J., Hanspach, J., Härdtle, W., ... Walmsley, D. (2014). Ecosystem services as a boundary object for sustainability *Ecological Economics*, 103, 29–37. <https://doi.org/10.1016/j.ecolecon.2014.04.012>
- Alfnes, F., Schjøll, A. & Dulsrud, A. (2019). *Kartlegging av utviklingen i butikkstruktur, dagligvareutvalg og dagligvarepriser*. Oslo: Forbruksforskningsskingsinstituttet SIFO, OsloMet–storbyuniversitetet.
- Amilien, V. (2011). From territory to terroir?: the cultural dynamics of local and localized food products in Norway. *Sosiologisk årbok (Sociological Yearbook)*, 3(4), 85–106.
- Amilien, V., Fort, F. & Ferras, N. (2007). Hyper-real territories and urban markets: changing conventions for local food—case studies from France and Norway. *Anthropology of Food*, 2007-04-19.
- Amilien, V. & Hegnes, A.W. (2013). The dimensions of 'traditional food' in reflexive modernity: Norway as a case study. *Journal of the Science of Food and Agriculture*, 93(14), 3455–3463. <https://doi.org/10.1002/jsfa.6318>
- Amilien, V. & Tocco, B. (2019). At the heart of controversies. *British Food Journal*, 121(12), 3151–3167. <https://doi.org/10.1108/BFJ-10-2018-0717>
- Arce, A. & Marsden, T.K. (1993). The Social construction of international food: A new research agenda. *Economic Geography*, 69(3), 293–311. <https://doi.org/10.2307/143452>
- Aspers, P. (2008). Order in garment markets. *Acta Sociologica*, 51(3), 187–202. <https://doi.org/10.1177/0001699308094165>
- Barjolle, D. & Sylvander, B. (1999). Some factors of success for origin labelled products in agri-food supply chains in Europe : market, internal resources and institutions. In: Sylvander, B., Barjolle, D. and Filippo, A. (Eds). *67th Seminar, 28-30 October 1999, LeMans, France*. The Netherlands: European Association of Agricultural Economists (EAAE), pp. 45–71.

- Bechky, B.A. (2003). Object lessons: Workplace artifacts as representations of occupational jurisdiction. *The American Journal of Sociology*, 109(3), 720–752. <https://doi.org/10.1086/379527>
- Benn, S. & Martin, A. (2010). Learning and change for sustainability reconsidered: A role for boundary objects. *Academy of Management Learning & Education*, 9(3), 397–412. <https://doi.org/10.5465/amle.9.3.zqr397>
- Boltanski, L. & Thévenot, L. (1999). The sociology of critical capacity. *European Journal of Social Theory*, 2(3), 359–377. <https://doi.org/10.1177/136843199002003010>
- Borgen, S.O. (2011). Competing Conventions: The Big Branders' struggle to incorporate new quality conceptions in the Norwegian food market. Conference paper EAAE–seminar (European Association of Agricultural Economists), 113th Seminar, September 3–6, 2009, Chania, Crete, Greece.
- Borgen, S.O. & Skarstad, G.A. (2007). Norwegian pig farmers' motivations for improving animal welfare. *British Food Journal*, 109(11), 891–905. <https://doi.org/10.1108/00070700710835705>
- Bower, J. A. (2009). *Statistical methods for food science : introductory procedures for the food practitioner*. Chichester: Wiley-Blackwell.
- Brunsson, N. & Jacobsson, B. (2000). *A world of standards*. Oxford: Oxford University Press.
- Brunstad, R.J., Gaasland, I. & Vårdal, E. (1997). *Agriculture as a provider of public goods : a case study for Norway* (Vol. 9701). Bergen: LOS-senteret.
