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Valorising seaweed

Novel food valuation in everyday encounters

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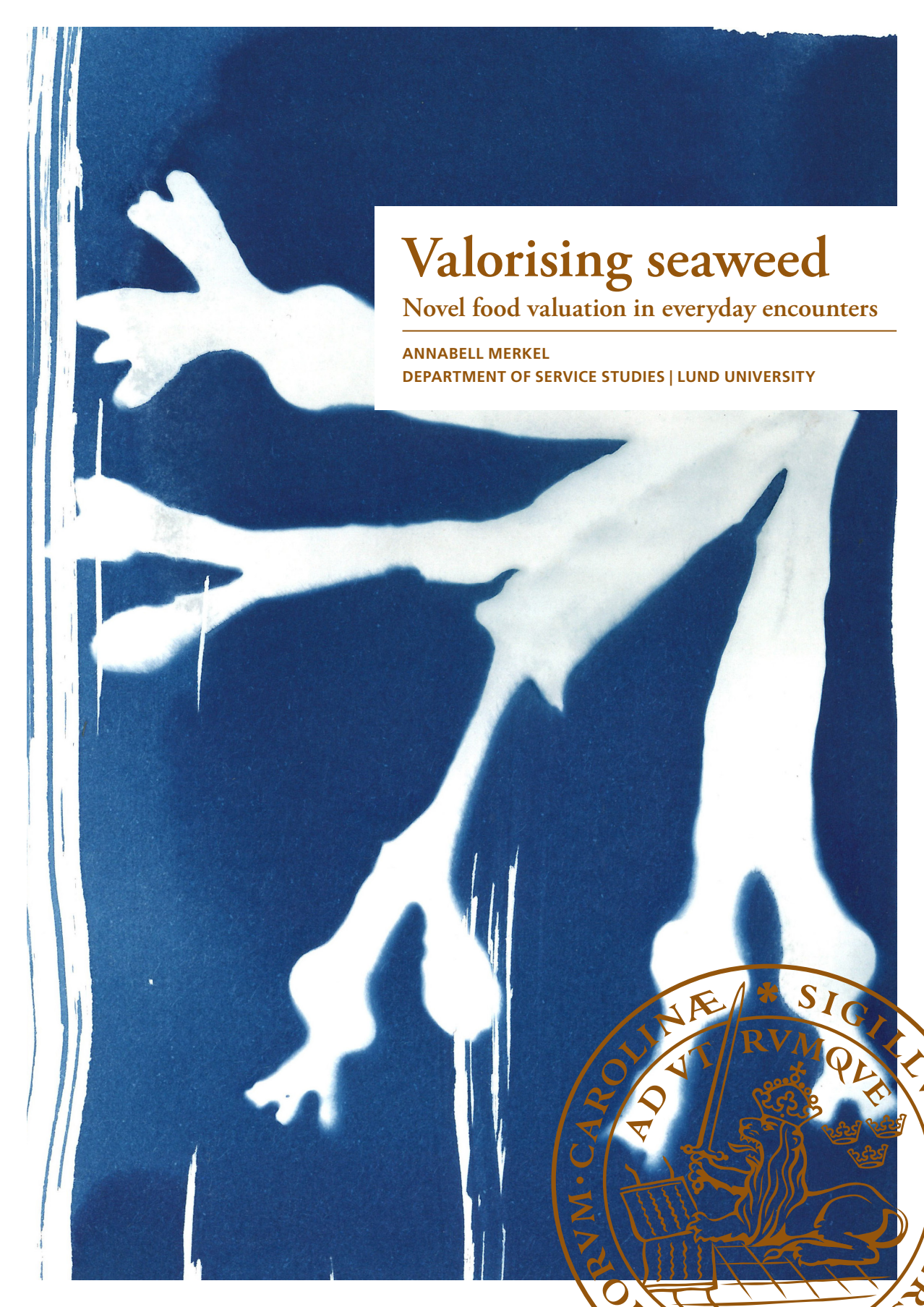
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Valorising seaweed

Novel food valuation in everyday encounters

ANNABELL MERKEL

DEPARTMENT OF SERVICE STUDIES | LUND UNIVERSITY



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Annabell Merkel



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DOCTORAL DISSERTATION

Doctoral dissertation for the degree of Doctor of Philosophy (PhD) at the Faculty of Social Sciences at Lund University to be publicly defended on 22nd of May 2026 at 13.00 in U203, Department of Service Studies, Campus Helsingborg, Universitetsplatsen 2

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Abstract:

Food production and consumption are significant contributors to greenhouse gas emissions. As a transition to sustainable diets and sustainable food systems is widely agreed upon, one strategy is to focus on novel foods, such as previously unused resources, and their integration into everyday diets.

Marine macroalgae (seaweed), which require no freshwater, agricultural land, or fertilizers, are positioned as an environmentally sustainable, regenerative, and underutilized new food resource for Western diets. This thesis follows the empirical study object seaweed as an example of a novel food in Sweden. It highlights valuations as both enablers and constraints in transforming food consumption and how we eat. It explores aspects that facilitate the embedding of novel food resources in established contexts through investigating the valorisation of seaweed in different settings.

The research encompasses four academic papers and one book chapter, each addressing different settings and everyday encounters with seaweed in Sweden. The thesis has two analytical foci: consumption contexts and scientific contexts. First, it is analysed how meanings associated with marine macroalgae are constructed, evaluated, and valued in consumption contexts. Paper I analyses consumers' experience-descriptions to map the values attributed to seaweed and reveals context-specific interactions with marine macro algae. The Book Chapter sheds light on the retail sector's role in shaping the categorization and uptake of novel foods, emphasizing its potential as change agent. Second, it is investigated how values and attributes connected to novel foods get assessed and assigned in scientific contexts. Paper II, a literature-based study, maps how research approaches the integration of novel foods into consumers' diets, to examine how implicit values and disciplinary assumptions influence understandings of novel food consumption. Paper III looks behind the scenes of professional evaluating activities and demonstrates how collaboration across disciplines can be fostered through shared experience and reflexive methodologies. It utilizes sensory testing of seaweed as a common empirical focus. Linking valuation with sensory studies, Paper IV frames a sensory analysis as a valuation process. It uses taste as an example and explores how values are formulated, negotiated, and attached to novel food products.

Together, these studies offer a multifaceted understanding of how novel foods are embedded, negotiated, and valued in different contexts, contributing to broader debates on less resource-intensive diets and transitions towards more sustainable food systems.

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Novel food valuation in everyday encounters

Annabell Merkel



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Abstract

Food production and consumption are significant contributors to greenhouse gas emissions. As a transition to sustainable diets and sustainable food systems is widely agreed upon, one strategy is to focus on novel foods, such as previously unused resources, and their integration into everyday diets.

Marine macroalgae (seaweed), which require no freshwater, agricultural land, or fertilizers, are positioned as an environmentally sustainable, regenerative, and underutilized new food resource for Western diets. This thesis follows the empirical study object seaweed as an example of a novel food in Sweden. It highlights valuations as both enablers and constraints in transforming food consumption and how we eat. It explores aspects that facilitate the embedding of novel food resources in established contexts through investigating the valorisation of seaweed in different settings.

The research encompasses four academic papers and one book chapter, each addressing different settings and everyday encounters with seaweed in Sweden. The thesis has two analytical foci: consumption contexts and scientific contexts. First, it is analysed how meanings associated with marine macroalgae are constructed, evaluated, and valued in consumption contexts. Paper I analyses consumers' experience-descriptions to map the values attributed to seaweed and reveals context-specific interactions with marine macro algae. The Book Chapter sheds light on the retail sector's role in shaping the categorization and uptake of novel foods, emphasizing its potential as change agent. Second, it is investigated how values and attributes connected to novel foods get assessed and assigned in scientific contexts. Paper II, a literature-based study, maps how research approaches the integration of novel foods into consumers' diets, to examine how implicit values and disciplinary assumptions influence understandings of novel food consumption. Paper III looks behind the scenes of professional evaluating activities and demonstrates how collaboration across disciplines can be fostered through shared experience and reflexive methodologies. It utilizes sensory testing of seaweed as a common empirical focus. Linking valuation with sensory studies, Paper IV frames a sensory analysis as a valuation process. It uses taste as an example and explores how values are formulated, negotiated, and attached to novel food products.

Together, these studies offer a multifaceted understanding of how novel foods are embedded, negotiated, and valued in different contexts, contributing to broader debates on less resource-intensive diets and transitions towards more sustainable food systems.

Popular science summary

Food production and consumption generate substantial greenhouse gas emissions, and many agree that we need more sustainable diets and food systems. One way forward is to explore new kinds of foods, for example ingredients that have not been widely used before, and finding ways to make them part of everyday eating. This requires cultural change: people need to recognize a new resource as “food”, which raises questions about how norms and values evolve over time.

Researchers, companies, and the media increasingly promote large seaweeds that grow in the ocean as promising new food for Western countries. These seaweeds are seen as environmentally friendly because they require no freshwater, fertilizers, or farmland. This thesis looks at seaweed as an example of an emerging food source in Sweden. It examines what helps a new type of food to become part of an already established food culture.

The work explores this question in two main areas: consumption settings and scientific settings. First, examining consumption settings, this thesis gives a snapshot of people’s past experiences with seaweeds and shows how new foods are categorised in grocery stores. A qualitative survey captures what people think about seaweeds, where they have come into contact with them, if they use them for anything, and what they know about seaweed as a food in their everyday shopping environment. These insights are complemented with additional data sources, such as online reviews. Second, turning to scientific settings offers a way to investigate how the qualities and values of new food sources are evaluated before they reach consumers. This part of the thesis draws on a review of academic literature, a hands-on interdisciplinary experiment, and observations and interviews with panel members working in a sensory science laboratory.

The thesis consists of four academic papers and one book chapter, each focusing on a different setting and ways people in Sweden encounter seaweed. These context-specific reactions matter because they can either support or slow down cultural change, such as the shift towards recognizing seaweed as a common food. The studies add to broader research on more environmentally friendly eating by showing in what ways novel food sources are part of different situations and thereby gradually merging into existing contexts. Understanding these dynamics clarifies seaweed’s potential role in Sweden’s sustainable food transition and offers wider insights into how societies adapt to new foods during environmental change.

The results may also be useful for groups working to introduce new foods into everyday eating habits. This includes product developers, grocery retailers, and food intermediaries who help consumers learn about unfamiliar ingredients and how to use them in daily cooking.

List of papers

Paper I

Merkel, A., Säwe, F., & Fredriksson, C. (2021). "The seaweed experience: exploring the potential and value of a marine resource." *Scandinavian Journal of Hospitality and Tourism*, 21(4), 391-406. doi:10.1080/15022250.2021.1879671

Paper II

Merkel, A. and Fuentes, M. "Charting a Conceptual Pathway to Novel Food Consumption." (Submitted for publication).

Paper III

Fredriksson, C., Jönsson, M., Merkel, A., Nordberg Karlsson, E., & Wendin, K. (2023). "Sensing seaweed settings: Making sense of a mixed-method design for sensory analysis." *International Journal of Gastronomy and Food Science*, 33. doi:10.1016/j.ijgfs.2023.100762

Paper IV

Merkel, A. "Making Seaweeds tasty: Novel Foods and the Production of Taste." (Submitted for publication).

Book Chapter

Fredriksson, C., Merkel, A., & Säwe, F. (2024). "Trending Seaweed: Future Opportunities in Retail?" In *The Future of Consumption: How Technology, Sustainability and Wellbeing will Transform Retail and Customer Experience* (pp. 145-158): Springer International Publishing Cham. https://link.springer.com/chapter/10.1007/978-3-031-33246-3_9

Author's contribution to the papers

Paper I

AM conceptualized and designed the study with the guidance and contributions from FS and CF. AM led the investigation, developed the datasets, carried out the analyses, and wrote the first draft of the manuscript with contributions from the co-authors. FS and CF provided feedback and contributed to writing and revising the manuscript.

Paper II

Both authors contributed equally to the conceptualization and methodology of the study. AM and MF collaborated in generating the initial datasets, conducting the analysis, and the writing and revising of the manuscript. AM became the first and corresponding author and extended the study's datasets and analysis. AM updated the visualizations and the manuscript and MF provided feedback and contributed to revising the manuscript.

Paper III

All authors contributed to the conceptualization and the study design (Paper III). MJ and AM coordinated the overall study design (Paper III-VI)¹. CF led the investigation and wrote the first draft of the manuscript with contributions from all the co-authors. MJ and AM contributed equally to revising the manuscript and to creating the visualisations. All authors performed reviewing and editing of the manuscript.

Paper IV

AM is the sole author of Paper IV.

Book Chapter

CF and AM were responsible for the conceptualization and design. All authors contributed to the methodology and the investigation. CF wrote the original draft of the manuscript with contributions from AM. All authors performed reviewing and editing of the manuscript.

¹ Paper III, Paper IV, Paper V, and Paper VI were part of the overall interdisciplinary study design.

List of additional publications not included in the thesis

Paper V

Jönsson, M., Merkel, A., Fredriksson, C., Karlsson, E. N., & Wendin, K. (2023). "Nutritional, physicochemical, and sensory characterization of four common Northern European seaweed species intended for food." *Algal Research*, 75, 103258. doi:10.1016/j.algal.2023.103258

Paper VI

Jönsson, M., Maubert, E., Merkel, A., Fredriksson, C., Karlsson, E. N., & Wendin, K. (2024). "A sense of seaweed: Consumer liking of bread and spreads with the addition of four different species of northern European seaweeds. A pilot study among Swedish consumers." *Future Foods*, 9, 100292. doi:10.1016/j.fufo.2023.100292

1. Introduction

Seaweed is everywhere. It is on beaches, under windfarms, in media, in cosmetics, in textiles, in food; it is in high-end restaurants, and in fast food places; it is a traditional ingredient in Asian cuisines and a novel food in Western cuisines; it is perceived as healthy and as toxic; it is a natural habitat for diverse organisms and a technology to sink and store carbon; it is a solution to mitigate eutrophication and a problem when making and managing beaches. Yet, seaweed, particularly edible marine macroalgae, are typically invisible to eaters in Sweden.

