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Terroirizing North Sea Cheese

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Terroirizing North Sea Cheese

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Abstract

This paper investigates the construction of the geographical claim that "the cheese has terroir". Drawing on food-centered science and technology studies and on actor-network theory, I first propose terroirizing – a verbal noun for enacting terroir – as an analytic device in the exploration of how the origins and history of food are made tangible and how place and imaginaries are invoked to bind and fasten products and produce within specific geographical and sociocultural settings. Terroirizing, I argue, is a valuable analytic device for investigating enactments of place and the practice of terroir in regard to food and foodstuffs. The paper goes on to investigate the geographical claims promoted by a Danish dairy in order to terroirize a cheese and thus to advance a particular coastal place-specificity in a Danish foodscape with few strong affiliations with geographical claims. The terroirizing of Thise Dairy's North Sea Cheese reveals that terroir and place are heterogenous constructs which are dependent not just on microclimate or measurable ecosystems, but also on the construction and circulation of specific imagery and materials. I demonstrate how cheese wrappings, advertisements, the North Sea itself, a ventilation technology, aerosols (sea-spray particles), and salt crystals are all brought together to form an assemblage – a cheese with a Nordic coastal terroir.

Keywords

STS, ANT, food studies, terroir, cheese

Introduction

The focus of this article is the practice of terroir: the construction of a "sense of place" associated in the marketplace with a specific food. Specifically, the article offers an analysis of a terroir strategy that was constructed within the Danish dairy industry in connection with a cheese called North Sea Cheese. The article explores how imagery and technology are used to establish and promote terroir in a foodscape context in which the promotion of geographical indications and terroir strategies is not yet an established practice. Geographical indications are "signs used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin" (World Intellectual Property Organization, 2022: Para 1); the complex concept of terroir encompasses characteristics both of the locality and of the provenance of foods (origin, history, means of production, and distribution). The concept of terroir "refers to a geographical area through the name of the product, brand, or signals of quality, and to the reputation of the place in terms of culture, history, and other features" (Martinez et al., 2010:4).

In the Danish setting, the consumer has little exposure to or interface with geographical identifications or provenance labels and Danish consumers are largely unfamiliar with gastro constructs of terroir or terroir-accreditation schemes (Aachmann & Grunert, 2012). The Danish foodscape is not completely devoid of geographical claims, as consumers are familiar with such locally sourced items as Samsø kartofler (potatoes from Samsø) and Læsø salt (salt from Læsø). Compared to the Mediterranean south, however, strongly propagated geographical claims are still relatively few and far between in the Danish foodscape (Gyimóthy, 2017). The absence of a well-established tradition of asserting geographical claims renders the terroir-driven case of North Sea Cheese all the more exceptional. The case of North Sea Cheese represents an interesting example of prestige-enhancing geographical claim-making, which the article explores within an evolving foodscape.

The article first introduces the Danish dairyscape and the case, then

outlines the notion of terroir, the methodology of the study, and its foundation in discussions on terroir, science and technology studies, and actor-network theory. A short section introducing Thise Dairy and North Sea Cheese is followed by two analytic sections, first on terroirizing imagery, then on terroirizing the North Sea. The first of these explores marketing imagery and North Sea imaginaries, while the second investigates how materiality, production design, and an advanced ventilation system are used to enlist the promotional value of salt and salt crystals. Each of these two sections demonstrates different aspects of how geographical claims are articulated and *terroirizing* is done in practice.

The Danish dairyscape and North Sea Cheese

Historically Denmark is a 'dairy nation', and with 28.1 kg cheese consumed per capita per year, it is also the world's top cheese-consuming country (Misachi, 2017: Para 1). From the mid-nineteenth century, Danish agriculture in general and the Danish dairy business in particular grew increasingly industrial and less pastoral. Industrialized, intensified, and streamlined production spurred impressive productivity gains, but was coupled with loss of granularity and local particularity in production output, also in the Danish cheesescape. For years, simple "everyday cheeses" under the vague and indistinct category 'yellow cheeses' dominated Danish production and the home market. But at the turn of the millennium, the general food production ethos changed. Bowen and De Master have identified an "increasing consumer hunger for alternatives to the opaque relations that characterize the global agro-industrial food complex" (Bowen & De Master, 2014:549). They also noted a rise in initiatives intended to "challenge the deleterious effects of an agro-food system characterized by 'distance and durability'" (ibid.).

The topography of the Nordic foodscape has been evolving. Previously, geographical claims, place-specificity and "terroir strategies" were mainly confined to Mediterranean Europe, but terroir strategies and geographical claims have the potential to specify geographical identities for products and produce in many places in the world. The identification of sources can aid interconnections between producers and consumers, while satisfying a host of legitimate alimentary concerns in an increasingly globalized market for what we eat and drink (Gade, 2004:865). As Trubek and Bowen put it, "Locating food makes it ours" (Trubek & Bowen, 2008:12). Recently, geographical claims have begun to become evident in a Nordic setting. In the absence of an established system for making topographic claims, the Nordic food industry began to explore ways of augmenting prestige and enhancing food products by connecting product and produce with their geographical origins, even though in the Danish foodscape, terroir is still a very uncommon gastro-qualifying construct.

When Thise Dairy heavily promoted a "terroir cheese" with the relaunch of the cheese in 2011, it caught attention. This paper unwraps Thise's North Sea Cheese, both literally and theoretically, to explore the company's topographic food strategy and examine how their geographical claims are palpably and tacitly reified in relation to terroir. It traces the history of Thise's North Sea Cheese, and investigates how terroir was promoted in a Danish setting largely devoid of terroir schemes. Using a process-oriented and performative stance drawn from actor-network theory, I argue that in a Nordic setting where geographical ties were only rarely promoted, Thise succeeded in aligning heterogeneous actors so as to enact a coastal "sea cheese" as something which came across as both place-specific and Nordic. The paper identifies the heterogeneity of the actors involved in the metrological work associated with quality-enhancing geographical claims promoted in the globalized agrifood sector. Specifically, I demonstrate how cheese wrappings, advertisements, the North Sea, a ventilation technology, aerosols (sea-spray particles) and salt crystals have all been brought together to form an assemblage in a cheese with a Nordic coastal terroir.