- Bullock, D.S., Mittenzwei, K. & Wangsness, P.B. (2016). Balancing public goods in agriculture through safe minimum standards. *European Review of Agricultural Economics*, 43(4), 561–584. <https://doi.org/10.1093/erae/jbv037>
- Busch, L. (2011). Food standards: the cacophony of governance. *Journal of Experimental Botany*, 62(10), 3247–3250. <https://doi.org/10.1093/jxb/erq439>
- Busch, L. (2016). Individual choice and social values: Choice in the agrifood sector. *Journal of Consumer Culture*, 16(1), 124–143. <https://doi.org/10.1177/1469540514536193>
- Bøe, K.E., Bernhoft, A., Hansen, I., Hoel, K., Moe, R.O., Seehus, S.C., Svihus, B., Whist, A.C., Østerås, O., Andreassen, A.K., Arukwe, A., Braastad, B.O., Erikson, U.G., Haugen, M., Hemre, G.I., Hjeltnes, B.K., Krogdahl, A., Källqvist, T., Lassen, J.F., Mortensen, S.H., Næss, B., Olsen, R.-E., Rimstad, E., Skåre, J.U., Steffensen, I.-L., Sundheim, L., Torrissen, O. & Alexander, J. (2014). *Comparison of organic and conventional food and food production. Part II: Animal health and welfare in Norway*. Norwegian Scientific Committee for Food Safety (VKM).
- Borresen, K. (1995). Organic farming : limitations and possibilities for organic farm practices in Norway. Master thesis, School of Economics and Business, Norwegian University of Life Sciences, Aas, Norway.
- Callon, M., Méadel, C. & Rabeharisoa, V. (2002). The economy of qualities. *Economy and Society*, 31(2), 194–217. <https://doi.org/10.1080/03085140220123126>
- Carr, A. & Wilkinson, R. (2005). Beyond participation: Boundary organizations as a new space for farmers and scientists to interact. *Society & Natural Resources*, 18(3), 255–265. <https://doi.org/10.1080/08941920590908123>
- Chamberlin, E.H. (1950). Product heterogeneity and public policy. *The American Economic Review*, 40(2), 85–92.
- Dendler, L. (2014). Sustainability meta labelling: an effective measure to facilitate more sustainable consumption and production? *Journal of Cleaner Production*, 63, 74–83.
- Directorate, A. (2019). *Produksjon og omsetning av økologiske landbruksvarer*. Norwegian Directorate of Agriculture (Landbruksdirektoratet).
- Dulsrud, A. & Jacobsen, E. (2009). In-store marketing as a mode of discipline. *Consumer Issues in Law, Economics and Behavioural Sciences*, 32(3), 203–218. <https://doi.org/10.1007/s10603-009-9104-y>
- Eden, S. (2011). Food labels as boundary objects: How consumers make sense of organic and functional foods. *Public Understanding of Science*, 20(2), 179–194. <https://doi.org/10.1177/0963662509336714>
- Espeli, H. (2008). Prelude to extreme protectionism? Norwegian agricultural protectionism in a West-European context, 1850–1940. *Scandinavian Economic History Review*, 56(3), 209–229. <https://doi.org/10.1080/03585520802551402>
- Favilli, E., Rossi, A. & Brunori, G. (2015). Food networks: collective action and local development. The role of organic farming as boundary object. *Organic Agriculture*, 5(3), 235–243. <https://doi.org/10.1007/s13165-015-0118-2>
- Forsberg, E.-M. (2011). Inspiring respect for animals through the law? current development in the Norwegian animal welfare legislation. *Journal of Agricultural and Environmental Ethics*, 24(4), 351–366. <https://doi.org/10.1007/s10806-010-9263-5>
- Fousekis, P. (2016). Member coordination costs and spatial entry deterrence in a mixed duopsony with a cooperative. *Spatial Economic Analysis*, 11(3), 340–354. <https://doi.org/10.1080/17421772.2016.1187285>

- Gaasland, I. (2010). *Essays on the inefficiency of Norwegian agricultural policy*. Thesis, The University of Bergen. Available at: <https://hdl.handle.net/1956/4303>
- Gilson, L.L. & Goldberg, C.B. (2015). Editors' comment: So, what is a conceptual paper? *Group & Organization Management*, 40(2), 127–130. <https://doi.org/10.1177/1059601115576425>
- Goodman, D. (2003). The quality 'turn' and alternative food practices: reflections and agenda. *Journal of Rural Studies*, 19(1), 1–7. [https://doi.org/10.1016/S0743-0167\(02\)00043-8](https://doi.org/10.1016/S0743-0167(02)00043-8)
- Gunn, M. & Mont, O. (2014). Choice editing as a retailers' tool for sustainable consumption. *International Journal of Retail & Distribution Management*, 42(6), 464–481. <https://doi.org/10.1108/IJRDM-12-2012-0110>
- Halkier, H., James, L. & Stræte, E.P. (2017). Quality turns in Nordic food: a comparative analysis of specialty food in Denmark, Norway and Sweden. *European Planning Studies*, 25(7), 1111–1128. <https://doi.org/10.1080/09654313.2016.1261805>
- Harrison, D., Hoholm, T., Prenkert, F. & Olsen, P.I. (2018). Boundary objects in network interactions. *Industrial Marketing Management*, 74, 187–194. <https://doi.org/10.1016/j.indmarman.2018.04.006>
- Hartmann, M. (2018). *Strengthening European food chain sustainability by quality and procurement policy*. strength2food.eu.