Despite their “invisibility”, seaweeds are framed as a unique case for plant-based marine foods that hold great potential for expanded usage in everyday diets (Duarte et al., 2009; Mouritsen, Rhatigan, & Pérez-Lloréns, 2018). Human eating practices profoundly impact the biosphere. Given that global agriculture already uses approximately 38% of the Earth’s land surface (FAO, 2020) and populations are expected to continuously grow during the next decades (Sage, Quieti, & Fonte, 2021; Willett et al., 2019), it is argued that new food sources, that do not require additional land use, are needed (Food Programme Lloyd's Register Foundation, 2020). The increased cultivation of edible macroalgae is proposed as one strategy to address limitations in land available for agriculture and freshwater resources (Duarte et al., 2009).

Changes to the biosphere and therefore physical and chemical processes will not only affect food and the way it is produced (Maye, Coles, & Evans, 2022). They will also affect understandings of how growing food, processing and eating it, and wider food engagements are entangled (Abrahamsson, Bertoni, Mol, & Martín, 2015; Maye et al., 2022; Mol, 2021). Addressing global environmental change will make it necessary to think and eat differently in everyday life and a transition to “sustainable diets” and “sustainable food systems”² is widely agreed upon (Sage et

² Meanings and interpretations of what this entails are multiple in the literature and it is highlighted that compromises between different sustainability dimensions need to be navigated (Béné et al., 2019). More general this entails environment-friendly food systems that ensure nutritious food supplies for a global population (e.g., Sage et al., 2021; Willett et al., 2019). In the context of this thesis and research that argues for more seaweed as food in European or Western countries, relevant dimensions for an increased consumption are mainly ecological, that is perspectives on sustainability issues that emphasize environmental resources as base for food production and the issue of their depletion (see also Béné et al., 2019). From these perspectives it is emphasised that food production and consumption damage terrestrial and marine ecosystems, leading to nutrient pollution and biodiversity loss (Willett et al., 2019). “Sustainable diets” are then essential for

al., 2021). This includes accommodating for previously unused species as food, new local types, or more resilient varieties of existing foods. Moreover, this can also include fostering short supply chains and aligning production more directly with consumption (Sage et al., 2021), which could characterise seaweed as a resource in the Nordic countries. In addition, diets in countries that are high in meat consumption, such as Sweden, could shift towards more plant-based diets, which would benefit human health and the environment in a more general sense (e.g., Blomhoff et al., 2023; Charlton, 2016; Springmann et al., 2018; Willett et al., 2019).

It is acknowledged that changing (food) consumption habits is a multifaceted process that goes beyond individual behaviour and necessitates broad, collective social and institutional transformation (Sage et al., 2021). Moreover, integrating food innovations and novel foods into everyday eating has proven complex (e.g., House, 2019a). While cultural, social, and economic factors on food consumption are recognized (e.g., Ajetunmbi & Laobangdisa, 2024; Jayasinghe, Byrne, & Hills, 2025; Rozin, 2015), these dimensions of dietary change remain insufficiently examined (e.g., Mosikyan, Dolan, Corsi, & Bastian, 2024; Sage et al., 2021). For example, as the design of retail and food service environments shapes consumption practices, this raises questions about where novel foods fit in and how their qualities are evaluated. Similarly, if consumption is often framed in terms of consumer behaviour and choice, it becomes important to ask how novel foods are approached in institutional knowledge production, a process that ultimately informs broader societal arrangements such as policy making. Taken together, these considerations underscore the importance of adopting a socio-cultural lens to better understand how novel foods become integrated into everyday contexts.

Tracing seaweed in Sweden, this thesis situates itself within broader debates on sustainable food system transitions, exploring aspects that facilitate embedding novel foods in established contexts and everyday diets. It advances research on the socio-cultural dimensions of novel food consumption by focusing on efforts to valorise seaweed as food. “Valorising” can be understood in relation to practical efforts to make food systems more sustainable, as in valorising side streams in food production (e.g., Ahmad, Esposito, & Cirillo, 2024) as well as in relation to cultural values, as in “valuing” something as good or bad (e.g., Heuts & Mol, 2013). The thesis examines valuations and valorising in everyday encounters – between the marine resource and tourists, consumers, researchers, and sensory panellists – that contribute to novel resources becoming food products and services. These encounters are examined across selected consumption and scientific contexts, illustrated by five different subsettings: experience-descriptions, retail environments, academic literature, a project meeting, and a sensory science laboratory (see Chapter 1.4. and Chapter 1.6.). The thesis investigates how a specific

maintaining planetary boundaries, ensuring food systems’ resilience, as well as safeguarding the biosphere and life on Earth (IPBES, 2019; IPCC, 2018, 2019).

novel (food) resource merges into existing contexts and what relationships are foregrounded in this transition.

In addition, the thesis takes its starting point in an interdisciplinary project³ and is also a practical inquiry into collaborating across disciplinary fields in the context of seaweed valorisation. As (seaweed) foods are embedded in biological, physical, chemical, and material dimensions, as well as social, political, and cultural complexities (e.g., Abrahamsson et al., 2015; Cook, 2006), the project provided a valuable opportunity to examine the interplay between production and consumption. It further enabled the integration of diverse knowledge practices in a productive and reflexive exchange.

1.1. Novel foods in motion

In the EU, marine macroalgae as food products fall under the “General Food Law Regulation” (European Commission, n.d.–a) and in the European market the proportion of new product launches featuring algae foods and beverages increased steadily from 0.6% in 2013/14 to 1.34% in 2016/17 (Statista, 2018). The regulatory status is affected by the consumption history and new species that are introduced to the EU market fall under the “Novel Food Regulation” (European Commission, n.d.–b). The definition of the European Commission for the term “novel food” applies to food that has not regularly been consumed within the EU before 1997 (when the first Novel Food Regulation became valid). “Novel food” can be “newly developed, innovative food, food produced using new technologies and production processes, as well as food which is or has been traditionally eaten outside of the EU” (European Commission, n.d.–b). This “novel food” regulatory construct is applied in various countries (Hendrich, 2016) and the definition is often related to in research.

Even though seaweed consumption can be traced in a European or “Western” culinary context throughout the past (e.g., Mendes et al., 2022; Mouritsen, Rhatigan, Cornish, Critchley, & Perez-Llorens, 2021; O’Connor, 2016) and they are ubiquitous in everyday life, marine macroalgae are not part of what is typically

³ The “Marine food resources for new markets” – project brought researchers from Analytical Chemistry, Biotechnology, and Service Studies together, which made it possible to investigate valuation processes across disciplinary boundaries, focusing on the role of research as intermediary between food production and consumption. See also footnote 13 in Chapter 4.3. on positionality. A note on interdisciplinarity: The project was initially intended as interdisciplinary endeavour, aiming to integrate perspectives across fields. It is therefore that the notion “interdisciplinary” is used in this thesis. However, reflecting back, its outcomes align more closely with a multidisciplinary approach, where contributions from different disciplines remained distinct. Paper III included in this thesis puts these expectations and explorations to the fore.

regarded as food, nor everyday conventions around acquiring, preparing, cooking, and eating it. For example, in Sweden, with a coastline of over 3000 km, no major previous traditions of harvesting wild or cultivated seaweed for human food consumption are reported. Most food that comes from the ocean is animal based and seaweed is so far neither widely consumed nor highly visible to consumers – it can be considered as something novel.

However, this status quo is not static, and signs of change have been observed over the period behind this thesis work (2019 – 2025), with seaweed gaining broader visibility in popular culture in the Nordic region and Sweden (see Chapter 2 for examples). For instance, in 2024 the regulatory status has changed in the EU and 20 algae species have been reclassified from novel food to (conventional) food (Directorate-General for Maritime Affairs and Fisheries, 2024), contributing to a transformation from something novel to something common, everyday, and normal.

Previous research has emphasized understandings of novel food as food that is unfamiliar or new in a specific context (e.g., House, 2019a; Sexton, 2018). For example, Warde (1997) highlighted that

“a culture like ours has an enormous number of subtly different ways of expressing novelty. We can distinguish between completely (or brand) new; unusual and exotic; out-of-the-ordinary, as measured against some ideal or the routine of mundane daily life; unfamiliar to a particular person, though familiar to other cultural groups; adventurous, experimental and innovative.” (p. 59).

“Novel” is a fading quality with a temporal (instable) dimension, diminishing through repeated experience. It is a relational property, contingent upon the observer’s temporal and experiential context. It is unclear for how long a particular food is new. It is this “fleetingness” (Hutter & Stark, 2015, p. 6) that makes “novel” challenging to follow.

“In order to become something new, for a while, a variegated process of social interaction takes place: the deviant, the tenuous, the rough, is recognized in specific situations, and it is estimated in the terms of established value scales.” (Hutter & Stark, 2015, p. 6).

Food innovations and novel foods disrupt established value scales and challenge existing patterns and categories (Hutter & Stark, 2015).

“The tension between two value systems can be intense. The sovereignty of interpretation is contested. In the majority of cases, traditional values prevail: the new idea, proposal or product is overlooked or rejected. The moment in which the unknown item finds re-cognition as being new is often connected with expressions of surprise.” (Hutter & Stark, 2015, p. 5f).

An example of a novel food that has been successfully introduced to Sweden in the past is the potato. Today it is very well integrated in almost every meal and central to Swedish cuisine, but this required a long time and multiple endeavours (Bodensten, 2021). Bodensten (2021) shows from a historical perspective how knowledge about the potato over a period of 150 years transformed the plant from being something new and exclusive to be found in aristocratic circles and noble households, to a staple food. Complex socio-cultural processes, such as a European social elite's growing interest in agriculture (for example due to states wanting to guarantee nutritious food supplies for productive, healthy, and large populations, that is to ensure food security, a rational that remains unchanged today) were intertwined with environmental issues, such as several crop failures, and the practical efforts of many different actors advocating for the value and usefulness of the novel resource (Bodensten, 2021). Moreover, over the past five decades, tropical fruits such as bananas have become integral to Western dietary patterns (Soluri, 2002; Whatmore, 2003) and for example O'Hagan (2025) examines the early twentieth-century introduction of bananas to Sweden and focuses on how consumer "eating knowledge" was shaped through marketing rooted in scientific discourse.

1.2. Approaching novel foods – about consumers and consumption

In the academic literature diverse foods are framed as occupying the space between novel foods and conventional foods. Examples include processed foods, functional foods, waste-to-value products, value-added surplus products, genetically modified foods, 3D printed foods, cultured meat, alternative proteins, or "new resources" such as insects or algae. Novel biotechnological processes and food engineering technologies, such as extracting proteins from new resources like seaweed to enhance existing food products, play a central role in conceptualizing and advancing the valorisation of novel foods. Through the "Marine food resources for new markets" – project, this thesis connects to this technological pathway to transform eating. In the following, this chapter will briefly give examples of the extensive body of research on seaweed as a novel food and the consumption of it.

1.2.1. Novel foods and consumers

Research about seaweed as a novel food highlights a wide range of interconnected elements, including consumer acceptance, market potential, environmental values, product qualities, and food safety. In this academic literature, consumption is often understood as shaped by "consumer choice and behaviour" (Beacham & Evans, 2023, p. 313). Survey results illustrate this dynamic: in Sweden, only 12% of

consumers of plant-based meat alternatives preferred seaweed as a base, compared with 47% favouring legumes (Statista, 2021). Much of this work stems from food and consumer science, where novel food consumption is often conceptualized as “consumer acceptance”. Consumer acceptance is being shaped primarily by psychological processes, consumer attributes, and product characteristics (Mosikyan et al., 2024). Using these perspectives, the studies highlight specific factors that enable or hinder the acceptance of novel seaweed foods. They identify consumer groups likely to become early adopters and indicate which product qualities should be emphasized in future foods to influence choice and potentially reshape eating habits. The consumer studies contribute to understanding the valorisation of seaweed by illuminating qualities and interpretations, which represent temporarily stabilized ideas about valuing seaweed as food.

Empirically, consumer attributes, characteristics, and psychological processes are examined in a variety of different studies. For example, differences among consumer groups based on demographics such as age or gender have been investigated (Wendin & Undeland, 2020), and segmentation by household income, level of education, and food neophobia has been studied (Birch, Skallerud, & Paul, 2019a, 2019b). Food neophobia is a commonly researched phenomenon with consumer attitudes towards seaweed measured through concepts such as the “willingness to consume” seaweed products (e.g., Losada-Lopez, Dopico, & Faina-Medín, 2021). In several of these consumer studies, socio-demographic variables are collected and analysed, for example in connection to environmental values and beliefs about the sustainability of seaweed (Govaerts & Olsen, 2023). For example Govaerts and Olsen’s study (2023) connects different consumer attributes to the probability of eating seaweed and enjoying it. In addition, it is demonstrated how interlinking views on edibility, taste, sustainability and ethical considerations are central for consumer acceptance (Embling et al., 2022). This is noteworthy because the enjoyment and consumption of seaweed become activities shaped by different kinds of consumer knowledge, including awareness of environmental matters and potentially liking seaweed is contextualized.