Terroir review

The polysemic term terroir is a key term in food studies investigating food, geography, and geographical claims. It is frequently evoked both in studies on food quality in practice (especially in the wine world) and on food studies in general (e.g. Barham, 2003 ; Pratt, 2007 ; Trubek, 2009 ; Paxson, 2010a ; 2010b ; Grasseni, 2011). Multiple articulations highlight the complexity and various affordances of the notion. Hinrich, drawing on Trubek's work (Trubek 2009), gives the following definition of terroir:"The distinctive mix of soils, water, breeds, and varieties, cross-fertilized with unique human skills and cultural sensibilities in that locality, constitutes what has been described as terroir in the European context and is framed more prosaically in North America as "the taste of place"" (Hinrichs, 2016:761).

The concept of terroir, or "sense of place," encompasses the characteristics both of locality foods and of their provenance. It makes reference to a geographical area by way of the product name, the brand, or signals of quality and to the reputation of the place in terms of culture, history, and other features (Aurier et al., 2005). Blending physical and social components of place with the corporal and cultural elements of food, terroir imparts meanings of authenticity and distinctiveness to food origin. Barham has described it as "the interplay of human ingenuity and curiosity with the natural givens of place" (Barham, 2003:131). Terroir is also taken to reflect volatile or spiritual aspects such as the joys, pride and frustrations of work on the land alongside the specific and measurable ecosystem (Wilson, 1998:55). While the precise connotations of terroir have fluctuated over time, "it functions as a cipher for the influence of geographical origin on the end-product's quality" (Gangjee, 2017:129-130. See also Demossier, 2011 ; Gade, 2004 ; Van Leeuwen & Seguin, 2006). It is commonly promoted in order to emphasize the positive influence of local "natural" factors (e.g. micro-weather, soil composition or fertility, or water characteristics) on the quality and taste of local food products (Sonnino, 2013:2). As a value-adding marketing label, terroir can thus enhance a product's cultural capital and price through promoting place-based distinctions. While terroir is primarily communicated as a positive, quality-ensuring denominator, the term itself and the labeling schemes associated with it have also drawn critique. Geographical indications, it is argued, tend to stimulate protectionism and defensive localism and hinder innovation (e.g. Barham, 2003 ; Winter, 2003 ; Teil, 2012 ; Gangjee, 2017). Terroir is particularly closely associated with wine and viticultural practices (the cultivation of grapes for winemaking). Some definitions of terroir are even strictly viticulturally framed: Teil (2012), for example, articulates terroir as: "a combination of natural local agro-climactic elements and viticulture and winemaking practices skillfully combined by a vintner, giving a wine its distinctive gustative quality and publicly sanctioned reputation " (Teil, 2012:481).

While the straightforward transfer of a quality regime designed around the particularities of wine and viticulture to other areas has been challenged (e.g. Gangjee, 2017), wine has, Gangjee argues, been the "epistemological model" for geographical indication regimes in the European Union (ibid.). To this day, notions of terroir and terroir strategies are still predominantly concentrated in the wine world. Recently, however, the gastro construct of terroir has found resonance in a broader foodscape and new articulations in relation to other food items: "Wine's terroir has become archetypical for product placements far beyond its original meaning" (Unwin, 2012:39). Today, geographical indications are available even for non-agricultural items (European Commission, 2020).

To sum up. It is argued that terroir is a gastro construct which impregnates food products and produce with specific ecologies and social contexts associated with their location in multiple ways. While the particularities of terroir are highly contested, terroir is often presented as something that a product or produce can attain without effort – an inherent quality, or something given. How exactly terroirs "mix," "cross-fertilize," "blend, "refer," "impart," "reflect," "function as a cipher" or "impregnate" is rarely explicated . Discussions center on what is included in or excluded from a terroir; less attention has been

paid to *how*, *where*, and by *whom* this is *done*. The question of how terroir is constructed or the practice of enacting a terroir has been far less studied.

Terroirizing as method

> Can we talk about terroir when we talk about cheese? We definitely think so – and North Sea Cheese is a perfect example of it! (Gastro import, 2021:unnumbered. My translation).

My long-term curiosity about and engagement with North Sea Cheese arose from a crossdisciplinary research project on the multicriterial assessment and communication of organic food systems, entitled MultiTrust (ICROFS, Organic RDD1, 2010–2012). The Danish dairy Thise was an external partner in this project and had recently introduced the new cheese on the market. This was in itself not an extraordinary event; what made it an intriguing case was the remarkable forcefulness with which the cheese was promoted as a *terroir* product. In order to "unwrap" this particular Danish cheese, I initially conducted a small-scale ethnographic study: I visited the dairy, toured the facility, and met with key personnel Mogens Poulsen (previously head of sales and marketing, now "minister of culture") and Jens Christensen (board member). I also acquired technical and commercial information about the cheese from Thise. Through InfoMedia and wide-ranging online searches, I collected a comprehensive set of publicly available information about this cheese: images, pictures, logos, insignias, websites, commercials, advertisements, leaflets, packaging, recipes, acknowledgements, reviews, and more. All the data collected was sorted by media type and recurring keywords, including: terroir, place, North Sea, and salt were tracked and traced. As the trajectory of the cheese unfolded over the following eight to ten years, new materials were added to the collection and coded accordingly. Following C. Grasseni (2003; 2011), special attention was given to visual representations and imagery.

This investigation is situated in the field of food-centered science and technology studies and draws predominantly on Paxson's seminal investigation of cheese and geographical claims in the United States (Paxson, 2012), Trubek's study of taste, place, and American enactments of terroir (Trubek, 2009), and Teil's work within science and technology studies on competing constructions of terroir among scientists and vintners (Teil, 2012). In her book *The Life of Cheese: Creating Food and Value in America* (2012), Paxson delivers an anthropological analysis of artisanal cheesemakers and craftsmanship, lifestyle, and socioeconomic reasonings in post-industrial America. Basing her study on long-term stays at artisanal cheese dairies and interviews with cheesemakers, she offers insights into the heterogeneity of cheesemaking practices and values. She details the challenges and incongruities of artisanal production and marketing in broad regulatory, technological, and political contexts. Investigating artisanal cheese as an "unfinished commodity" (ibid.:59), Paxson introduces an "ANT resonant" motif within cheese research. As expressed by Holtzman, Paxson argues that "artisanal cheese is not a uniform product severed from those who produced it, but a food that's value is always derived from its rhetorically constructed residual connections to the cheesemaker" (Holtzman, 2013, unpaged, section one). Paxson's performative stance, however, mainly centers on socioeconomics and on the rhetoric of the cheesemakers, disregarding other potentially viable cheese "doings" such as images and commercials. Trubek opens her book *The Taste of Place: A Cultural Journey into Terroir* (Trubek, 2009) by investigating the history of the term terroir and its origin in France's appellation d'origine contrôlée (AOC) labeling system during the early twentieth century. She moves on to discuss its translation to an American setting, framing it as a "taste of place". Through case studies of Californian wine growers, a San Francisco-based farmers' market, a restaurant in Wisconsin, and various food networks in Vermont, Trubek develops an argument for alternative and more democratic agricultural practices in the US. Centering on the preservation of place, regional cuisines, and higher incomes for farmers, Trubek argues for an alternative agriculture, supported by a culturally based notion of terroir (very much in line

with Paxson). Taking her research beyond alternative food networks, Trubek offers 'an American take' on terroir, including the potential ethical implications of its value-adding marketability. Trubek's work delivers an exemplary investigation of how terroir "travels" to a range of different sociocultural settings (in this case an American setting). She argues convincingly that terroir in France differs from 'a taste of place' in the US.