- Hartmann, M., Yeh, C-H., Amilien, V., Celikovic, Z., Csillag, P., Filipovic, J., Giraud, G., Gorton, M., Kuc, V., Menozzi, D., Poscwatta, O., Quarrie, S., Roos, G., Saidi, M., Tocco, B., Torok, A. & Vreden, T. (2019). *Report on quantitative research findings on European consumers' perception and valuation of EU food quality schemes as well as their confidence in such measures*. Available at: <https://www.strength2food.eu/wp-content/uploads/2019/03/D8.1-Consumer-analysis-on-FQS-2-surveys-compressed.pdf>
- Haugrønning, V.A.R. (2018). *A taste for labels? A qualitative exploration of food quality schemes and food provisioning in five Norwegian households*. Thesis. University of Oslo.
- Hawkins, B., Pye, A. & Correia, F. (2017). Boundary objects, power, and learning: The matter of developing sustainable practice in organizations. *Management Learning*, 48(3), 292–310. <https://doi.org/10.1177/1350507616677199>
- Hegnes, A.W. (2013). Introducing and practicing PDO and PGI in Norway. *Anthropology of Food*. 2012, Vol. 7, p. 50. <https://doi.org/10.4000/aof.7210>
- Hirth, S. (2020). Food that matters: Boundary work and the case for vegan food practices. *Sociologia Ruralis*, 61(1), 234–254. <https://doi.org/10.1111/soru.12317>
- Huvila, I. (2011). The politics of boundary objects: Hegemonic interventions and the making of a document. *Journal of the American Society for Information Science and Technology*, 62(12), 2528–2539. <https://doi.org/10.1002/asi.21639>
- Håland, E., Røsstad, T. & Osmundsen, T.C. (2015). Care pathways as boundary objects between primary and secondary care: Experiences from Norwegian home care services. *Health*, 19(6), 635–651. <https://doi.org/10.1177/1363459314567789>
- Ilbery, B. & Kneafsey, M. (2000). Producer constructions of quality in regional speciality food production: a case study from south west England. *Journal of Rural Studies*, 16(2), 217–230. [https://doi.org/10.1016/S0743-0167\(99\)00041-8](https://doi.org/10.1016/S0743-0167(99)00041-8)
- Instefjord, G. (2019). Forbrukerpolitikk i dagligvaremarkedet. *Praktisk økonomi & finans*, 35(01), 4–13. <https://doi.org/10.18261/issn.1504-2871-2019-01-02>
- Jaakkola, E. (2020). Designing conceptual articles: four approaches. *AMS review*, 10(1-2), 18–26. <https://doi.org/10.1007/s13162-020-00161-0>
- Jacobsen, E. (1999). *Produktutvikling og sortimentspolitikk i kjedenes tid? : Noen betraktninger om "rimifiseringen" av mattilbudet i Norge*. Lysaker: Statens Institutt for Forbruksforskning (Consumption Research Norway).