Regrading product qualities, research has reviewed nutritional compounds and investigated seaweeds’ potential for culinary innovations (Rioux, Beaulieu, & Turgeon, 2017). Risks and benefits of consuming seaweeds have been highlighted (Cherry, O’Hara, Magee, McSorley, & Allsopp, 2019) and health benefits in relation to various diseases emphasised (Lange, Hauser, Nakamura, & Kanaya, 2015). Moreover, consumer liking of various seaweed-containing foods has been assessed (Jönsson et al., 2024; Palmieri & Forleo, 2020, 2022), and studies have examined preparation methods, flavour profiles, and taste perceptions as fundament for including seaweed into region specific menus (Chapman, Stévant, & Larssen, 2015). To evaluate the potential for acquisition the “willingness to pay” for different seaweed foods (Li, Ahsanuzzaman, & Messer, 2021) and purchase intentions for novel seaweed foods (Moss & McSweeney, 2021) have been investigated. In

addition, product perceptions and label preferences for food products containing seaweed (Lucas, Gouin, & Lesueur, 2019) have been examined. Furthermore, it has been explored how Nordic seaweed businesses position and brand their services and products while actively educating consumers (Cordeiro, Altintzoglou, Rogns , & Govaerts, 2022), and studies have highlighted consumers' limited pre-existing knowledge about algae foods (Mellor et al., 2022). Collaborations between scientists and chefs have led to the establishment of a new seaweed gastronomy, called phycogastronomy (Mouritsen et al., 2018; Mouritsen, Rhatigan, & P rez-Llor ns, 2019) and links to innovative culinary movements, such as the New Nordic Cuisine have been put to the fore (Mouritsen, Williams, Bjerregaard, & Duelund, 2012).

1.2.2. Novel foods and consumption

Studies addressing the socio-cultural dimensions of questions about "how things become food" (Roe, 2006, p. 112), often use novel foods as illustrative examples. Such research situates novel foods within everyday life, highlighting a consumption context shaped by multiple actors and dimensions. Consumers are typically conceptualized as socially and culturally embedded actors. Examples include integrating insects in Western diets (e.g., House, 2018, 2019b; Volden, 2024) and exploring alternative protein sources (e.g., Fuentes & Fuentes, 2023; Sexton, 2016, 2018). The concept "edibility" is frequently employed and it is demonstrated that the processes that contribute to establishing edibility involve multiple actors, humans and non-humans, they are relational, and experienced through multisensorial engagements with the food's materiality (Jackson, Evans, Truninger, Baptista, & Nunes, 2022). Emphasising material, social, and cultural aspects that underlie "why we eat, how we eat" (Abbots & Lavis, 2016), this research explains why particular foods are consistently consumed, whereas others are not. Integrating novel foods, such as seaweed, into everyday eating thus requires to (re)shape their meanings and interpretations, alongside the material infrastructures that enable their consumption (see also Merkel & Fuentes, unpublished, Paper II included in this thesis).

Eating can be seen as an exemplary case of consumption (Warde, 2014), which in turn can be conceptualized "as a process involving specific 'moments' beyond the act of acquisition" (Evans, 2020, p. 345):

"I suggest that consumption also involves appropriation (use, personalisation and incorporation into people's everyday lives) and appreciation (involving personal and symbolic frameworks of judgement and evaluation). To each of these A's, I propose a counterpart D [...] such that consumption also involves devaluation (the loss of economic or use value, symbolic failure), divestment (the loss of personal meaning, the unravelling of attachments) and disposal (getting rid of things)." (Evans, 2020, p. 345)

Consumption moments encompass access and exchange processes, post-acquisition practices, and ways that consumption is enjoyed (Evans, 2018b). As consumption therefore reflects different modes of valuation (and devaluation), this perspective is useful for understanding valorising novel food. For instance, appreciating a food and assessing it as “good to eat”, values it, whether it is momentarily novel or gradually becoming familiar.

Two theoretical approaches come to the fore in this body of research: practice-theoretical perspectives and actor-network perspectives.

First, the use of practice-theoretical perspectives has become increasingly common (House, 2019b), which emphasize specifically “the mundane activities of everyday life” (Warde, 2014, p. 287). Food practices are conceptualized as routinized behaviours that integrate specific meanings, competences, and materials related to the acquisition, preparation, and consumption of food in everyday life (Micheelsen, Holm, & O’Doherty Jensen, 2014). The introduction of new foods (and associated practices) involves embedding these novelties into already existing routines (Micheelsen et al., 2014). From this perspective, the long-term integration of new food practices depends then on the transferability beyond their original context (House, 2019a; Micheelsen et al., 2014).

Empirically, practice-theoretical perspectives are utilized in a number of different studies concerning the consumption of novel foods. For example, the potential adoption of a New Nordic Diet (including seaweed) into everyday food practices has been explored (Micheelsen et al., 2014), it has been examined what constitutes “proper food” and how convenience food became normalized (Halkier, 2017; Jackson et al., 2018), and how insects as a novel food are approached and publicly accepted (or not) in the Netherlands (House, 2019a, 2019b). These studies support a core claim of practice theory: effective dietary change entails transformation across interconnected food-related and non-food practices (House, 2019b).

Second, research has also engaged with actor-network perspectives, whereby the agency of non-human actors in shaping consumption is foregrounded, highlighting relational dynamics and materialities. For example, Weiner and Will (2015) show how product form influences use, while Sexton (2016) illustrates how alternative proteins become “meat” not only through material and ideological aspects, but also through elements that are actively left out. Such work highlights how the formation of edibility is entangled with current interpretations of “‘good’ eating” (Sexton, 2018, p. 586).

In the context of novel food consumption, actor-network perspectives highlight the central role of materialities in shaping dietary patterns, as they configure the conditions that enable or constrain consumption. Such relational perspectives are valuable for analysing valorising seaweed, as they illuminate the everyday “sites” and “situations” (Antal, Hutter, & Stark, 2015) in which processes of valuation occur.

For example, Ureta, Flores, Barrena, and Miranda (2024) employ the concept of “pacification” to demonstrate how seaweeds are commodified for global markets and framed as fundament for a blue carbon economy and high-end novel foods to be exported. Another example is an exploration into invisible foodscapes (O’Connor, 2016). Tracing seaweed as a food in Europe and Japan, the author explores the cultural visibility and invisibility of seaweed, what people do and “do not ‘see’ as edible” (O’Connor, 2016, p. 15). Connecting seaweed in South Wales to the expression “terroir” (linking a place to food produce), a case is made for a specific local visibility by highlighting the socio-cultural context and elaborating on people’s associations with laver (an edible seaweed) (O’Connor, 2016).

The factors (Chapter 1.2.1.) and dimensions (Chapter 1.2.2.) shaping the integration of novel foods into everyday diets, that have been reviewed in this chapter, offer diverse and multifaceted explanations of the complexities involved. On the one hand, consumer and product-related factors influence engagement with novel foods. These include psychological characteristics (e.g., food neophobia, personality traits, environmental values, beliefs about taste and ethics), physiological attributes (e.g., gender, age), and social variables (e.g., education, household income). In addition, food choices are shaped by product-related qualities (e.g., information, labelling, product types and attributes) and contextual conditions (e.g., consumption setting, availability, accessibility). On the other hand, it is demonstrated that these factors alone do not explain how novel foods become embedded in everyday diets or why they may disappear again. Consumption processes are relational, involve multiple actors, and are mediated through multisensorial engagements with the food’s materiality (House, 2018; Jackson et al., 2022). Moreover, dietary change requires change across interconnected food-related and broader lifestyle practices (e.g., House, 2019a, 2019b; Landweber, 2015; O’Connor, 2016), as well as a material infrastructure that enables societal adoption (Finstad, 2013) and structures modes of consumption (Weiner & Will, 2015).

The theoretical perspectives reviewed above (and elaborated on in Paper II) inform this thesis. However, the literature summarized above, does not sufficiently explore the processes by which novel foods are embedded into established contexts and everyday diets. As outlined in Chapter 1.3. and elaborated on in Chapter 3, the theoretical framing of this thesis argues that additional analytical lenses are needed to better understand novel food resources and the conditions for embedding them into established cultural contexts. It needs to be considered not only how seaweed as a novel food resource moves into the sphere of edibility, but also how it becomes visible in a sphere of everydayness, that is a mainstream culture, in other words how it becomes “culturally and cognitively marked” (see Kopytoff, 1986) or “resourcified” (see Corvellec et al., 2021; Hultman et al., 2021). Only then can its “commodity candidacy” (Appadurai, 1986) be judged and evaluated for future “commoditization” as food product and service.

1.3. Valorising regenerative marine “resources” as “novel foods”

Many novel foods that have undergone a transformation from being novel to becoming an everyday food and have become successfully integrated into people’s everyday life and consumption patterns (such as the potato or banana in Sweden see Chapter 1.1.), often share a common denominator, their valorisation.

Valorisation can be defined as (1) “the act of thinking or stating that something has value or is valuable”, (2) “the act of making something valuable or useful from an existing substance”, and (3) “the process of deciding or increasing the price or value of goods, services, etc.” (Cambridge Advanced Learner's Dictionary & Thesaurus, 2025).

In general, the term “to valorise” refers to thinking about something as valuable or having a specific value or values. It also refers to activities and processes of making something valuable.

1.3.1. Valorisation and assessing value

Valorisation can take place in different contexts, such as in finance or economics, where it refers to increasing an economic value, or in engineering or waste management, where the valorisation of biomass or by-products refers to industrial processing activities that turn “waste” into useful resources (Kabongo, 2013). In research about seaweed, understandings typically refer to seaweed as a commodity and to valorisation as efforts to utilize or extract seaweeds or seaweed components for beneficial use as raw material in processes of commercialization. Valorisation in this context means utilizations and exploitation through advanced industrial processing processes of biomass for different applications (J. P. Bennett, Robinson, & Gomez, 2023; Farghali, Mohamed, Osman, & Rooney, 2023; Martins et al., 2024; Snethlage et al., 2023), for example biodegradable packaging (Lomartire & Gonçalves, 2024) or food (Farghali et al., 2023; Snethlage et al., 2023). The industrial processing processes turn “side stream” biomass into raw material for products or services that can be monetized.

Global utilization, production, and valorisation of marine macroalgae are increasing, with growing cultivation efforts in Europe. From 1950 until 2019 (the start of this thesis work) the global production of algae, either through wild collections or cultivation, has increased steadily from 0.56 million wet tons to 35.82 million wet tons (Cai & Galli, 2021). According to the FAO, European countries involved in harvesting wild seaweed stocks are Estonia, France, Iceland, Ireland, Italy, Norway, Portugal, Russian Federation, Spain, and Ukraine (FAO, 2021). Regarding the cultivation, only three European countries show significant numbers

compared to a global scale: Russian Federation, France, and the Faroe Islands (FAO, 2021). In Europe (including Norway, France, Ireland, Iceland, Russian Federation) wild collection of seaweed dominates, but since the 1990s cultivation efforts begin to show (Cai & Galli, 2021). For example, in 2019, 287.39 thousand wet tones have been produced, whereby 11.48 thousand wet tones came from cultivation (Cai & Galli, 2021).

Within the last 20 years, the economic valuation⁴ (as in evaluation) of the natural environment has increased in policy discourse and several international initiatives have been trying to synthesize assessment approaches under the broad frame of ecosystem services, aiming for a more sustainable way of living (Craig, Stevenson, & Meadowcroft, 2019). Ecosystem services as a concept refer to “benefits [...] people obtain from ecosystems” (Díaz et al., 2015, p. 13), and structures efforts to evaluate, assess, and measure values, and the “usefulness” and impact of ecosystems on humans. Most of these studies share a common perspective of “value as external to the evaluation process, observable, and independent of the assessment, more or less static and measurable” (Barinaga, 2023, p. 2). The economic valuation is characterised by an underlying “utilitarian approach towards nature” (Muradian & Gómez-Baggethun, 2021). Natural “resources” and ecosystems are understood as economic assets, as products and “services” perceived as valuable by humans (Luke, 2002).

1.3.2. Valorisation and assigning value

Previous research in Geography has unsettled the apparent “naturalness” of resources (e.g., Richardson & Weszkalnys, 2014; Valdivia, Himley, & Havice, 2022), and has for example shown how resources are not simply given, but instead “cultural appraisals about utility and value” (Bridge, 2009, p. 1219). They possess a dual nature as they are part of the non-human environment in both a material and immaterial way, and at the same time a social category for things that are considered to be useful and valuable (Bridge, 2009). Such perspectives have also been encouraged by material culture studies in Anthropology, studying the “social life of things” and putting the cultural making of commodities to the fore (Appadurai, 1986; Kopytoff, 1986).

The resource economist Zimmermann (1951) described the dual nature as “the becoming” of resources, a dynamic category, instead of simply “existing” or

⁴ Valuation can be defined as (1) “the act of saying how much something is worth”, (2) “the act of deciding how much money something is worth, or the amount decided”, (3) “the act of deciding how helpful or important someone or something is” (Cambridge Advanced Learner's Dictionary & Thesaurus, 2025b). As outlined in this chapter in the context of seaweed as a marine resource, the term seems to be mainly used in an economic sense. A more detailed discussion follows in the Theoretical framing of this thesis, Chapter 3.2..

“being” as a static quality (Bridge, 2009; Corvellec et al., 2021; Zimmermann, 1951). The dynamic nature of resources reflects their temporal and spatial dimensions; what is valued and considered useful may shift over time (e.g., Bridge, 2009; Corvellec et al., 2021; Hultman et al., 2021). Moreover, the use and value of a resource are spatially dependent, shaped by diverse local knowledge systems and varying material or technical infrastructures (Bridge, 2009; Corvellec et al., 2021; Hultman et al., 2021). They even differ between different communities within a society that pursue a variety of objectives and interests, causing tensions as multiple value systems meet, such as use-value or exchange-value (Bridge, 2009). Resources are therefore relational; they depend on for example knowledge, on other materials with the same functionality, or on the possibility to create value through exchange (Bridge, 2009; Hultman et al., 2021; Richardson & Weszkalnys, 2014).