While my case resonates in a number of ways with an 'American taste of place', my investigation is less politically imbued than Trubek's and less engaged with cultural constellations. Both Paxson and Trubek show how "placemakers" in the US challenge discursive categories like soil and tradition, and seem to favor innovation and alternative terroir strategies. Teil's article *No Such Thing as Terroir? Objectivities and the Regimes of Existence of Objects* (Teil, 2012) draws particular attention to the modality of existence and the objectification of the term terroir. Basing her research on more than two hundred interviews carried out in wine regions in Spain and France with producers, critics, wine retailers, administration, certifying agencies, restaurant owners, wine lovers, and customers, Teil wrestles with the plurality of the term and with the conflicting ways in which *proof* of terroir can be implemented. Mapping controversies along the food-chain of wine production, she interprets objects (in this case terroir) as distributed products which are "understood according to various protocols, by different users, and in different and endlessly renewed circumstances" (ibid.:498). While my study is very much in line with Teil's "thinging" of terroir, her objective is mainly to identify traces of *scientific* and *pluralistic* registers in wine-based terroirs. Additional influences on my paper are Grasseni's ethnographic studies of an Italian mountain cheese, centering on the evolving interplay between place, culture and heritage, and her exploration of "packaging skills" (Grasseni, 2003 ; 2011), and Barham's investigations of terroir and intellectual property through labels of origin (Barham, 2003).

Drawing on actor-network theory (ANT) and science and technology studies (STS), I argue that terroir as *terroirizing* is not a given, but that it is achieved and maintained procedurally through ongoing negotiations, inscriptions (material forms of intent), and articulations (Callon, 1991 ; Law, 1994 ; Frank, 2004). This paper traces the history of a terroir product while paying attention to the ways terroir was constructed and made to persist. It addresses the articulations of terroir and the practices that bring terroir into being. Science and technology studies as a field stresses the "primacy of process" (Goudsblom, 1977), and ANT can be described as a way of thinking about and describing situated outcomes of local practices. As such it offers a vocabulary that can destabilize notions that are taken for granted (Woolgar, 2004:347). ANT emphasizes verbs, rather than nouns (Law, 1994:2), and ANT scholars have made a strong case for using gerund verb forms – "doings," "enactments," ongoing accomplishments in practice, such as John Law's notion of 'ordering' and Annemarie Mol's of 'enacting' (Law, 1994 ; Mol, 2002). A performative stance gives prominence to the *ongoing work* undertaken in order to make North Sea Cheese a coherent object capable of being sold, consumed, winning awards and stimulating additional "North Sea Cheese strategies". As Callon et al. put it: "The characteristics of a good [product or produce] are not properties which already exist and on which information simply has to be produced so that everyone can be aware of them. Their definition or, in other words, their objectification, implies specific metrological work" (Callon et al., 2002:198-199).

As I followed the metrological work (the process of testing and trials) through which the desired qualities were developed in the North Sea Cheese product, it became clear that the processes of singularization (the merger of intrinsic and extrinsic factors into one "gestalt") were not confined to milk, curd, bacteria, and microbes in concordance, but also included the materialities of the cheese, its reputation, its articulations, and its presentations. With reference to a cheese product, I therefore investigate the active terroir work carried out by Thise and affiliated actors. Terroirizing is not just a question of demarcating or defining terroir; it also pays attention to "the techniques that make things visible, audible, tangible, knowable" (Mol, 2002:33), and to

the very heterogeneous actors who negotiate terroir in practice. In the case of North Sea Cheese, this cluster of techniques and actors include packaging, wrappings, advertisements, retailers, the North Sea, a ventilation technology, aerosols (sea-spray particles), and salt crystals.

Methodologically, this is familiar territory. Investigating and unsettling the immediately settled is very much what ANT does – even for cheese products (e.g. Paxson, 2008; 2013; Ren, 2011). And scrutinizing terroir as a socio-material construct is no novelty either (e.g.: Lehning, 2004 ; J.F. Høyrup & Munk, 2007 ; 2009 ; Teil, 2012). The active, instructive notion of *terroirizing*, however, has not been articulated before. Terroirizing unsettles links to soil or microclimate that are taken for granted, and in so doing it forces us to reconsider how terroirs are constructed and which actors are involved. It centerstages the heterogeneity of terroirs and advances our understanding of notions of terroir. Furthermore, in view of Denmark's history as a dairy nation, remarkably little has been written about the Danish cheesescape in its own right. More importantly, terroir is not constructed by happenstance. Foodscapes in agrifood nations (including Denmark) are changing, and geographical claims are articulated in new and unfamiliar settings. This paper therefore investigates the practice of such claim-makings. In a Danish setting, the North Sea Cheese case exemplifies an early adaptation of a terroirizing strategy and offers valuable insights into the enactment of terroir in the northern foodscape.

Thise and the North Sea Cheese

Thise Dairy is renowned as the pivotal organic dairy producer in Denmark. It is a cooperative, and Denmark's second largest dairy. Founded in 1988, by 2018 its annual revenue was approximately one billion DKK (134 million Euros). Despite its size and its highly technical facilities, Thise has managed to construct the image of itself as a dairy that is irreverent, bold, exuberant, yet down-to-earth. Here is how an online marketing video by Økologisk Landsforening (the Organic Denmark association) presents Thise, to the sound of a mellow, folksy acoustic guitar soundtrack:

> The *small* organic dairy-farm Thise situated in Jutland north of Skive has, despite its *modest size*, managed to capture a prominent position on the Danish marked for foodstuff (Økologisk Landsforening, 2013, 00:17, Italics added. My translation).