- Jacobsen, E. & Dulsrud, A. (2007). Will consumers save the world? The framing of political consumerism. *Journal of Agricultural and Environmental Ethics*, 20(5), 469–482. <https://doi.org/10.1007/s10806-007-9043-z>
- Jervell, A.M. & Borgen, S.O. (2004). New marketing channels for food quality products in Norway. *Food Economics – Acta Agriculturae Scandinavica, Section C*, 1(2), 108–118. <https://doi.org/10.1080/16507540410035018>
- Johansen, J., Aastveit, A.H., Egelandsdal, B., Kvaal, K. & Røe, M. (2006). Validation of the EUROP system for lamb classification in Norway; repeatability and accuracy of visual assessment and prediction of lamb carcass composition. *Meat Science*, 74(3), 497–509. <https://doi.org/10.1016/j.meatsci.2006.04.017>
- John, P. (2010). From France to the world: The International Federation of Organic Agriculture Movements (IFOAM). *Journal of Social Research & Policy*, 1(2), 93–102.

- Kjærnes, U., Miele, M. & Roex, J. (2007). *Attitudes of consumers, retailers and producers to farm animal welfare* (Vol. 2). Cardiff: Cardiff University.
- Klerkx, L., van Bommel, S., Bos, B., Holster, H., Zwartkruis, J.V. & Aarts, N. (2012). Design process outputs as boundary objects in agricultural innovation projects: Functions and limitations *Agricultural Systems*, 113(2012), 39–49. <https://doi.org/10.1016/j.agsy.2012.07.006>
- Konkurransetilsynet. (2005). Betaling for hylleplass – Virkninger for konkurransen i dagligvaremarkedet i Norge (2/2005). konkurransetilsynet.no
- Kuraj, S. (2019). *The “quality turn” agenda in agribusiness*. Thesis, University of Oslo,
- Kvakkestad, V., Berglann, H., Refsgaard, K. & Flaten, O. (2018). Citizen and consumer evaluation of organic food and farming in Norway. *Organic Agriculture*, 8(2), 87–103. <https://doi.org/10.1007/s13165-017-0176-8>
- Lassoued, R. & Hobbs, J.E. (2015). Consumer confidence in credence attributes: The role of brand trust. *Food Policy*, 52, 99–107.
- Lien, M. & Døving, R. (1996). *Grønnsaker som mat og handelsvare : kvalitetsoppfatninger fra produsent til forbruker = Vegetable as food and commodities : conceptions of quality in the trade and among customers* (Vol. nr 2–1996). Lysaker: Statens Institutt for Forbruksforskning.
- Lutz, S. (1997). Vertical product differentiation and entry deterrence. *Zeitschriften für Nationalökonomie*, 65(1), 79–102. <https://doi.org/10.1007/BF01239060>
- Maillard, P. (2013). *Competitive quality strategies*. London: Wiley-Blackwell.
- Mettepenningen, E., Verspecht, A. & Van Huylbroeck, G. (2009). Measuring private transaction costs of European agri-environmental schemes. *Journal of Environmental Planning and Management*, 52(5), 649–667. <https://doi.org/10.1080/09640560902958206>
- Murdoch, J., Marsden, T. & Banks, J. (2000). Quality, Nature, and Embeddedness: Some Theoretical Considerations in the Context of the Food Sector. *Economic Geography*, 76(2), 107–125. <https://doi.org/10.1111/j.1944-8287.2000.tb00136.x>
- Murdoch, J. & Miele, M. (1999). ‘Back to nature’: Changing ‘worlds of production’ in the food sector. *Sociologia Ruralis*, 39(4), 465–483. <https://doi.org/10.1111/1467-9523.00119>
- Ness, H. & Haugland, S.A. (2001). *Endrede forhold i norsk matvaredistribusjon og konsekvenser for strategisk orientering*. Arbeidsnotat (Stiftelsen for samfunns- og næringslivsforskning), Vol. nr 31/01. Available at: https://openaccess.nhh.no/nhh-xmlui/bitstream/handle/11250/166616/A31_01.pdf?sequence=1&isAllowed=y
- Nilsson, J. (2018). Governance costs and the problems of large traditional co-operatives. *Outlook on Agriculture*, 47(2), 87–92. <https://doi.org/10.1177/0030727018761175>
- NOU. (2011). *Mat, makt og avmakt : om styrkeforholdene i verdikjeden for mat*. Oslo: Departementenes servicesenter, Informasjonsforvaltning
- Nygård, B. & Storstad, O. (1998). De-globalization of food markets? Consumer perceptions of safe food: The case of Norway. *Sociologia Ruralis*, 38(1), 35–53. <https://doi.org/10.1111/1467-9523.00062>
- Peris-Ortiz, M., Ferreira, J.J. & Merigó Lindahl, J.M. (2019). *Knowledge, innovation and sustainable development in organizations : A dynamic capabilities perspective*. Cham: Springer.