To approach resources as dynamic, socio-technical arrangements, emphasizing the relational character, shows that they are somewhat instable and present a non-universal view on the non-human environment (Bridge, 2009). Richardson and Weszkalnys (2014) argue that not only humans are involved in processes of making resources, instead potentiality (material agency) plays a crucial role in the becoming of resources, that is “when the constituents of the resource assemblage shift and change, when elements are drawn into the assemblage, and others expelled” (p. 15). Resources constitute and exist within arrangements of various entities, such as technologies, substances, practices, and discourses, as relational assemblages (Richardson & Weszkalnys, 2014). They are then not fixed, stable, or given, instead they are in constant flux and becoming. Properties, such as renewable or non-renewable, are momentary outcomes of stabilizations and shifts within these assemblages (Richardson & Weszkalnys, 2014).

Research from Service Studies has put to the fore that resources can be seen as called into being by various social processes that decide what is even recognized as a resource (e.g., Corvellec et al., 2021; Hultman et al., 2021). Building on the term “resourcification” (Luke, 2002), it is highlighted that several different “social conditions have to be fulfilled before things become effectively exploitable, for example, the availability of capital, technology, and social acceptance” (Corvellec et al., 2021, p. 1249). Hultman, Säwe, and Fredriksson (2023) show for the case of seaweed how imagined potentiality becomes realized through agents, in this case ecopreneurs and environmental planners, that are able to mobilize discursive elements and material devices, to establish legitimacy and introduce a resource.

An understanding of calling novel resources into being to create value, such as framing seaweed as food and making it visible as edible and appropriate in a new context like Sweden, positions research on novel resources, and particularly the field studying novel food resources, to engage and further build on insights generated by Valuation Studies (see Chapter 3).

In these approaches valuating is performative, and it has been demonstrated how “[v]aluation is about considering a reality while provoking it.” (Muniesa, 2011, p. 32). Muniesa (2011) explains how the notion of valuation from a finance standpoint means “to account for value (to ‘consider’ it), but in an active and practical manner, in which value is precisely formed for the purpose of business” (p. 27). Moreover, valuations take place outside of the economic sphere as well, across different settings such as spaces of research and entrepreneurship, including laboratories and research papers, and with the support of different “tools of valuation” (Asdal & Huse, 2023, p. 40). Value is then not something given and static, that can be measured, but instead “internal, continuously performed, dynamic and qualified while being calculated” (Barinaga, 2023, p. 2). This shift, from value to processes of valuation, moves away from analysing static entities (something being evaluated) toward examining dynamic processes of evaluation, emphasizing “how value is created while we go about defining, qualifying and calculating it” (Barinaga, 2023, p. 2). Focussing on this shift helps to leave debates about objective and subjective values behind as they can be understood as different modes for valorising (Barinaga, 2023).

Valuation as an analytical lens enables the investigation of aspects that facilitate the embedding of novel food resources in established contexts. In the following, this thesis empirically explores valuations in everyday seaweed encounters in different contexts and settings. The aim is to understand how seaweed, as a novel food, is valorised (or perhaps fails to be).

1.4. Aim and research questions

Integrating novel foods into everyday consumption as a strategy for addressing unsustainable food practices and advancing less resource-intensive sustainable diets, requires cultural change (Sage et al., 2021). Existing studies offer insights into the different ways that seaweed foods are valued while highlighting multifaceted aspects: the importance of material product properties, consumer behaviours and characteristics, social practices, material infrastructures and technologies (Chapter 1.2.). My analysis of seaweed as a novel food resource complements this research and contributes to the broader literature on less resource-intensive diets by illuminating the role of valuations as both drivers and barriers to transforming food consumption and how we eat.

This thesis aims to understand how novel food resources, such as seaweed, are valorised. It examines how seaweed becomes visible and (de)valued in everyday encounters within specific contexts. The research explores how seaweed comes to be recognized as (desirable) food and considers the role of researchers and research practices in shaping its valuation. It traces encounters across multiple settings,

ranging from tourists' and consumers' experiences situated within natural, retail, and (food) service environments, to researchers' scientific publications, the backstage of professional valuation, and finally to sensory panellists working in laboratory environments. Novel foods, often positioned as solutions to unsustainable food systems, do not exist in a vacuum. What is recognized (or overlooked) as food is connected to resources coming into being, consumption patterns, and valuation.

Tracing seaweed in Sweden, the research investigates aspects that facilitate embedding novel foods in established contexts. With a particular focus on the role of research as an intermediary between production and consumption, it also serves as a practical inquiry into collaborating across disciplinary fields in the context of seaweed valorisation. The thesis explores valorising seaweed to understand shifts, or continuities, in consumption and recognizing novel resources as food.

The following overall question guided this thesis project: How can the transition of the marine resource into the sphere of everyday food products and services be understood?

Understanding how novel food resources are valued and become part of an everydayness is crucial, as this process shapes their potential for acceptance and regular consumption. Examining how these foods are valorised (or perhaps fail to be) in everyday encounters, including existing consumption and research contexts, constitutes an essential element through which dietary habits and food practices may be transformed.

To answer the aim the following research questions are posed:

1. How is seaweed interpreted and valued within consumption contexts?
2. How are novel foods approached and valorised within scientific contexts?
3. How does valuing seaweed in everyday experiences resonate with professional valuations created through laboratory-specific processes?

1.5. Overview of papers

The research questions are addressed in four academic papers and one book chapter (Table 1).

Paper I maps out different utilizations and values consumers in Sweden connect with marine macroalgae and encounters they make explicit in their descriptions. The motivation for this paper was to understand in what ways seaweed is present and visible in a contemporary consumption context. Based on an explorative questionnaire (n=113) conducted in 2020 together with the Folklife Archives at

Lund University and online reviews from a consumer-to-consumer travel-planning portal (n=158) gathered in 2020, the paper shows how seaweed as a natural resource is seen as providing different (instrumental) values. The paper identifies possibilities for future socio-economic utilizations of marine macroalgae in local communities, such as in wellness treatments addressing wellbeing, in marketing nature destinations and environmental conversation efforts in national parks, and in a food consumption context as new culinary trend. The analysis illustrates context specific interactions between humans and seaweed, shaped by place and time. The study shows that consumers attribute various instrumental values to seaweed as a natural resource, aligning with dominant discourses that frame regenerative resources through utilitarian lenses, such as Ecosystem Services.

Paper II is a literature-based study of novel food consumption, to analyse how implicit values and assumptions impact methodological choices and research results, depending on research traditions and disciplines. The motivation for this paper was to understand how research about novel foods approaches the integration of new resources into consumers' daily habits. Based on a literature search and a qualitative reading of the scientific papers (n=162), the study explores how the consumer and consumption are conceptualized within novel food consumption literature. Five modes of conceptualizing consumption have been identified: consumption as (1) outcome of cognitive processes, (2) as result of consumer characteristics, (3) as response to external factors and stimuli, (4) as a consequence of social activities and material contexts, and (5) as shaped by sociohistorical structures. Reassessing novel food consumption, Paper II introduces the framework of "consumability" to integrate diverse research perspectives, balancing the analysis of product qualities, consumer cognition, and historical, social, and material contexts.

Paper III is an exploration into collaboration across disciplines to create interdisciplinary value in practice. Through a guided sensory testing of the empirical research object seaweed, researchers from different disciplines are connected. The motivation for this paper was to analyse a mode for achieving interdisciplinary knowledge about consumers' approaches to novel foods. Based on a practical experiment that "mixed" different methods this exercise in interdisciplinary learning aimed to gain perspective by looking over disciplinary boundaries. Paper III offers a glimpse behind the scenes of professional evaluating activities and addresses the practical challenges of interdisciplinary collaboration, demonstrating how shared experience and reflexive methodologies foster productive dialogue and common ground.

Paper IV uses taste as an example and demonstrates how values attached to novel food products are created, sustained, and reformed. The motivation for this paper was to understand how everyday valuations of seaweed are part of creating scientific facts, that then influence again how seaweed as a novel resource is interpreted and categorized in the future. The study is based on observations conducted in a sensory

science laboratory during the training sessions and the actual analytical testing session, as well as interviews with the panellists (n=7) afterwards. The results demonstrate how competence, devices, and collective interactions stabilize sensory properties and produce taste. Moreover, the process of making novel foods “tasty” is mediated by the laboratory-specific activities and the different modes of valuing.

The **Book Chapter** sheds light on the role of the retail sector as one of the main intermediary actors between production and consumption of novel food products. The motivation for the book chapter was to understand how consumers encounter seaweed as food in retail environments. Based mainly on an explorative questionnaire (n=113) conducted in 2020 together with the Folklife Archives at Lund University, the book chapter in addition utilizes insights from data created for the larger interdisciplinary research project, such as an expert interview conducted at a Swedish marketing agency, different social media posts regarding encounters with seaweed, popular media, and newspaper articles. Highlighting expectations characterizing a new resource such as seaweed, the chapter shows different opportunities and challenges retailers face when dealing with food innovations and potentially changing consumption patterns. In addition, it emphasises the potential the retail sector has, to act as change agent for everyday food consumption.

Table 1. Overview of papers and the main research questions (RQs) addressed.
 Research question 1 is answered by combining the results from Paper I and the Book Chapter. Research question 2 is answered by synthesising the results from Paper II, Paper III, and Paper IV. Research question 3 creates a link between RQ1 and RQ2 and is answered by the results in Paper IV, drawing on insights from all the previous papers and the book chapter.

RQs	Paper I	Paper II	Paper III	Paper IV	Book Chapter
RQ1: How is seaweed interpreted and valued within consumption contexts?					
RQ2: How are novel foods approached and valorised within scientific contexts?					
RQ3: How does valuing seaweed in everyday experiences resonate with professional valuations created through laboratory-specific processes?					

1.6. Scope of analysis

The thesis explores aspects that facilitate embedding novel foods in established contexts and aims to understand how seaweed as a novel food is valorised.

The empirical analysis sheds light on contemporary everyday encounters with seaweed and valorising a novel food across multiple contexts and settings (see Figure 1). First, within consumption contexts, it highlights on the one hand previous,

memorable experiences consumers and tourists share about interacting with seaweed, and on the other hand categorizations in retail environments, where consumers and staff negotiate and interpret its food classification. Second, within scientific contexts, it is brought to the fore how novel food consumption gets approached in academic literature, a project meeting, and a sensory science laboratory.

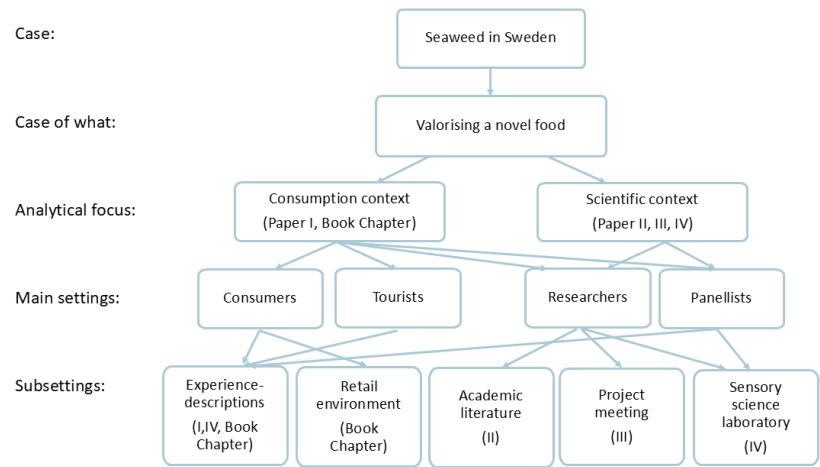


Figure 1: Scope of analysis.

The analytical focus is twofold, investigating consumption contexts to understand how seaweed as a novel food is framed in everyday life (Paper I and Book Chapter), and exploring how science as an intermediary between production and consumption contributes to valorising novel foods. (Paper II, III, IV).

To understand consumption contexts for seaweed as a novel food, everyday encounters between seaweed and consumers formed a starting point. Those experience-descriptions have been gathered through a questionnaire. Moreover, as tourism activities (a site for special experiences that stand out from everyday situations) are known for people being more adventurous, curious, and open to new (food) experiences, written recordings of tourists’ seaweed encounters from a travel planning portal have been a second focus. As the main entry point for most consumers to acquire food, grocery retailers have been selected as a third subsetting to map valuations and categorizations of seaweed as food.

The starting point for the second analytical focus was a literature search to analyse how novel food consumption is approached in research. Dominant ideas about consumption and the consumer influence how questions about “why we eat, how we eat” (Abbots & Lavis, 2016) and “how things become food” (Roe, 2006) get addressed by other actors working towards sustainable food system transitions. For

example policy makers relying on consumers to make responsible choices instead of addressing systemic transformation (Beacham & Evans, 2023). The fourth subsetting, a project meeting where a mixed methods design and active engagement with seaweed has been explored, gives a glimpse behind the scenes of professional evaluating activities. Continuing this exploration, the final subsetting, the sensory science laboratory, provides a space where everyday valuations become linked to professional valuation processes and the perceptions and evaluations that are created in the process of taste making.

The next chapter will situate seaweed as biological, social, and cultural empirical study object. This is followed by Chapter three, outlining the theoretical approach of this thesis, which draws on commodity biographies, valuation studies, and taste. Chapter four describes the methodology with a particular focus on the researcher as part of the research process. As this thesis is a compilation thesis, which includes four academic papers and one book chapter, Chapter five will present the different results and discuss the separate parts that make up the thesis. In the conclusion, insights gained through the different studies on valorising novel foods will be the base for highlighting future implications and directions forward.