Thise present themselves as gung-ho pioneers, non-technical artisanal craftsmen who are always combating big business, in particular the international dairy industry heavyweight, Arla (Noe & Kjeldsen, 2009). Thise repeatedly use the catchphrase, "Thise never surrenders" (Thise, 2023). In general, Thise are both crafty and deliberate in their use of storytelling. Mogens Poulsen (former head of sales and marketing) put it this way:

> The success of sales is also dependent on what stories and which locations they [the products] are connected to and associated with. When we center our attention on a region, a farm – or maybe just a single farmer – it raises attention for the product not just locally, but to a great extent also internationally (Poulsen, 2020: unnumbered. My translation).

Thise often deploy ironic humor – for example, in their annual April Fool's day press release, in which they advertise highly questionable procedures such as dragging cheese behind fish trawlers to improve the salty sea taste, or dubious plans for constructing a skyscraper by the sea to mature their cheeses (Anonymous, 2010).

Thise's product range comprises around two hundred organic dairy products (of which 64 are cheeses). North Sea Cheese is still one of the most widely advertised of these products, and in 2020/21, new iterations like "Klassikeren" (the classic), "Ekstra modnet" (extra matured) and "Røget Vesterhavsost" (Smoked North Sea Cheese) were released. North Sea Cheese is a firm, hard, organic Gouda-type cheese made from cow's milk. The flat round shape, the style, size, color, wrapping, and portioning of the cheese is also comparable to that of an aged, yellow-coated Dutch Gouda. In retail, the individually wrapped

pieces weigh about 200 grams and are wrapped in transparent plastic fitted with a label covering most of one side of the cheese (see Figure 1). The cheese is produced at Thise Dairy in Thise, north central Denmark.

Figure 1

It was introduced on the market in 2008, then relaunched in 2011. The cheese is matured for a minimum of 26 weeks on the west coast of Denmark in a maturing facility located at Ferring, right next to Bovbjerg Fyr (Bovbjerg Lighthouse) on the North Sea coast, in a facility located about 100 km to the southwest of Thise Dairy. At the time of the relaunch in 2011, Thise was producing around 2,600 kg of North Sea Cheese per month. Around three-quarters of this was sold within Denmark, and the rest in Germany, Sweden, and the Netherlands. In 2017, Thise upscaled the maturing facility by more than 300 percent to accommodate around 50,000 cheeses. By Christmas 2017, they expected to sell around 4,800 kg per week – a production increase of more than 700% in 6 years (Springborg, 2017:1). Whereas in 2011, North Sea Cheese had been on sale mainly in one nationwide supermarket, Super Brugsen (Coop), today numerous outlets – including everyday grocery stores, specialty shops, cheesemongers, and online businesses – stock and sell North Sea Cheese. The cheese retails at around 33 Euros per kg (in comparison, Thise's regular everyday Danbo cheese retails at around 8 Euros per kilogram).

The texture of the cheese is quite dry, and slightly granular, the taste nutty and salty. The taste profile bears some resemblance to the Italian Grana Padano. It is not pungent, but can be described as a "friendly" cheese. The official description reads as follows: "Sweet, light acidic and well rounded, with a tone of nuts" (Thise, 2011:5). Owing to the processing and maturing, the cheese is rich in glutamic acid (which adds a crystal-like crunchiness) and has a fairly strong umami taste, a flavor contributed by the glutamic acid. The texture is an important factor in how it can be used. Hard and soft cheeses serve different purposes, and their textures encourage some uses while excluding others. North Sea Cheese is versatile and can be used in a number of ways: it is firm enough to grate or shave without becoming mushy, it can be cut into chunks and served European-style (on its own), or it can be melted and used as an ingredient in sauces and gratins. It is presented in various media as suitable for use as an appetizer, in tapas, as an ingredient, and as dessert. The imagery and packaging associated with the cheese are important terroirizing factors.

Terroirizing imagery

A bare piece of cheese does not convey much information about itself. Some characteristics may be readily apparent: category, size, class, and to some degree age, for example. A turophile (cheese connoisseur) might be able to recognize and name the specific cheese type or identify certain distinguishable traits. But when it comes to less obvious attributes such as place of origin, producer, or specific name, consumers rely heavily on packaging – that is, on written words and imagery. In order to make any absent, invisible, or somehow hidden qualities of a certain product *represented* along with the product, packaging skills are required (Grasseni, 2003). The metrological work of *doing* a cheese includes portioning it, wrapping it, and labeling it. When North Sea Cheese was first introduced on the market in 2008, it was shaped, wrapped, and captioned differently. The 2011 relaunch featured a number of interesting changes. The original block shape and larger size resembled that of most "everyday" mild yellow cheeses in Denmark, suggesting that the cheese was a standard product rather than a specialty (Figure 2). In 2011, the portions were smaller and were cut into pointed slivers (Figure 3). Slivers are associated with the less mechanically optimized circular shape of a whole round cheese and thus conveying the image of hand-cut artisanal produce, whereas larger blocks or chunks, suitable for automated handling, appear less delicate and indicate industrial mass production. The label also changed dramatically. As noted by Grasseni, packaging and imagery partake in

Figure 2

Original shape and label

Figure 3

Re-launch shape and label

the commodification of the locality: "the choice of the right 'package' for local cheese can be a determinant factor on how much it sells on the market" (Grasseni, 2003:449). As originally launched, the cheese had carried the header "Gammel Damsgård" and a sketch of the 1920s farmhouse that shares the location with the cheese-maturing facility. Both farmhouse and name were set against a silvery background (Figure 2). The header and the sketch of the farmhouse communicated a familiar non-descriptive rural nostalgia. While the original label was devoid of any relations to the North Sea (except for the name), the new label makes a strong geographical claim that connects the cheese with the North Sea in multiple ways. In the background of the new label, a somewhat photorealistic distant silhouette of a lighthouse by a seashore is depicted. The picture bears a clear resemblance to Bovbjerg Fyr (the actual lighthouse next to the maturing facility) and the dramatic cliffs that face onto the North Sea there. Bovbjerg, it has been argued, "contains exceptional geological values and stories on an international scale" (Lemvig Kommune, 2015:7. My translation), and the lighthouse is the "crown jewel" in Unesco's Geopark Vestjylland (West Jutland Global Geopark) and the biggest tourist attraction in the area (ibid.). The profile is dark, gloomy, and ominous. The illustration is set at night and aligns color-wise with the black bottom layer, while making the yellowish