- Richards, C., Bjørkhaug, H., Lawrence, G. & Hickman, E. (2013). Retailer-driven agricultural restructuring—Australia, the UK and Norway in comparison. *Journal of the Agriculture, Food, and Human Values Society*, 30(2), 235–245. <https://doi.org/10.1007/s10460-012-9408-4>
- Richter, M. & Dragano, N. (2018). Micro, macro, but what about meso? The institutional context of health inequalities. *International Journal of Public Health*, 63(2), 163–164. <https://doi.org/10.1007/s00038-017-1064-4>
- Roos, G.M., Hansen, K.V. & Skuland, A.V. (2016). Consumers, Norwegian food and belonging: a qualitative study. *British Food Journal* (1966), 118(10), 2359–2371. <https://doi.org/10.1108/BFJ-01-2016-0041>
- Sánchez-hernández, J.L. (2011). The food value chain as a locus for (dis)agreement: conventions and qualities in the Spanish wine and Norwegian salted cod industries. *Geografiska annaler. Series B, Human geography*, 93(2), 105–119. <https://doi.org/10.1111/j.1468-0467.2011.00364.x>
- Santos, F.M. & Eisenhardt, K.M. (2005). Organizational boundaries and theories of organization. *Organization science* (Providence, R.I.), 16(5), 491–508. <https://doi.org/10.1287/orsc.1050.0152>
- Schjøll, A. & Alfnes, F. (2017). Eliciting consumer preferences for credence attributes in a fine-dining restaurant. *British Food Journal*, 119(3), 575–586. <https://doi.org/10.1108/BFJ-06-2016-0264>
- Schoemaker, P.J.H., Heaton, S. & Teece, D. (2018). Innovation, dynamic capabilities, and leadership. *California Management Review*, 61(1), 15–42. <https://doi.org/10.1177/0008125618790246>

- Seenivasan, S. & Talukdar, D. (2016). Competitive effects of wal-mart supercenter entry: Moderating roles of category and brand characteristics. *Journal of Retailing*, 92(2), 218–225. <https://doi.org/10.1016/j.jretai.2015.09.003>
- Seufert, V., Ramankutty, N. & Mayerhofer, T. (2017). What is this thing called organic?—How organic farming is codified in regulations. *Food Policy*, 68, 10–20. <https://doi.org/10.1016/j.foodpol.2016.12.009>
- Skaar, J. (2017). *Etableringshindringer i dagligvaresektoren*. Available at: https://osloeconomics.no/wp-content/uploads/Etableringshindringer-i-dagligvaresektoren_ref2.pdf
- Sorensen, A.-C. & Tennbakk, B. (2002). *Regulatory institutions in agricultural markets: A comparative analysis*. Available at: <http://ecsocman.hse.ru/data/592/667/1219/048-131-sorensen.pdf>
- Southerton, D. (2013). Habits, routines and temporalities of consumption: From individual behaviours to the reproduction of everyday practices. *Time & Society*, 22(3), 335. <https://doi.org/10.1177/0961463%D712464228>
- Stake, R.E. (2006). *Multiple case study analysis*. New York: Guilford Press.
- Star, S.L. (2010). This is not a boundary object: Reflections on the origin of a concept. *Science, Technology, & Human Values*, 35(5), 601–617. <https://doi.org/10.1177/0162243910377624>
- Star, S.L. & Griesemer, J.R. (1989). Institutional ecology, ‘translations’ and boundary objects: Amateurs and professionals in Berkeley’s Museum of Vertebrate Zoology, 1907–39. *Social Studies of Science*, 19(3), 387–420. <https://doi.org/10.1177/030631289019003001>
- Storper, M. & Salais, R. (1997). *Worlds of production : the action frameworks of the economy*. Cambridge, MA: Harvard University Press.