2. Empirical object: Situating seaweed valorisation

This chapter situates and introduces seaweed as the empirical study object between biological classifications, cultural objects, sustainability innovations, and food resources. It is put to the fore how the different contexts shape seaweed as a material, social, and cultural phenomenon depending on geographical and temporal dimensions.

Seaweed(s) is a collective name for a large variety of marine macro algae. According to the biological classification system they are multicellular and a highly diverse group of organisms that can be roughly divided into red algae, green algae, and brown algae (Mouritsen & Pérez-Lloréns, 2024). However, it has been argued that the current algae classification system into micro- and macroalgae does not do justice to the multitude of differences of these aquatic organisms (Hendlin, Weggelaar, Derossi, & Mugnai, 2024). In general, algae look like plants under water, but they do not keep to the taxonomic order and depending on the species can be classified as plants, more specific as thallophytes (plant-like organisms without leaves, stem, and roots), or protozoans (one celled animals) (Hendlin et al., 2024). The terms algae and seaweed are used “similarly to the way in which people refer to “trees”, “grass”, or “herbs”” (Hendlin et al., 2024, p. 9) and it is also due to this “everydayness” that the term seaweed is used throughout this thesis.

In the realm of social and cultural phenomena, seaweed has become a resource for extraction, a commodity. It is a material that has been industrialized for a variety of use-values, such as fertilizers and animal feed in agriculture, in glass, pottery and soap industries, as building materials, as stabilizers in the food industry, in pharmaceutical industry, for dyeing, to make textiles, and as human food (Buschmann et al., 2017; Mouritsen et al., 2021; Newton, 1951). Certain extracts from algae, for example agar-agar or carrageenan, are widely used today as (invisible) stabilizers and thickeners in foods, cosmetics, and the pharmaceutical industry (Mohamed, Hashim, & Rahman, 2012; Newton, 1951; Rioux et al., 2017; Roohinejad et al., 2017).

Utilizing seaweed as food or medicine can be dated back to 14.000 years ago, where findings at an early archaeological site in Monte Verde in southern Chile suggest that inhabitants might have consumed seaweeds (Dillehay et al., 2008). Moreover,

seaweed forest ecosystems might have provided a kind of a “kelp highway” and made it potentially possible for maritime hunter-gatherers to migrate over an island-rich coast from Asia to the Americas 14.000 years ago (Erlandson et al., 2007). Today, minimally processed, (visible) seaweed is not widely used as everyday food in Europe and forms a niche product, but diverse species can be traced in western food culture throughout the last centuries. For example, in Southern Wales laver bread was / is eaten, in Scotland dulse was used as a starter, and on Scottish islands algae were used as a kind of salt (Newton, 1951; O’Connor, 2016).

In the beginning of the 19th century seaweeds were part of a popular culture in coastal regions in Europe when the scientific discipline natural history advanced (Hendlin et al., 2024). An example is a then new leisure time activity, “seaweeding” (Hendlin et al., 2024), that developed in England, especially among women, which included collecting objects from the seashore, such as seaweeds (Mouritsen, 2017; Trethewey, 2020). Moreover, seaweed motives on postcards or seasonal greetings were popular and often depicted encounters between people and the marine macro algae (Mouritsen & Pérez-Lloréns, 2024). The English photographer and botanist Anna Atkins experimented with cyanotype technique around the 1850s and produced “Photographs of British Algae: Cyanotype Impressions”, which gained fame as the first photography book in history, recording different local seaweeds (Hendlin et al., 2024). Mouritsen and Pérez-Lloréns (2024) highlight that even though natural history museums host vast collections of preserved seaweeds from different time periods, those are usually not exhibited and invisible to the public, which is surprising as algae “represent [...] the largest biological “kingdom” on the planet” (Mouritsen & Pérez-Lloréns, 2024, p. 121).

Algae are currently being framed as a sustainability innovation that provide multiple “ecosystem services” (e.g., Gundersen et al., 2017) and can be utilized in diverse fields, for example as feed for cattle so that they produce less methane (Kinley et al., 2020), as plant-based alternative protein sources for humans (Cherry et al., 2019), and as technology to capture carbon and breaking it down (Krause-Jensen & Duarte, 2016). Research about the cultivation of marine macro algae typically highlights these aspects of economic valuation and measures environmental impacts and socio-economic benefits of seaweed cultivation (e.g., Buschmann et al., 2017; Grebe, Byron, Gelais, Kotowicz, & Olson, 2019; Hasler et al., 2016; Hasselstrom et al., 2020; Hasselstrom, Visch, Grondahl, Nylund, & Pavia, 2018), such as reducing eutrophication (Kotta et al., 2022; Thomas et al., 2021) and creating employment opportunities (Spillias et al., 2022). Studies on naturally occurring seaweed forests in coastal regions similarly underscore their environmental and economic values (e.g., S. Bennett et al., 2016; Rönnbäck et al., 2007; Smale, Burrows, Moore, O’Connor, & Hawkins, 2013; Vásquez et al., 2013). The benefits that are described in these studies can have different values attached, such as ecological or socioeconomic, but they can at the same time all be quantified and translated into monetary terms. However, the renewed interest in algae in the Anthropocene can be

seen as “an instrumentalization of algae that permits apologetics for continued extractivism elsewhere” (Hendlin et al., 2024, p. 11). Hendlin et al. (2024) point out that “reproducing the same logic that produced the need to turn to algae [...] aims to sustain the unsustainable” (p. 16) and emphasize that “how” we interact and encounter algae should be put to the fore.

In this context, seaweed is an industrial resource, and in the context of human food consumption primarily valued for alginate extraction (Gundersen et al., 2017), that is as (invisible) ingredient. In contrast, from the standpoint of everyday consumer experiences, seaweed is more directly associated with visible or minimally processed foods (e.g., sushi) as well as coastal tourism and recreation, which is recognized as the dominant marine economic activity in the Baltic region (Gundersen et al., 2017; Hasler et al., 2016). Research has highlighted that in coastal regions, where tidal variations shape the exposure of seaweed and they also become visible to people without diving equipment, seaweeds are more present in the everyday (Mouritsen & Pérez-Lloréns, 2024). The common encounter many people in the West experience with seaweed is as being washed ashore and something rotting and smelling on the beach, while evaluating other plant-based foods is not only based on encountering for example foul apples in a fruit meadow (Mouritsen & Pérez-Lloréns, 2024). Paper I builds on these evaluations and explores everyday seaweed experiences of consumers and tourists empirically.

Even though some seaweeds are harvested in the wild, more than 95% globally used for human consumption is cultivated (mainly in Southeast Asia), and species include for example purple laver used for nori production and large brown seaweed, such as kelp (konbu in Japanese) (Mouritsen & Pérez-Lloréns, 2024). Cultivating, harvesting, and processing seaweeds on an industrial scale requires an infrastructure that also consists of national and international legal frameworks. In order to mainstream seaweed consumption and make them available in a market, current regulations, such as the EU novel food regulations, are crucial. They are also important elements to address for example food safety concerns.

In Japan, on the contrary to a Swedish context, seaweed and the industry surrounding it, are highly visible and entangled in different socio-cultural activities, such as in gift-giving practices between friends, family, and business partners (O'Connor, 2016). O'Connor (2016) traces the availability of nori in all forms (from sheets to powder) and explains how differences in packaging and brands, origin, and purchase location, mark different social status and reflect the relationship of the giver and receiver. Moreover, the importance of the gift-giving is also reflected in the servicescape surrounding the nori, where separate departments in stores, gift advisors, and specialised websites are part of the process (O'Connor, 2016). The Book Chapter included in this thesis explores how seaweed is valued in a Swedish retail setting.

As Mouritsen and Pérez-Lloréns (2024) point out, regarding the quality of seaweeds, the Japanese market is demanding, paying particular attention to aesthetic values of seaweed and using for example diverse varieties of carrageen as decorative elements in salads. Moreover, Japanese seaweed consumers appreciate not only shapes and colours, but also different flavours and nutritional qualities, the freshness, the hygiene, and the mouthfeel such as a crispy texture or a mild taste (Mouritsen & Pérez-Lloréns, 2024). This is for example reflected in the language with Japanese having many more different terms to express texture as in mouthfeel, than western languages (Mouritsen, 2017; Mouritsen & Pérez-Lloréns, 2024). Additionally, comparing Western consumers references to Eastern consumers references it shows that not even the same taste impressions or connotations are established (Mouritsen, 2017; O'Connor, 2016). Current umbrella terms in English include for example “sea greens” or “sea vegetables”, and it is common to loan words from other languages, where specific algae are established parts of everyday diets, for example Wakame, Kombu / Konbu, or Nori from Japanese (Mouritsen, 2017). In Europe, names for specific marine algae such as “sea lettuce” for *Ulva* (a green seaweed) are gradually being used in an everyday language and are nowadays also listed in the EU novel food status catalogue. Paper III and IV in this thesis highlight several of these complexities that are connected to language and taste experiences in a Western culinary context while valorising seaweed as food.

As in the Japanese cuisine, the great variety of different colours and shapes as well as flavours and textures make seaweed an appealing ingredient and Western cuisine high-end restaurants have recently started to incorporate them in dishes and menus (Mouritsen & Pérez-Lloréns, 2024; Mouritsen et al., 2012). It is interesting to note that most Asian cuisines use dried seaweeds that one rehydrates when preparing food, while Western consumers show a preference for fresh and wet seaweeds as the ingredient to be processed for cooking (Mouritsen & Pérez-Lloréns, 2024). Expectations are high that collaborations between chefs and scientists, working on establishing a phycogastronomy will contribute to establish a more popular seaweed consumption in the (so-called) West, emphasising the tastiness of seaweed dishes (Mouritsen et al., 2019). Making seaweed into appealing food, requires to approach preparing and cooking with seaweed in the same way as processing other plants for eating (Mouritsen & Pérez-Lloréns, 2024).

Valorisation of novel seaweed foods occurs not only at sea but also in domestic retail, on beaches, in restaurants during travel, and within research institutions. Seaweed embodies these contexts in diverse ways: In policy documents, seaweed is framed as a resource to be managed and cultivated; in science it is positioned as a resource for extraction to be used in several industries. At times, it is no longer treated as an organism but enacted as biological material, a form of stock or commodity. It is incorporated into strategies of diverse economies, such as “circular economy” or “bioeconomy”, and designated as an object of “blue growth” and

“sustainability innovation.” Across these settings, multiple versions of marine macroalgae are simultaneously at play, as illustrated below.

As pointed out in Chapter 1.1. seaweed has become visible in different ways in a popular culture in Sweden over the last years, with diverse actors working towards its valorisation. This is illustrated through the following examples (see Appendix A – F) that occurred during the period of this thesis work (2019 – 2025):

In 2019, seaweed was depicted in “Buffé”, the customer magazine published by ICA (one of Sweden’s biggest grocery chains) as “Future raw material” (Hellsten, Ekengren, Berlin, & Shevtzoff, 2019, p. 21). The magazine is Sweden’s largest food and lifestyle publication, offering recipes, cooking tips, and seasonal inspiration while blending Swedish culinary tradition with modern lifestyle.

In 2022, Dagens Nyheter, Sweden’s leading daily newspaper, published an article framing seaweed as the new Swedish superfood (Skoog, 2022) and it was included in dishes at the Nobel Banquet for two years in a row (The Nobel Foundation, 2022, 2023).

In 2024, the famous brand Blossa produced a mulled wine containing seaweed. It was marketed as tasting of “smoke and seagrass”, causing a debate, including an article in Aftonbladet (the country’s most widely read tabloid) about appropriate terminology for seaweed products (Blomberg, 2024).

In July 2025, Swedish energy provider Vattenfall launched a global campaign featuring Samuel L. Jackson to promote Wind Farmed Seaweed Snacks, aiming to raise awareness of solutions that enable the coexistence of fossil-free electricity generation and natural ecosystems: “The snacks are not for sale. We created them as food for thoughts.” (Vattenfall AB, 2025). Moreover, the ocean as a natural habitat and marine resource is increasingly emphasized in child-oriented media, such as in the Swedish cartoon “Bamse – The World Strongest Bear”, where the Sustainable Development Goals (SDGs) were featuring. In volume 14, published in August 2025, SDG 14 is highlighted and the main character Bamse emphasises cultivating seaweed: “We must protect our oceans and ensure that they are used sustainably. One way to do this is to cultivate algae that capture emissions.” (Adolfsson & Bällsten, 2025, p. 21). The last example selected is from November 2025, when the participants on the popular show “Sweden’s Master Chef” were about to have a cooking class with a star chef, learning about seaweed. According to Aftonbladet’s reporting the novel resource was met with great scepticism and even disgust (“[...] the most disgusting thing I’ve ever eaten”, as one participant exclaimed), as most participants related seaweed to a bad smell and something that tangles itself around legs or boat motors under water (Månsson, 2025).

These examples illustrate not only how seaweed is gaining visibility in Sweden, instead they also highlight that the marine resource is (de)valued differently depending on the context.

The next chapter presents the theoretical framework underpinning the thesis, establishing its foundation and highlighting continuities between the valorisation of seaweed and existing scientific debates.

3. Theoretical framing

The theoretical framing of this thesis is processual, and the perspectives used, have evolved together with the research process in an iterative way. To understand valorising novel foods and to explore how seaweed is entangled and valued in contemporary Sweden, the research followed a “postdisciplinary” approach tracing ideas, connections, and arguments to sketch a coherent picture across disciplinary borders (Cook, 2006; Sayer, 2003 [1999]).