cone of light stand out above a turbulent sea. In the foreground there is a photorealistic close-up still-life-like arrangement of wooden crates, with a piece of unwrapped cheese and a short knife depicted on the left side of the label. The wooden crates are an allusion to old-fashioned fishing boats. The knife is instructional and indicates the intended use in regard to consumption. The official datasheet description of North Sea Cheese reads "Firm, hard cheese, can but cut [sic] with a sharp knife" (Thise, 2011:5). To a Danish audience, the suggestion that the cheese is to be cut with a knife rather than sliced with a cheese plane indicates a non-trivial use and thus adds to the suggested exclusivity of the product. Unwrapped from the transparent plastic packaging, the cheese is available for easy evaluation[1]. The deliberately careless arrangement of crates lends a casual air to the label, but also situates the cheese on the very edge of the sea. Overall, the new redesigned label is expressive, and more dramatic than the old one. The silvery-gray, hand-drawn sketch of a farmhouse was far less suggestive. Now the cheese is associated with the wild North Sea in name and by complex imagery. In multiple ways, the complex presentation conveys a coastal strategy that captures a sense of "North Sea-ness." North Sea Cheese is thus closely associated with harsh, forbidding impressions of the North Sea. The label itself as well as several advertisements mirror the dark and gloomy settings (see figures 4, 5, and 6). The color palette in the ads is toned down. The gray sky and sea portrayed conjure up a cold, harsh depiction of the North Sea.

Figure 4

1 Generally, transparent plastic wrapping dominates the cheesescape when hard cheeses are considered. Though not within the scope of this article, the triple functionality of clear plastic wrapping could be investigated as an ekphrastic practice. A clear wrapping not only protects the product, but makes it available and prone to ready evaluation, and also provides a surface for different inscriptions and labelling practices.

Figure 5

Figure 6

In terroirizing the North Sea, Thise's visual strategy promotes a particular kind of "sea-ness". This is not a vision of warm, cosy, calm leisure, but of gusty, windy harshness. The pictures are grey-toned, cold, or set against uninviting backgrounds. The North Sea is cold and rough. The austerity used in Thise's representations seems to conjure up a certain sense of the old "Nordic North," a nostalgic, archaic northern ethos that is both "cold and harsh" (Klieman-Geisinger in: Povlsen, 2007:59), "associated with […] brutality and barbarism" (ibid.:64–65), "hard, reserved and resistant as Scandinavian granite" (Tuchtenhagen in: Fülberth et al., 2007:140). The radical redesign of the wrapping, the name of the cheese, and the associated imagery all foster considerations about place and geographical ties. Visually the dark, Nordic image of the sea is well incorporated in Thise´s coastal strategy, but there are in fact an abundance of terroirizing enactments at work here. In the following section, I will demonstrate how "sea doings" are performed in the terroirizing strategy. I will argue that the sea, in the form of aerosols and salty air, is being, almost literally, invited inside – not only inside the maturing facility, but inside the cheese.

Terroirizing the North Sea

This section of the analysis unfolds further "doings" of the terroirizing practice, demonstrating how proximity to the sea is promoted and how salt is incorporated through salty air, a ventilation system, and a crunchy taste and texture, additionally enforced as visible crystals. As demonstrated above, the coastal location of the cheese-maturing site plays a decisive role in the visual narrative fostered by Thise, but the terroirizing is multifaceted and takes place on various levels. In general, notions of terroir or geographical claims tend to be closely related to a *particular* place, while soil and microclimate are very often also included as essential elements (Wilson, 1998:1). In the case of Thise's North Sea Cheese, the place (the North Sea) is less easily demarcated and there is no specific soil to adhere to. But the surrounding microclimate is promoted, and in lieu of terrestrial soil, salty coastal air is enrolled.

Proximity

Thise explains in marketing materials that:

> The milk for the cheese is gathered from 15 farms all situated in close *proximity* to the North Sea and Bovbjerg Fyr [the lighthouse]. An important part of the story about a small *stormy* neighborhood producing a nationally acclaimed cheese, with *the taste of its origin* (Thise, 2021, unnumbered. Italics added. My translation).

In a promotional film circulated online in 2013, Mogens Poulsen (then head of sales and marketing at Thise) contemplated the interplay between the location, the North Sea and the cheese:

> The taste of the cheese. The feeling of the cheese. The sense of the cheese, *reflects the area of its origin*. And the area is characterized by *storm and wind and a high salt content* (Økologisk Landsforening, 2013, 8:21. Italics added. My translation).

The terroirizing argument runs along the following lines. The coastal microclimate is windy, and the gusting sea-spray is plentiful in salt. The maturing facility is located in close proximity to the North Sea. Thus, the salty North Sea air improves the quality of the cheese: "The salty air makes the cheese good" (Kruse, 2012a:50). The salty air of the locality, the salty character, and the general quality of the cheese are continuously intertwined. Thise writes on its webpage:

> We cannot prove the cheese has terroir, but it is reasonable to think that *the surroundings are mirrored in the cheese and the environment influences it* – not least the air's very high salt content (Thise, 2021, unpaged. Italics added. My translation).[2]

This geographical claim sticks very well to North Sea Cheese and gains traction - not least in publicity material produced by retailers and outlets as well as in periodicals. One example comes from Murray's Cheese, a US retailer and cheese shop that adopts and disseminates the coastal, aerosolized narrative in this North Sea Cheese tasting note: "A hint of seaside salty air lingers at the end, reminding you of the cold, roaring sea it spends a year aging next to" (Murray's, 2019: unnumbered). Another is a US newspaper notice on imports of Danish cheese: "Vesterhavsost [North Sea Cheese], a complex semisoft cheese from northern Denmark with a hint of seaside brininess" (Fabricant, 2017: unnumbered). While the coastal proximity is highlighted again and again, salt too is vigorously promoted.

Salt and technology

Mogens Poulsen explains:

> The maturing facility is located 400 meters from the North Sea, *but that is not enough*. We also utilize a very advanced and very special ventilation system. We have two intake chimneys pointing toward the west. Toward the North Sea. And these chimneys suck fresh, salty North Sea air down toward the cheeses. One-third of the air is changed every hour. After three hours it is all new, fresh North Sea air (Økologisk Landsforening, 2013, 4:49. Italics added. My translation).

While this statement echoes the notion introduced above that terroir entails that produce and products somehow partake of and, in defining ways, reflect the environment in which they are made (West, 2013:322), it also promotes a central motif or actor in the terroirizing of North Sea Cheese: salt. Salt is included in the metrological work in an abundance of ways – not only in the salty air, but also in the salt crystals and the salty, crunchy texture. To strengthen the ties between the salty air and the cheese, a technological actor is introduced: two intake chimneys pointing toward the west, effectively conjoining the sea, aerosols, and the cheese. The advanced ventilation system, it is argued, both aids the maturation and adds character to the cheese. The reasoning is echoed in publicity material, in the media and among retailers, such as this promotional line from a Dutch cheesemonger:

> The special thing they do in this cheese warehouse is that they suck the salty North Sea air into the cheese warehouse with two large installations. This makes it a very unique cheese (Kaaskraam, 2021: unnumbered).