- Stoytcheva, S. (2020). *Boundary object: A field guide*. scalar.usc.edu
- Strandbakken, P., Gronow, J. & Stø, E. (2015). *The Consumer in society : a tribute to Eivind Stø*. Oslo: Abstrakt forlag.
- Stræte, E.P. (2008). Modes of qualities in development of speciality food. *British Food Journal*, 110(1), 62–75. <https://doi.org/10.1108/00070700810844795>
- Stræte, E.P. & Lindgreen, A. (2008). Modes of qualities in development of speciality food. *British Food Journal*, 110(1), 62–75. <https://doi.org/10.1108/00070700810844795>
- Strøm, Ø. (1999). *Matens pris : marginberegninger, sammenligninger, metodedrøfting = Pricing the food : price spreads, comparative analysis, methods* (Vol. 1999:4). Oslo: Norsk institutt for landbruksøkonomisk forskning.
- Teece, D.J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. <https://doi.org/10.1016/j.lrp.2017.06.007>
- Tennbakk, B. (2002). Cooperatives, regulation and competition in Norwegian agriculture. *Acta Agriculturae Scandinavica, Section C—Food Economics*, 1(4), 232–240.
- Thévenot, L. (2001). Organized complexity: Conventions of coordination and the composition of economic arrangements. *European Journal of Social Theory*, 4(4), 405–425. <https://doi.org/10.1177/1368431012225235>
- Tisenkopfs, T., Kunda, I., šūmane, S., Brunori, G., Klerkx, L. & Moschitz, H. (2015). Learning and innovation in agriculture and rural development: The use of the concepts of boundary work and boundary objects. *The Journal of Agricultural Education and Extension: Learning and Innovation Networks for Sustainable Agriculture: Processes of Co-evolution, Joint Reflection and Facilitation*, 21(1), 13–33. <https://doi.org/10.1080/1389224X.2014.991115>
- Ulfssdotter Eriksson, Y. (2017). Global HRM standards as boundary objects: a device to enhance legitimacy and status. *Personnel Review*, 46(6), 1089–1103. <https://doi.org/10.1108/PR-01-2016-0013>
- Valiente-Riedl, E. (2013). *Is Fairtrade Fair?*. Basingstoke: Palgrave Macmillan.
- Vittersø, G. (2019). *Survey from on public opinion in Europe regarding contentious inputs (Organic PLUS)*. organicplusnet.files.wordpress.com.
- Vittersø, G., Lieblein, G., Torjusen, H., Jansen, B. & Østergaard, E. (2005). Local, organic food initiatives and their potentials for transforming the conventional food system. Matthieu Dubois de Labarre.
- Vittersø, G. & Tangeland, T. (2015). The role of consumers in transitions towards sustainable food consumption. The case of organic food in Norway. *Journal of Cleaner Production*, 92, 91–99. <https://doi.org/10.1016/j.jclepro.2014.12.055>
- Walzer, M. (1983). *Spheres of justice : A defense of pluralism and equality*. New York: Basic Books.
- Warde, A. (2015). The sociology of consumption: Its recent development. *Annual Review of Sociology*, 41(1), 117–134. <https://doi.org/10.1146/annurev-soc-071913-043208>
- White, H.C. (1981). Where do markets come from? *American Journal of Sociology*, 87(3), 517–547. <https://doi.org/10.1086/227495>
- Wiggins, S. & Potter, J. (2003). Attitudes and evaluative practices: category vs. item and subjective vs. objective constructions in everyday food assessments. 42(4), 513–531. <https://doi.org/10.1348/014466603322595257>

- Williamson, O.E. (2013). *The transaction cost economics project : the theory and practice of the governance of contractual relations*. Cheltenham: Edward Elgar.
- Yin, R.K. (2014). *Case study research : design and methods* (5th ed.). Los Angeles, CA: SAGE.

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