The thesis draws on a wide range of perspectives and engages with multiple research fields. In the initial phase of the project my interest was drawn to the complexities of the empirical case seaweed. A very common food in many parts of the world, seaweed was a novelty and sustainability innovation in Sweden, however, hardly visible in an everyday production and consumption context. At the start of this thesis work in 2019 the supply side industry was in its infancy, limited to a few test beds for cultivation and processing, while demand was nearly non-existent and seaweed foods were only available in specialised stores, such as small-scale plant-based food stores or Asian supermarkets. The prominence of Food Science and Consumer Science research directed me to explore how my work could fit into ongoing academic discussions, while at the same time pointing towards the limited attention given to contextualised empirical encounters with novel foods and the socio-cultural processes involved in valuing them as new resources. The different papers, especially Paper I, II, and the Book Chapter, partly reflect this explorative process. Paper I and the Book Chapter explore empirically what values are attached to seaweed in contemporary consumption contexts in Sweden, such as while being on holiday or in a retail environment. In Paper II, conceptualizations of the consumer and consumption are mapped out in research about novel foods and several different modes are identified, drawing on consumption studies (e.g., Evans, 2018b) and previous literature on the public acceptance of novel foods (e.g., House, 2019a, 2019b). Paper III and IV empirically examine professional evaluating activities behind the scenes. Paper III, explores putting a new “framework for interdisciplinary research in food systems” (Grace, Siddiqui, & Zaitchik, 2020) into practice, to create knowledge across the separate disciplines within the larger “Marine food resources for new markets” – project. Valuation studies (e.g., Helgesson & Muniesa, 2013), in particular the notion of valuing (Heuts & Mol, 2013), and research about taste as a cultural activity, tasting (e.g., Højlund, 2015), are used in Paper IV, to understand how valuing a novel resource in everyday life

resonates with professional valuation processes in a scientific laboratory. Although each paper takes a different theoretical approach (and some are more descriptive than others), they all stem from a cultural, relational approach that embeds specific valuation processes in social and material contexts. During this thesis work this is reflected in the transition from engaging with the consumer and novel food to engaging with the processes of consuming and becoming food, as well as conceptualizing value(s) and taste to conceptualizing the embodied practices of tasting and valuing.

Guided by processual, relational thinking, this thesis conceptualizes novel food consumption as the outcome of valorising interactions among diverse actors, discourses, and practices. Consumption is viewed as a reflection of valuation, with eating serving as a visible enactment of value, whereby resources are deemed “good to eat” and attributed with diverse meanings. Valorising is understood as the production and temporary stabilisation of these values through collective interactions and evaluations that embed novel foods within existing categories. To examine how such values are produced and stabilised, the analysis employs “taste” as an analytical lens. This chapter elaborates on these ideas.

3.1. Follow the thing and commodity biographies

Multi-sided ethnographic literature on consumption and commodities, that traces things in various contexts and employs “follow the thing” (Marcus, 1995) approaches to construct the scope of investigation, links the theoretical framing explicitly with the methodology in this thesis work.

A “follow the thing” approach is useful in mapping and exploring the connections and movements within a network to investigate places, people, and relationships that are part of the commodities (goods and services) that get consumed, reconnecting production and consumption (Evans, 2018a, 2020). To study processes “following the thing” typically traces the movements of material things (e.g., commodities, gifts, art) through different contexts (Marcus, 1995). It investigates and shapes the “lifeworlds” (p. 97) of diverse situated subjects, at the same time as it establishes connections and associations between those subjects and the system itself (Marcus, 1995).

Studies on novel foods that take a historical perspective usually examine a food that has successfully transitioned into a new context and draw often on “following the thing” approaches. A well-known example is Mintz’s anthropological inquiry “Sweetness and power: The place of sugar in modern history” (1986), which utilizes a political economy framework to explore the cultural history of sugar throughout colonialism and capitalism. Moreover, meanings and values that sweetness acquired

while being introduced and becoming normalized in a new cultural context, are connected to an emergence of a “consumerist culture” (Mondada, 2021, p. 29).

“Follow the thing” approaches have been influenced by discussions on commodities and the idea of “the social life of things” (Appadurai, 1986). In brief, objects transition in and out of the “commodity phase” (Appadurai, 1986), defined by exchangeability and economic value, thus acquiring “life histories”, that is “cultural biographies” (Kopytoff, 1986).

Appadurai (1986), explored under which conditions “economic objects” move through different “regimes of value” in time and space, and conceptualized commodities as “things in a certain situation, a situation that can characterize many different kinds of things, at different points in their social lives” (Appadurai, 1986, p. 13). Commodification can then also be understood as extending resourcification into the economic domain, where novel food resources are valorised by professionals before acquiring commercial value (Antal et al., 2015). The notion that objects possess a social life akin to that of persons, reflects their circulation through regimes of value (Evans, 2018a). For instance, an item may shift from being a commodity to an object of sentimental value, no longer subject to commercial exchange (Evans, 2018a). Kopytoff (1986) argues for understanding commoditization as a process of becoming, in which things move in and out of the status of being a commodity. Thinking about a commodity as having a life history, a processual view, highlights that “the commodity phase of the life history of an object does not exhaust its biography” (Appadurai, 1986, p. 17).

With things becoming commodities goes also the knowledge for how to produce it and how to consume it (Appadurai, 1986). The commodity biographies are shaped not only materially but also discursively, as objects are constituted as particular kinds of things (Evans, 2018a). Kopytoff (1986) highlights that in contrast to an economic perspective, where commodities simply exist after being produced, from a cultural perspective, things in addition need to become marked as a certain kind of thing, appropriate for becoming a commodity, culturally and cognitive.

“Moreover, the same thing may be treated as a commodity at one time and not another. And finally, the same thing may, at the same time, be seen as a commodity by one person and as something else by another. Such shifts and differences in whether and when a thing is a commodity reveal a moral economy that stands behind the objective economy of visible transactions.” (Kopytoff, 1986, p. 64)

A “two-sided valuating system” is pointed out: On the one hand there are commodities, which get exchanged in a visible economic system, and on the other hand there is the “private valuation”. The author refers to the area of commodities as “the only reliable public valuation” (Kopytoff, 1986, p. 88) and highlights that therefore private valuation refers constantly to it and price becomes a measure of

worth. This leads to a complex entanglement of the commodity exchange sphere and private categorisations and valuing things (Kopytoff, 1986).

Empirically, previous “follow the thing” research (e.g., Cook, 2004, 2006; Evans, 2018a) has examined how commodities are (re)valued by those engaged in their complex, entangled trajectories from farms to plates and beyond, and how these values are unequally exchanged across international contexts (Cook, 2006)⁵.

Cook (2004), traces the origins of papaya, and engages with communities embedded in its production, while examining the systemic inequities in its global trade. The study revealed non-linear dynamics and challenged the notion of papaya as a passive commodity (Cook, 2006). For instance, the fruit’s biological qualities, such as an enzyme damaging workers’ skin, the labour intensive cultivation practices, weather dependent sex expression affecting the quality of the fruits, and rapid post-harvest decay, all underscore its active role in shaping work practices and logistics in global supply chains (Cook, 2004). Cook’s research (2004, 2006) is framed with perspectives from Marxist theories and actor network theory.

In addition, it has been emphasized that studies that employ a “follow the thing” approach, typically do not elaborate on engagements with the consumer (Cook, 2006; Evans, 2018a). However, Evans (2018a) extends the approach and further develops it to the “movements of things within a particular node” (p. 114). The author traces for example the shifting status of food becoming waste within households, whereby the “categorization and valuation of things shape their trajectories” (p. 110).

Furthermore, using the example of “freshness”, Evans (2020) highlights the role processes of evaluations and assessments play in ensuring that particular value. Tracing specific food items through supply chains and into consumption practices, such as acquisition, preparation, and eating, reveals their continual negotiation through “qualification trials” (p. 348). These ongoing trials span production and consumption, involving diverse cultural and material elements, such as sensory engagement, regulatory frameworks, objects, and interpretations (Evans, 2020).

3.2. Valorising: from values to valuing

This thesis started out by investigating “Valorising seaweed” as a social, empirical phenomenon, exploring values and valuing a resource novel in a particular context. I followed a pragmatic approach, and the processual way of working and the iterative research process have led to framing the discussion of value and valuing seaweed through Valuation Studies (Paper IV).

⁵ For an overview of empirical examples of the “following the thing” approach see Cook (2006).

Valuation Studies are about examining “everyday inquiries about what is desired, cared about, or held precious” (Vatin, 2013, p. 32) and how immediate valuations and more reflexive ones are mutually dependent. A Valuation Studies perspective is useful in making visible and explaining “how actors decide whether a valuation is acceptable or not” (Heinich, 2020, p. 79). It helps to explore how something new or unknown, such as a new resource for food, is given value. The exploration in this thesis contributes to understanding socio-cultural circumstances under which novel foods or food innovations succeed or fail. Before novel food resources become products and services that gain commercial value, they are assessed by experts and undergo critical review and comparison with earlier achievements (Antal et al., 2015), or in Appadurai’s (1986) words, their “commodity candidacy” gets assessed. Herby values become stabilized and attributed to specific resources. In the context of a market these values can be transformed into, or thought of as, qualities, such as “fresh”, that then “qualify” products (Evans, 2020)⁶.

Entering the empirical field with tracing the value(s) of seaweed, I moved on to investigate the activities by which specific actors establish the value they attach to this new resource in practice. This meant shifting the focus from the noun value to the verb, focusing on evaluative acts, which include concrete activities as well as speech (as activity)⁷, that realize “valuation”, or in other words, assign a value to something (Heinich, 2020). Even though “valuation” is a term mostly used for an economic valuation (Graeber, 2001; Kjellberg et al., 2013), research from Valuation Studies calls for a wider engagement with valuing and its diverse forms (Asdal & Huse, 2023; Helgesson & Muniesa, 2013; Heuts & Mol, 2013).

The theoretical perspective can be traced back to John Dewey, who demonstrated in the 1930s and 40s that “value is a quality that has to be performed” (Hutter & Stark, 2015, p. 2). Helgesson and Muniesa (2013) conceptualize value as the outcome of processes involving diverse actors, objects, and activities⁸. In the social and cultural sciences, value is no longer conceptualized as an intrinsic property, a fixed quality that can be externally measured, instead it is conceptualized extrinsically and formed in relations (Appadurai, 1986; Graeber, 2001; Heinich, 2020). Value is acquired by activity (Asdal & Huse, 2023; Graeber, 2001; Helgesson & Muniesa, 2013), it is not something given, instead it is created, and it can be both, positive or negative, as in valorisation or devalorisation (Heinich, 2020). Value is “continuously performed, dynamic and qualified while being calculated” (Barinaga, 2023, p. 2). The different activities that constitute valuation can be “any social practice where the value or values of something are established,

⁶ As I study valorising in a broader, cultural sense (ethnological sense), I do not engage deeper with the notion of “qualification” (Callon, Méadel, & Rabeharisoa, 2002) and social studies of markets.

⁷ See also the section about practice-theoretical perspectives in Chapter 1.2.2.

⁸ See also the section about actor-network perspectives in Chapter 1.2.2.

assessed, negotiated, provoked, maintained, constructed and/or contested” (Doganova et al., 2014, p. 87). Valuation and creating value are about shaping a reality while going about categorizing and defining it (Barinaga, 2023; Muniesa, 2011; Vatin, 2013)⁹. Shifting the focus from value to the activities, and thinking through valuations as omnipresent, interactive processes, highlights the combination of varied objects, subjects, and social activities (such as producing or assessing value, or both at the same time), that make up the assessment of different things in diverse socio-material entanglements (Helgesson & Muniesa, 2013). For example, Heinich (2020) distinguishes between three forms of valuation: measure (e.g., price, academic citations, etc.), attachment (e.g., attitudes, gestures, etc.), and judgment (e.g., evaluations, opinions, etc).

Moreover, it has been argued to make an analytic distinction between two aspects of valuation (Kjellberg et al., 2013; Vatin, 2013). On the one hand producing value, to give or assign worth to something, in a dynamic way increasing value, as expressed with the verb *valorising*, and on the other hand assessing value, a judgment that stabilizes an attribute to something, as in *evaluating* (Vatin, 2013). However, it should be noted that “*Valori[s]ation* is present in acts of evaluation, in that they are provisional modalities for establishing a value that is under construction” (Vatin, 2013, p. 45).

Furthermore, value is reconfigured and tried out of existing contexts, it is part of and constraint by regulations and institutions, such as cognitive or legal frames (Heinich, 2020). It is therefore that the context in which valuation takes place, for example a dinner at home with friends or a testing in a sensory science laboratory (see Paper IV), is equally important as the object’s properties and the subject’s / actors’ capacities. “Subject, object, context: it is in the interplay of these three operators that value is produced through the whole set of operations by which a quality is assigned to an object.” (Heinich, 2020, p. 87). As Heinich (2020) argues, the valuation process consists then of a continuous movement back and forth, an interplay between extrinsic resources (e.g., evaluative categories) and intrinsic resources (e.g., the properties of the object), culminating in the matching of these resources, expectations, and contexts, hence producing value. It is explained further that while material properties of an object stay unchanged, the way the object is categorized and made sense of, “the way it is mentally represented” (p. 81), might change. These shared mental representations are part of everyday life, where a value is a shared, collective notion of what something is worth (Heinich, 2020), which can be made explicit and analysed.

Dewey referred to the contexts for valuation as situations, which are spatially and temporarily confined (Hutter & Stark, 2015; Muniesa, 2011), similar to a

⁹ See also the section about research methods and practices shaping realities while investigating them in Chapter 4.