And Økologisk Landsforening (Organic Denmark), the largest representative of the organic food industry in Denmark, promotes the cheese online accordingly:

> The salty wind you always find at the North Sea is coming in [sic] the facility through an advanced ventilation system and is one of the things, which makes this cheese so very special (Økologisk Landsforening, 2021, para. 2).

A Danish magazine article entitled *North Sea Cheese is aided by the salty, wild North Sea gust* (Kruse, 2012b: unpaged, my translation) includes the picture in Figure 7. The image mirrors the dark–light setting identified in the advertisements above, but more importantly,

2 Proximity to a coast is not an unfamiliar terroirizing strategy; sea-spray and mist (in French *embrun*) are also recurring features for wine produced in close proximity to waterfronts (e.g. Gade 2004). In this case, the proximity is also promoted through a slogan which accompanied the relaunch: "Feel the wind – Listen to the ocean – Taste the cheese"(Thise, 2011: unpaged. My translation).

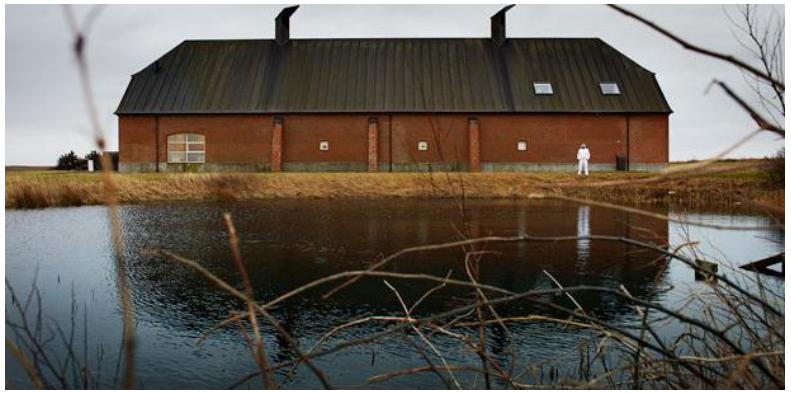

Figure 7

it draws attention to the prominent chimneys pointing toward the North Sea. The chimneys and the ventilation system are at the center of our attention. But they constitute a highly ambivalent actor. While repeatedly referred to as "a very advanced and very special ventilation system," the system is at the same time very *low-tech* and familiar: two intake chimneys attached to an old farmhouse in a field. The ventilation chimneys both offer transparency and add complexity to the terroirizing.

In my reading, the inclusion of the chimneys is both a tactile token of active terroirizing and a potential dissonance with Thise's overall image as a down-to-earth, artisanal producer of small-scale authenticity with "local and poetic anchoring" (Poulsen, 2020). But because the technological inclusion is used to promote precisely the right kind of artisanal authenticity, this latent clash never surfaces (see also: West, 2013, p.320 ff). Wherever the advanced ventilation system and its ability to distribute salty air is promoted, it is accompanied by a mild disclaimer. Henry Lauridsen is a dairyman at Thise, and in an interview he argues for the potentially positive effects of salty air: "The salty sea air makes the cheese good. *No proof is available; it's a question of faith*" (Kruse, 2012a:50, my translation. Italics added). In general, the argument for and the inclusion of a "very advanced ventilation system" is continually being dismantled or defused by suggestions that sow uncertainty about its genuine effect. This is a compelling equivocal terroirizing strategy. On the one hand, it allows for the inclusion of an advanced technology that is capable of translating matters discreetly, as complex negotiations of terroir, soil, and microclimate are rendered into a single but far more feasible comprehensible and tactile feature – the readily apparent saltiness of the North Sea and the west coast. On the other hand, the repeated repudiation of hard scientific evidence supporting the technological claim both reinstates the mystical, volatile character of terroir and halts the conventional industrial associations in their tracks. The repudiation of science or proof deflects any associations with industrial practices (which would be overpowering or unnecessary) and promotes a vision of technical asceticism associated with terroir and artisanal production (Teil, 2012:482-483). The ventilation system invites the North Sea into the maturing facility. The fresh, salty North Sea air embraces the cheese, but through taste and crystalized texture it is also invited *into* the cheese.

Crystals

In one advertisement, Thise quotes the judging panel from 2008:" Fabulous. A super cheese. Nice structure with a good texture. Nice bite. *Almost crystalized*. (Thise, 2009, unnumbered. Italics added. My translation). North Sea Cheese tastes a bit salty. Brine and ageing stimulate the formation of natural crystals. In the 2013 promotional film quoted above, Poulsen promotes the crunchiness of the cheese: "It's a crunchy taste between the teeth" (Økologisk Landsforening, 2013, 7:11. My translation). The crunchiness referred to is due to crystallization in the cheese. Crystals in cheese are a complicated chemical matter involving calcium lactate (leucine) and tyrosine acids (Johnson, 2014). While none of these, technically speaking, are salt crystals, they might contain salt and are in general often referred to casually as salt crystals. While crystal formation on the surface of cheese is generally unwanted and circumvented, tyrosine crystals *inside* the cheese are no longer considered a result of faulty dairying

but are seen nowadays as improving the visual and textual appeal of cheese, hence the praise 'Almost crystalized'. This is especially true of the Italian cheese Parmigiano Reggiano (Zannoni, 2010). North Sea Cheese contains a fair amount of crystals, which could be due to use of the starter culture *Lactobacillus helveticus*, closely associated with the formation of tyrosine crystals (ibid.)[3]. However, in this case, the salt crystals are being connected to the salty sea. The naturally occurring 'salt crystals' are marked as emblematic of a successful transition of salt from sea, to air, and – through the ventilation system – *into* the cheese. The transparent plastic wrapping and the wedge-shape cut of the cheese mean that the crystals are immediately apparent to the consumer. An instantiation of singularization: the coastal terroir is reified as both a salty taste and a salty texture – effectively promoting the geographical claim.

Conclusion

Terroir is not made present by happenstance. This paper has suggested the concept of terroirizing as the active practice of enrolling and assembling heterogenous actors in relation to foods and foodstuffs. My case study analyzes North Sea Cheese to demonstrate how terroirizing and procurement of place are practiced. The terroirizing of North Sea Cheese incorporates naming, imagery, imaginaries of the North Sea, production site, chimneys, ventilation systems, salt (in various forms), and a crunchy texture. With their North Sea Cheese, I argue, Thise have not only managed to construct and disseminate a particular coastal place-specificity, but they have also transformed and challenged the established European ideas of terroir as place, soil, and tradition. The cheese emerges as a product of coastal sea-ness and Nordic harshness. Centering on innovation rather than soil and tradition, the terroirizing strategy applied by Thise echoes an American take on terroir, as outlined by Paxson and Trubek above. In a Nordic setting, where geographical claims are rare, Thise have co-opted heterogeneous actors and enlisted spokespersons to construct a curiously place-specific and uniquely Nordic sea cheese.