“commodity context” (Appadurai, 1986). “Situations are characterized by the particular social assemblage of persons and things that are in place and in motion during a span of time.” (Hutter & Stark, 2015, p. 4). Hutter and Stark (2015) explain that the spatial dimensions have specific material characteristics, are spaces for gatherings, and equipped with certain devices and technologies, such as laboratories for scientists, private homes for consumers, or different media, such as websites or magazines. The authors argue further that moments of valuation have also a temporal dimension with a recognizable start and end, such as an experiment or a sequence of meetings (see Paper III and IV). Putting the “set up” of valuation situations to the fore, and at the same time emphasizing their potential for contention and dispute, a preference has been discussed for using the term situation over setting when referring to contexts of valuation processes (Hutter & Stark, 2015).

Empirically valuation perspectives have been used in a number of food related studies (e.g., Hennion, 2015; Heuts & Mol, 2013; Kallio, 2020; Mattioni, Galli, & Massari, 2024). Heuts and Mol (2013) show for the case of “good tomatoes”, that the analytical distinction between assessing and improving blurs in practice and how valorising is active and performative and closely tied together with evaluating. As “assessment” and “improvement” are entangled in practice, Heuts and Mol use “valuing” to explore the different ways of enacting good tomatoes, “from assessing and appreciating, to adapting and improving” (p. 130). “Valuing” seems an appropriate term to encompass evaluation and valorisation while jointly analysing these activities. Moreover, the authors introduce the notion “registers of valuing” (p. 125) as part of valuation processes, with a register referring to a shared relevance, and the different ways values are assessed and expressed depending on the context. An example given in the study is the register “sensual appeal”: a good tomato has to be appreciated and appealing to the senses, such as being undamaged and having a red colour. However, even though it might look very good, “looking good” might indicate a dull taste as the tomato might have a hard skin and hold too much water (Heuts & Mol, 2013). It is therefore highly context depended what is “good” or “bad” within a register with these tensions also occurring in between the various registers (Heuts & Mol, 2013). Hennion (2015) focuses on wine tasting settings to bring to the fore that tasting is not merely a matter of evaluating quality but involves establishing complex interactions between individuals, settings, and valuation practices to facilitate shared assessments. Through these interactions, definitions of wine quality emerge, linking sensory experience, production methods, and conditions of appreciation within broader market dynamics (Hennion, 2015). Another example following theories about value in action, is a study by Kallio (2020), tracing value in alternative food exchange practices. Studying food collectives (groups of households that procure food directly from small-scale producers for their members), the study demonstrates that value is relational, continuously transforms, and unfolds through ongoing action. It is shown how three contextual value-ideals (good food, good price, good community) guide action and how value is formed through valuing modes, such as “sensing quality” or “knowing

the origin” to assess “good food” (Kallio, 2020). The valuing modes engage people in evaluating the goodness of the three value-ideals, while at the same time reproducing them (Kallio, 2020). Kallio (2020) puts the dynamic movement between evaluating and re-producing value-ideals to the fore and emphasises its fundamental role for value formation. Last but not least, Mattioni et al. (2024) focus on the role of restaurants in facilitating consumer demand for underutilised crops. The authors explore moments of valorisation and evaluation and foreground an “interrupted valuation process” resulting in a limited learning experience for the consumers.

“Valuation involves a tasting, a testing.” (Hutter & Stark, 2015, p. 3). Same as the approach that things do not just have a value per se, I follow research that emphasizes that taste is not an intrinsic quality that can be revealed and measured in tests (Paper IV). Neither is taste something simply attributed to a particular food. As Hutter and Stark (2015) phrase it: “Taste, whether the noun is understood as the quality of a thing or as the quality of a person, can be put to tests. And these tests are themselves contested.” (p. 3). Instead, I view people’s relationship with what they taste as a reciprocal interaction as in shaping what is being tasted while at the same time shaping the taster / tester (Hennion, 2015; Hutter & Stark, 2015) (see Paper III and IV). The rejection of this dualism (something having a value or value is attributed to something) makes Valuation Studies a promising and interesting perspective for this thesis to explore new (food) resources.

3.3. Summary

The above highlighted research streams – including commodity biographies and different public or private valuating systems (Chapter 3.1.), as well as value, valuation processes, and taste (Chapter 3.2.) – frame this thesis. They form the foundation for its development and show points of continuity between exploring valorising seaweed and established debates in the field. Although these theoretical perspectives are not directly addressed in all the appended papers, their influence is evident in the present work throughout the research process and analytical framing.

A commodity biographies approach is useful in thinking about “processes of becoming” including different “social life” stages. It also puts to the fore that something needs to be considered as a particular thing, that is it needs to be culturally and mentally marked. This includes knowledge required for the production and consumption processes of a certain (food) product or service. The conceptualizations resonate with literature on novel foods, where things move in and out of the (cultural) sphere of becoming a food commodity (or not)¹⁰.

¹⁰ As illustrated by the ongoing debates on the construction of edibility (see Chapter 1.2.2.).

A Valuation Studies perspective is useful in making visible how actors assess the legitimacy of specific valuations and examining how unfamiliar resources, such as seaweed, are assigned value. It emphasises that evaluating and valorising activities are active processes involving diverse elements, such as debates, competences, and devices (Helgesson & Muniesa, 2013). Moreover, it is put to the fore that valuation must be recognized not only as an object of inquiry but as an activity in which researchers themselves participate (Hennion, 2015). The issues are reflected upon partly in Paper III, Paper IV, and Chapter 5 of this thesis.

The previous chapters have shown how within food consumption research, “follow the thing approaches” link to actor network perspectives, multispecies scholarship, practice theories, and valuation in theoretical and methodological ways. Following seaweed through contemporary encounters, whether in a consumption or a scientific context, reveals the ongoing processes of valuation in relation to novel foods. The following chapter outlines the thesis methodology, shaped by the theoretical approaches previously discussed.

4. Methodology

I follow seaweed. Even though this thesis is not a commodity biography (Appadurai, 1986; Kopytoff, 1986), “following the thing” approaches (e.g., Cook, 2006) and ideas about a “multi-sided ethnography” (Marcus, 1995) resonate with the research design, as it puts a particular resource in the centre of the analysis to approach broader questions about valorising novel resources, and making them visible and edible in an everyday life. Moreover, it also reflects the relational nature of my research process.

Methods and their practices do not only describe, but also actively create the realities they are investigating (Law, 2004). Mol (2002) demonstrates that different practices generate distinct perspectives as well as distinct realities, which she refers to as “the problem of multiplicity”. Following Latour and Woolgar ([1986] 2013) as well as Mol (2002), Law (2004) argues that “in its practice science produces its realities as well as describing them” (p. 13). The author argues for thinking about methods as assemblages, “as enactments of relations that make some things (representations, objects, apprehensions) present ‘in-here’, whilst making others absent ‘out-there’” (Law, 2004, p. 14).

Exploring “valorising seaweed”, I first investigated experiences of human-seaweed encounters and then followed seaweed into retail and laboratory environments. The research design developed from an ethnographic exploration of seaweed encounters into an ethnographic exploration of knowledge practices (Law, 2004) to understand how we produce qualities attached to novel food products.

Knowledges and realities can be seen as being constructed in (scientific) practices made possible by networks that include different elements, such as instruments, technologies, documents, and diverse humans and other participants (Latour & Woolgar, [1986] 2013; Law, 2004; Mol, 2002).

“To talk of enactment, then, is to attend to the continuing practice of crafting. Enactment and practice never stop, and realities depend upon their continued crafting – perhaps by people, but more often (as Latour and Woolgar imply) in a combination of people, techniques, texts, architectural arrangements, and natural phenomena (which are themselves being enacted and re-enacted).” (Law, 2004, p. 56)

Realities are “enacted” (Mol, 2002, p. 33) through dynamic relations among human and non-human actors, with the specific configuration of social and material

components determining which realities emerge in particular contexts (Latour & Woolgar, [1986] 2013; Law, 2004).

“It is possible to say that in practices objects are enacted. This suggests that activities take place – but leaves the actors vague. It also suggests that in the act, and only then and there, something is – being enacted.” (Mol, 2002, p. 32f)

My research process was shaped by an iterative approach, with space for reconfiguring the questions asked and the problems invented (after Deleuze as quoted in Waltrip (2021)). As I choose an ethnographic approach to studying valorising seaweed in situ, I started my thesis project by developing a network of contacts and encounters (Cragg & Cook, 2007) based loosely around “the novel food seaweed” to familiarize myself with my field. I view the research field as “its own configuration” (Waltrip, 2021, p. 148), consisting for example of the physical environment, the cosmology, the layers and politics of stories, and a place’s histories, and always including the researcher as part of this momentarily stabilized assemblage (Waltrip, 2021). My ethnographic project required a combination of knowing what is relevant and interesting, but also doable (Cragg & Cook, 2007).

Starting my thesis work in the “Marine food resources for new markets” – project, we set out to identify viable approaches for deriving consumer-accepted, sustainable food ingredients from marine brown seaweed resources. In the beginning I immersed myself into research about new food product development to familiarize myself with the scientific community’s modes of researching novel foods. I attended diverse networking events, for example about insects as a new food, and a food tech conference, in order to gain insight how other sciences research about food. I visited a protein-plant factory and research facilities in the Swedish University of Agricultural Sciences, as well as the pilot hall in the Department of Food Technology from Lund University. I got an introduction to different food processing methods and a firsthand impression of how for example food technologists approach new foods. I followed seaweed to the seaside, and I set out to locate seaweed products in the Swedish retail environments, fast food places, and high-end restaurants, as well as other places, where consumers could encounter and appreciate it as food (see Figure 2).

The approach to continuously weave a network of encounters with other people that work with novel foods, has over the years developed into more specific encounters with people that work with seaweed in Southern Sweden, such as researchers from marine centres, entrepreneurs developing innovative seaweed products and services, textile designers and illustrators, people that test different ways of cultivating various species for enjoyment in marine allotment gardens, and industry representatives interested in upscaling seaweed production. I have participated in diverse cultural festivals, such as local food events at harbour days and art exhibitions, a workshop about tourism and experiences in a blue economy, and an

inspirational networking event for seaweed enthusiasts. All this has led to becoming part of and forming a seaweed network. In the past seven years I have not only learned Swedish, instead I have started to learn multiple modes of talking about seaweed and practices enacting valorising the new resource depending on different contexts.



Figure 2: Thesis project timeline

Visual timeline spanning seven years behind this thesis work, illustrating selected activities, seaweed-related experiences, and notable encounters. The examples are illustrative, not exhaustive. All photographs by the author. 2019: Study visits to The Lund University Pre Pilot Plant, The Plant Protein Factory and The Biotron at Swedish University of Agricultural Sciences, and Oatly's production facility in Landskrona. Moreover, "Marine food resources for new markets" – project meeting and first shared sensory engagement with seaweed as researcher group in Southern Sweden. 2020: Study visit to The Disgusting Food Museum in Malmö. 2021: Different dried seaweed species that were used for the sensory science experiment and "auto-ethnographic" exercise. 2022: ICA's advent calendar depicts seaweed from the West coast as edible but not tasty, "You can actually eat the seaweed growing along the West coast. Even if it doesn't always taste very good.". 2023: Study visit at Kivik Tång's seaweed course, Husö Biological Station on Åland in Finland, and Kivik Tång at the harbour. 2024: Participation at Tångdagen Simrishamn, visit to Seaweed Dialogues at Southern Sweden Design Days in Malmö, and engaging sensuously with seaweed on a beach in Southern Sweden. 2025: Visit to Ocean at Louisiana in Denmark.

My research began in August 2019, during growing enthusiasm in Sweden for seaweed as novel resource. Six months later, the Covid-19 pandemic abruptly disrupted public life, transforming routine activities such as dining out and grocery shopping into potential health risks. These societal shifts also affected my research plan and design, prompting the use of (pre-pandemic) digital data sources and a focus on a qualitative online survey. This choice has led me to focus on certain aspects of seaweed encounters, specifically places where consumer-seaweed

encounters happen and the different valuations involved. The redesign of my research has also led to a focus on researcher-seaweed encounters and valuation processes in a laboratory. Ultimately, the pandemic became a significant element of the research field configuration, and the methodological choices made because of it, offer valuable insights into the interplay between scientific and consumer contexts in the valorisation of a novel resource.

4.1. Data creation, gathering, collection

As briefly emphasized in the introduction to this methodology chapter, the researcher, scientific instruments, and diverse other elements are all part of the methods assemblage (Law, 2004), or in Waltrip's (2021) words: "[r]aw data do not exist independently of the researcher and her instruments" (p. 140). Following these ideas, it is a conscious choice to use the term "data creation" in my research.

Exploring valorising seaweed through a multisided ethnographic approach, called for an in-depth understanding and a thick description (Geertz, 1973). In my ethnographic work, the created materials took the form of excel sheets with answers from an explorative online questionnaire and reviews from a consumer-to-consumer travel-planning portal, peer-reviewed scientific articles in English in pdf format, screenshots and saved weblinks of, for example recipes, a food magazine of a big Swedish supermarket, Nordic seaweed companies, and restaurants in Sweden as well as the Nordic countries that highlighted the use of seaweed and novel food ingredients on their websites. Moreover, it includes written fieldnotes for example from workshops, meetings, and sensory engagements with seaweed, photographs and sketches from laboratories, seaweed in different shapes, seaweed product brochures, newspaper and newsletter articles, and audio recordings of interviews. Throughout the years I have created and gathered material that is not directly included in the analysis of the contributions that make up this thesis. Nevertheless, this data informed the separate studies and was used to get immersed in the empirical field and to follow leads to new connections.

In the following I will focus on datasets from my collection that are directly included in the analyses (see Figure 3 for the data collection timeline) and my role in developing them (see Table 2 at the end of this chapter): (1) the qualitative online survey, (2) user generated reviews from an online travel-planning portal, (3) peer reviewed scientific articles, (4) sensory engagements with seaweed, (5) (participant) observations, and (6) the interviews.