My paper has explicitly given prominence to the practice of terroir – to *terroirizing*. The concept of terroirizing aids our understanding and articulation of terroir as a practice and as a solid (albeit controversial) phenomenon (e.g: Unwin, 2012). Terroirizing focuses the attention on how terroir is composed, transformed, and maintained in the process of food production and marketing. It highlights how the relative strength of terroir claims are contingent upon the capacity of actors to align heterogeneous elements and disseminate a cohesive narrative. To put it another way, it highlights how (terroir) claims can be made to stick. As terroir continually finds resonance in broader foodscapes, it is important to follow translations and new articulations of the gastro construct. Terroirizing both serves as a productive way of investigating the ongoing relationships created between foodstuff, people, and places, and develops our understanding of terroir.

3 This particular starter culture is often used for both Gouda (North Sea Cheese type) and Parmigiano Reggiano.

References

Aachmann, K. & Grunert, K. G. (2012) *Fødevarekvalitet og kvalitetsbetegnelser i EU*. www.dca.au.dk

Anonymous (2010) *Thise bygger større ostelager*. Jyllands-posten, https://finans.dk/artikel/ECE4314514/Thise-bygger-større-ostelager/?ctxref=ext

Aurier, P., Fort, F. & Sirieix, L. (2005). *Exploring terroir product meanings for the consumer*. Anthropology of Food 4(May 2005). https://doi.org/10.4000/aof.187

Barham, E. (2003). *Translating terroir: the global challenge of French AOC labeling*. Journal of Rural Studies 19(1): 127-138. http://dx.doi.org/10.1016/S0743-0167(02)00052-9

Bowen, S. & De Master, K. (2014). *Wisconsin's "Happy Cows"? Articulating heritage and territory as new dimensions of locality*. Agriculture and Human Values(31): 549-562. http://dx.doi.org/10.1007/s10460-014-9489-3

Callon, M. (1991). *Techno-Economic Networks and Irreversibility*. In A Sociology of Monsters – Essays on Power, Technology and Domination. J. Law. London, Routledge: 132-161. https://doi.org/10.1111/j.1467-954X.1990.tb03351.x

Callon, M., Méadel, C. & Rabeharisoa, V. (2002). *The economy of qualities*. Economy and Society 31(2): 194-217. https://doi.org/10.1080/03085140220123126

Demossier, M. (2011). *Beyond terroir: territorial construction, hegemonic discourses, and French wine culture.* JRAI 17: 685-705. http://dx.doi.org/10.1111/j.1467-9655.2011.01714.x

European Commission. (2020). *Geographical indications for non-agricultural products.* Retrieved 14.04, 2021. Available at https://ec.europa.eu/growth/industry/policy/intellectual-property/geographical-indications/non-agricultural-products_en

Fabricant, F. (2017) *New Danish Cheeses Make Their American Debut*. The New York Times, https://www.nytimes.com/2017/04/24/dining/murrays-cheese-denmark.html

Frank, A. W. (2004). *Ethics as process and practice*. Internal Medicine Journal 34(6): 355-357. https://doi.org/10.1111/j.1445-5994.2004.00622.x

Fülberth, A., Meier, A. & Feretti, V. A. (2007). *Nördlichkeit, Romantik, Erhabenheit: Apperzeptionen der Nord/Süd-Differenz (1750-2000).* Frankfurt a. M., Lang.

Gade, D. W. (2004). *Tradition, Territory, and Terroir in French Viniculture: Cassis, France, and Appellation Contrôlée*. Annals of the Association of American Geographers 94(4): 848-867. http://www.jstor.org/stable/3694101

Gangjee, D. S. (2017). *GIs Beyond Wine: Time to Rethink the Link?* IIC 48: 129-133. https://doi.org/10.1007/s40319-017-0556-3

Gastro import. (2021). *Thises terroir*. Retrieved 10.04, 2021. Available at https://www.gastro-import.dk/nyheter/thises-terroir

Grasseni, C. (2003). *Packaging Skills: Calibrating Italian Cheese to the Global Market*. In Commodifying Everything: Relationships of the Market. S. Strasser. Online, Taylor & Francis Group: 448-500. https://doi.org/10.4324/9781315023601

Grasseni, C. (2011). *Re-inventing food: Alpine cheese in the age of global heritage*. Anthropology of Food(8). https://doi.org/10.4000/aof.6819

Goudsblom, J. (1977). *Sociology in the Balance: A Critical Essay*. New York, Columbia University Press.

Gyimóthy, S. (2017). *The reinvention of terroir in Danish food place promotion.* European Planning Studies 25(7): 1200-1216. 10.1080/09654313.2017.1281229

Hinrichs, C. (2016). F*ixing food with ideas of "local" and "place".* Journal of Environmental Studies and Sciences 6(4): 759-764. 10.1007/s13412-015-0266-4

Holtzman, J. D. (2013). *Heather Paxson: The Life of Cheese: Crafting Food and Value in Americ*a. Flavour 2(1): 15. https://doi.org/10.1186/2044-7248-2-15

J.F. Høyrup & A.K. Munk (2009). *Vinens geografi.* In Materialiseringer: Nye perspektiver på materialitet og kulturanalyse. T. Damsholt, C. Mordhorst and D. G. Simonsen, Aarhus Universitetsforlag.

J.F. Høyrup & Munk, A. K. (2007). *Translating Terroir: Sociomaterial Potentials in Ethnography and Wine-growing*. Ethnologia Scandinavica 37: 5-20.

Johnson, M. (2014). *Crystallization in Cheese.* Dairy Pipeline - A Technical Resource for Dairy Manufacturers. Wisconsin, Wisconsin Center for Dairy Research. 26.

Kaaskraam. (2021). *North Sea Cheese*. Kaaskraam ambachtelijk & bijzonder Retrieved 22.04, 2021. Available at https://kaaskraam.com/en/online/organic-north-sea-cheese/

Kruse, F. (2012a). D*en gamle ost og havet.* Samvirke. Albertslund, FDB: 48-51.

Kruse, F. (2012b) *Vesterhavsosten får hjælp fra den salte, vilde vesterhavsblæst*. Samvirke, https://samvirke.dk/artikler/vesterhavsosten-faar-hjaelp-fra-den-salte-vilde-vesterhavsblaest

Law, J. (1994). *Organizing Modernity*, Wiley-Blackwell.

Lehning, J. (2004). *When Champagne Became French: Wine and the Making of a National Identity*. Journal of Interdisciplinary History 35: 648-649.

Lemvig Kommune (2015). *LOKALPLAN NR. 191 - Ostelager ved Bovbjerg*. P. o. Byg, Lemvig Kommune: 36.

Martinez, S., Hand, M., Da Pra, M., Pollack, S., Ralston, K., Smith, T., Vogel, S., Clark, S., Lohr, L., Low, S. & Newman, C. (2010). *Local Food Systems: Concepts, Impacts, and Issues*. U.S. Department of Agriculture, Economic Research Service. http://permanent.access.gpo.gov/lps125302/ERR97.pdf

Misachi, J. (2017) *Countries Who Eat The Most Cheese*. WorldAtlas, https://www.worldatlas.com/articles/countries-who-consume-the-most-cheese.html

Mol, A. (2002). *The Body Multiple: Ontology in Medical Practice.* Durham, Duke University Press.

Murray's. (2019). *North Sea Cheese*. Retrieved 03.03, 2019. Available at https://www.murrayscheese.com/north-sea-chees

Noe, E. & Kjeldsen, C. (2009). *Quality and food network configuration: a relational approach to understanding mediation of quality from cow to cup.* Paper presented at The XXIII European Society For Rural Sociology Congress "Re-inventing the rural: Between the social and the natural". Vasaa, Finland, 17-21 August 2009

Paxson, H. (2008). *Post-Pasteurian Cultures: The Microbiopolitics of Raw-Milk Cheese in the United States*. Cultural Anthropology 23(1): 15-47. https://www.jstor.org/stable/20484494

Paxson, H. (2010a). *Cheese Cultures: Transforming American Tastes and Traditions.* The Journal of Food and Culture 10(4): 35-47. 10.1525/gfc.2010.10.4.35

Paxson, H. (2010b). *Locating Value in Artisan Cheese: Reverse Engineering Terroir for New-World Landscapes.* American Anthropologist 112(3): 444-457. https://www.jstor.org/stable/40801600

Paxson, H. (2012). *The Life of Cheese: Crafting food and value in America.* Berkeley, University of California Press. https://doi.org/10.1525/california/9780520270176.001.0001

Poulsen, M. (2020). *Jeppe Aakjær – poetisk, agiterende og den store inspirationskilde for Thise Mejeri.* https://thise.dk/wp-content/uploads/2020/08/poulsen-og-jeppe.pdf

Povlsen, K. K., Ed. (2007). *Northbound - Travels, Encounters and Constructions 1700-1830.* Aarhus, Aarhus University Press.

Pratt, J. (2007). *Food Values*. Critique of Anthropology 27(3): 285-300. 10.1177/0308275x07080357

Ren, C. (2011). *Non-human agency, radical ontology and tourism realities.* Annals of Tourism Research 38(3): 858-881. https://doi.org/10.1016/j.annals.2010.12.007

Sonnino, R. (2013). *Local foodscapes: place and power in the agri-food system.* Acta Agriculturae Scandinavica, Section B – Soil & Plant Science 63: 2-7. https://doi.org/10.1080/09064710.2013.800130

Springborg, M. B. (2017) *Kendt Thise-ost er god forretning - får nyt arkitekttegnet lager.* https://landbrugsavisen.dk/kendt-thise-ost-er-god-forretning-får-nyt-arkitekttegnet-lager

Teil, G. (2012). *No Such Thing as Terroir?: Objectivities and the Regimes of Existence of Objects*. Science, Technology & Human Values 37(5): 478-505. https://doi.org/10.1177/0162243911423843

Thise (2009). *Thise Vesterhavsost.* Advertisement. Thise: 1.

Thise (2011). *Vesterhavsost*. Datasheet. Thise, Thise Mejeri: 1-6.

Thise. (2021). *Thise Vesterhavsost*. Thise Retrieved 22.04, 2021. Available at https://thise.dk/historier/vesterhavsost/

Thise. (2023). *Thise/Om/historie*. Thise Retrieved 17.01, 2023. Available at https://thise.dk/om/historie/

Trubek, A. B. (2009). *The Taste of Place: a Cultural Journey into Terroir*. Berkeley, California, University of California Press.

Trubek, A. B. & Bowen, S. (2008). *Creating the taste of place in the United States: Can we learn from the French?* GeoJournal 73(1): 23-30. 10.1007/s10708-008-9175-3

Unwin, T. (2012). *Terroir: At the Heart of Geography*. In The Geography of Wine - Regions, Terroir and Techniques. P. H. Dougherty. Dordrecht, Springer. https://doi.org/10.1007/978-94-007-0464-0

Van Leeuwen, C. & Seguin, G. (2006). *The concept of terroir in viticulture.* Journal of Wine Research 17(1): 1-10. 10.1080/09571260600633135

West, H. G. (2013). *Thinking like a cheese: Towards an ecological understanding of the reproduction of knowledge in contemporary artisan cheese making*. Understanding Cultural Transmission in Anthropology: A Critical Synthesis: 320-345.

Wilson, J. E. (1998). *Terroir: The Role of Geology, Climate, and Culture in the Making of French Wines*. London, University of California Press.

Winter, M. (2003). *Embeddedness, the new food economy and defensive localism.* Journal of Rural Studies 19(1): 23-32. https://doi.org/10.1016/S0743-0167(02)00053-0

Woolgar, S. (2004). *What Happened to Provocation in Science and Technology Studies?* History & Technology 4(20): 339-349. https://doi.org/10.1080/0734151042000304321

World Intellectual Property Organization & (2022). *Geographical Indications*. Retrieved 26.01, 2022. Available at https://www.wipo.int/geo_indications/en/

Zannoni, M. (2010). *Evolution of the sensory characteristics of Parmigiano–Reggiano cheese to the present day*. Food Quality and Preference 21(8): 901-905. https://doi.org/10.1016/j.foodqual.2010.01.004

Økologisk Landsforening (2013). *I den gode smags tjeneste: Vesterhavsosten fra Thise mejeri*. Online video. Youtube, Økologisk Landsforening.

Økologisk Landsforening. (2021). *North Sea Cheese - Hard Cheese.* Retrieved 26.04, 2021. Available at https://www.organicdenmark.com/north-sea-cheese---hard-cheese