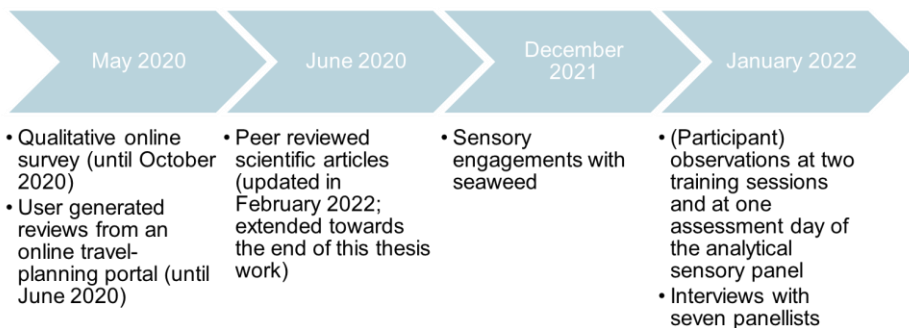


Figure 3: Data collection timeline.

Timeline indicating the development periods of datasets directly contributing to the thesis.

4.1.1. Qualitative online survey

As part of the research project “Marine food resources for new markets”, a qualitative online survey was designed in collaboration with the Folklife Archives in Lund, to explore respondents’ insights and experiences regarding algae and seaweed. With the scope of my current knowledge and reflecting on using parts of this dataset in Paper I, I would now choose the terminology qualitative survey over questionnaire. Following Terry and Braun (2017), questionnaires can be seen as requiring processes such as validating questions and testing reliability, while surveys refer “to the process of sampling a population for information, opinions, experiences or practices” (Terry & Braun, 2017, p. 17) and are therefore more explorative and open.

Using a qualitative survey to create textual data provided the possibility for a broad analytical scope. The “wide-angle lens”, enabled the exploration of diverse perspectives, experiences, and interpretations, and the data can produce substantial richness and depth when analysed as a whole (even if some responses might be brief) (Braun, Clarke, Boulton, Davey, & McEvoy, 2021). This approach was particularly valuable as I set out to investigate a large, heterogeneous, and “undefined” population (Braun et al., 2021). The survey invited participants to reflect on the value creation potential of the marine resources and was designed to understand peoples experiences and practices (Terry & Braun, 2017) regarding everyday encounters with marine macro algae. Moreover, this exploration provided a useful “baseline knowledge” (Terry & Braun, 2017, p. 23) on different

valorisations of seaweed. The objective was to generate a rich, contextually nuanced understanding rather than statistically representative data (Braun et al., 2021).

The questions were available in English and Swedish, were disseminated through the Folklife Archives website at Lund University, promoted on social media platforms (e.g., Facebook and LinkedIn), and shared via academic networks such as the Food Faculty. As they were openly accessible online and potentially distributed through participant networks, the sample was non-restricted, and participation was both voluntary and anonymous. Online formats enhance accessibility and cost-efficiency, allowing researchers to reach geographically dispersed participants (Braun et al., 2021). The survey was published in May 2020, yielding 113 responses by October 2020. The dataset was used in Paper I and in the Book Chapter.

However, even though online research is inclusive in the sense that it can give people a voice that would not choose to participate in face-to-face research for various reasons, it might be an issue that qualitative online surveys require participant literacy and access to technologies to enter the digital everyday (Braun et al., 2021).

While designing the survey an initial scoping regarding the words “algae” and “seaweed” were conducted through personal written conversations (What is your first thought if somebody asks you “Have you ever eaten algae?”) and a one-minute paper with international Master students (“Have you ever eaten “algae?”” “What does it taste like?” “What do you think it would taste like?”). As Braun et al. (2021) note, participants might attribute diverse meanings to key terminology / concepts. As we were interested in what our participants considered important and their language (Braun et al., 2021), the different meanings and values they might attribute to the terms “algae” and “seaweed”, we did not provide a definition, instead asked separately about those two words. Moreover, the questions asked, were pilot tested (Braun et al., 2021) with personal contacts and a researcher from the project team, and the survey revised before sent out.

4.1.2. User generated reviews

Reviews from an online consumer-to-consumer travel-planning portal form a second dataset and gave me the opportunity to explore “naturally occurring” (Merkel, Säwe, & Fredriksson, 2021, p. 396) evaluations of seaweed experiences. Giles (2017) argues for the qualitative nature of data retrieved online as it gives a “fly-on-the-wall” access to “people’s views and experiences around a topic of interest, without a researcher asking about it” (p. 193). Reviews contain peer-to-peer recommendations and advice intended for a public audience. Hosted on commercial platforms, they are openly accessible without registration. The travel-planning portal can therefore be viewed as a public online space, in contrast to private discussion groups and communities, considering reviews as public

documents (Ess & AoIR ethics working committee, 2002; Giles, 2017; Sugiura, Wiles, & Pope, 2016).

The online review dataset was created in May and June 2020. A tourism context was selected as people can be considered to be more open and curious about experiencing “the new” as in their everyday life (Long, 2004; Mkono, 2011). Tourists might even seek out foods and consumption experiences unfamiliar to them (Cleave, 2013). These extraordinary experiences accompany tourists home in varied forms (Long, 2004; Stone, Migacz, & Wolf, 2018), including memories, culinary knowledge, and tangible souvenirs such as food products. Experiencing seaweed during travelling could therefore contribute to a change in peoples everyday life at home (Merkel et al., 2021).

The reviews written online by people that had the words “algae”, “seaweed”, or “kelp” in them evaluated different restaurants, spas, hotels, eco tour providers, and national parks. Several of the reviews contained more than one word for seaweed and in total the dataset is a collection of 154 reviews, two activity provider descriptions, and two forum threads, all published pre-pandemic between 2011 and 2020. The dataset was used in Paper I.

As a limitation the loss of context stands out in particular as the reviews stand for themselves, and no interaction took place between the people using the portal and myself as the researcher. However, as I was interested in investigating “if and how algae are part of a tourist’s remembered experience” (Merkel et al., 2021, p. 397), people’s experiences and their expressed views, “a publicly accessible source of naturally existing dialogue, like a forum, seem[ed] to offer a good place to gain access to this” (Giles, 2017, p. 194).

4.1.3. Peer reviewed scientific articles

Paper II in this thesis is a study based on academic, peer-reviewed articles in English. Examining diverse theoretical and methodological perspectives on the consumption of novel foods and the implications this has on results, this was a useful starting point for my investigation into scientific knowledge practices and valuation processes in food science. The paper is based on a literature search that resulted in the co-authors selecting 162 academic publications for reading and analysis. This approach was chosen to gain an overview of conceptual and empirical scientific issues connected to novel food consumption, and to understand more about the different elements involved in everyday novel food consumption as highlighted in academic literature. The material was used to construct a summarizing model that would allow to balance and bring forth several aspects to consider when valorising a novel resource as food. The conceptual model synthesizes results from reviewed studies by integrating existing concepts to generate new, exploratory connections. The peer-reviewed articles were seen as “not simply represent[ing] a reality ‘out

there', but enact[ing] specific versions of it and, alongside this, perform valuations and orderings of their own" (Asdal & Huse, 2023, p. 9). This builds on the following two notions: First, that documents participate in shaping and modifying reality (Asdal, 2015), and second, that research methods serve as tools for examining social reality, while at the same time enacting these realities (Law, 2010).

4.1.4. Sensory engagements with seaweed

The interest in seaweed as a food brought our interdisciplinary "Marine food resources for new markets" project team together. As a starting point when working together we engaged in an "auto-ethnographic" (Pink, 2015) exercise: Connecting through our common research object, sensory participation allowed us to explore the sensory properties of four different seaweed species, discuss the sensory perceptions, and familiarize ourselves with the raw material and sensory evaluation as a method (Fredriksson, Jönsson, Merkel, Nordberg Karlsson, & Wendin, 2023). The methodological experiment and the sensory experiences allowed us to form new connections and find a collective departure point (Paper III).

As a scientific method, sensory evaluation is used to evoke, measure, analyse, and interpret the human responses to food products that are perceived through the senses of sight, touch, smell, taste, and hearing (Lawless & Heymann, 2010). Hereby humans serve as analytical instruments for understanding product perceptions. Sensory consumer science is a relatively recent discipline and due to industrialized, standardized food production it plays a key role in new product development, linking food science with consumer research (Heymann, 2019; Lahne & Spackman, 2018; Meiselman, Jaeger, Carr, & Churchill, 2022). It encompasses both academic and applied studies focused on product characterization and consumer response, shaping how novel resources become accepted foods (Meiselman et al., 2022). Sensory evaluation methods, ranging from analytic techniques like descriptive testing to hedonic measures of consumer preference, systematically assess human sensory perceptions of food (Lawless & Heymann, 2010). For the sensory scientist the five senses are central. For the sensory ethnographer, the meanings of appearance, texture, smells, tastes, and sounds as well as their presence, are significant (Pink, 2015).

For me, engaging with seaweed sensuously was a way of ensuring that direct embodied experiences enrich my ideas and support developing and reworking them (Lorimer & Lund, 2003; Pink, 2007). As Pink notes: "[...] if we are seeking to understand other people's memories, sharing the tastes in which these memories are embedded might serve as a starting point for this task." (Pink, 2015, p. 108). Exploring the sensory properties of several seaweed species by actually looking, feeling, smelling, and eating them myself, formed an interesting starting point to explore the tastes and meanings that are produced in a scientific sensory panel in a laboratory.

As all biographies embed taste, that is gustatory memories, we as ethnographers are interpreting new taste experiences by comparing them to our already existing taste repertoires with reference to any other knowledge we have gained or gain about the particular food stuff (Pink, 2015). In the same sense that this is valid for the ethnographer, it is at the same time valid for the sensory panellists, who in their training sessions share and attune their sensory experiences. However, it is important to note that the sensory panellists are professionals trained to distinguish for example specific odours (see also Latour (2004) and the “training of ‘noses’” (p. 206)). Through creating a sensory testing training setting for us researchers, I can relate my own “corporeal experience” (Pink, 2007, p. 243) of testing seaweed, to the panellists’ and I interpret the creation of sensory attributes in the scientific sensory testing training session through this knowledge.

4.1.5. (Participant) observations

Planning the laboratory study (Paper IV), I created another dataset just after the laboratory opened up again after the pandemic in January 2022. This dataset includes participant observations, as well as unstructured conversations with the laboratory expert in charge of leading the analytic panel and other researchers present at the time of the guided tour / walk-through of the laboratory facilities. This data supported becoming acquainted with the laboratory setting, and getting a deeper insight into the perspectives of the people being part of this “configuration” (Waltorp, 2021). The more focused part of the dataset includes observations and informal conversations with experts and panellists that took place at two training sessions and at one assessment day of the analytical sensory panel that set out to test four different seaweed species. The goal was to create detailed, rich data of the context and the social interactions, to achieve a “thick description” (Geertz, 1973). However, in the context of participant observation, researchers lacking extensive training and professional experience in the field under study, may observe relevant practices, but limited professional competence typically precludes active participation without detection (Crang & Cook, 2007). In my case for example, I had started to learn about sensory testing from scientific literature, sensory scientists that were my project colleagues, I had gotten an introduction to the sensory science laboratory, and had participated in the PhD course Sensory Evaluation and Food Preferences at the University of Copenhagen (although a year after creating data in the laboratory and while writing on my research paper). During the panel training sessions and assessment day, I remained a non-participatory observer, taking handwritten notes and sketches to minimize interference with my colleagues’ methodologies. Afterward I took photos and rewrote my notes into fieldnotes to produce the text-based dataset. The reflective and interpretative practice of conducting observations, recognizes that the researcher’s perspective always impacts the results and at the same time it values the knowledge co-creation in the methods assemblage of researcher and participants (Law, 2004; Waltorp, 2021).

This process demands flexibility in shifting between descriptive and focused observations, entailing ongoing reflection and interpretation (Spradley, 2016b).

4.1.6. Interviews

Two weeks after the analytical sensory panel had taken place, I interviewed all seven panellists to contextualize seaweed eating and understand more about valuing seaweed in everyday life. I wanted to learn what matters and relationships with food and the idea of eating seaweed were important to the expert consumers. Writing Paper IV, I use the notion “expert consumer” when the contextualisation refers to somewhere else than the laboratory, where my interviewees are highly trained professional panellists, such as a market perspective where they are consumers, or putting the everyday to the fore, where they are experts on their lives.

The interviews were conducted in January 2022 and according to the interviewees preferences we used video calling technology (Hanna & Mwale, 2017) or met in person. As this was just when the pandemic was about to end, video calling technology was an important tool to avoid meeting many people in public places. One of the interviews took place in person at the university premises and with two interviewees at the same time as they were sharing a household and didn’t feel comfortable with using technology. Conducting interviews via video calling technology also allowed for glimpses into interviewees homes, for example when someone went up from their sofa to get one of their seaweed products from a kitchen cupboard and read on the packaging. Moreover, the interviewees choose if they would like to be interviewed in English or in Swedish. All interviews lasted about one hour, were recorded, and afterwards transcribed and anonymized.

Questions were open-ended and followed a semi-structured format, starting with a “grand-tour” question (Crang & Cook, 2007; Spradley, 2016a). This allowed interviewees to emphasize meanings and connections important to them (Spradley, 2016a). Describing their practices of everyday food consumption made conversations shift to knowledges, beliefs, and values entangled with the interviewees’ daily food consumption and seaweed eating.

To conclude, the following table (Table 2) summarises the six datasets highlighted in this chapter, along with the author’s contributions to their generation and analysis.

Table 2. Overview of datasets included in this thesis.

The six datasets created for the different contributions included in the thesis and the author's role in developing and analysing them.

Dataset	Associated thesis component	Author's contribution to dataset development	Author's contribution to dataset analysis
(1) Qualitative online survey	Paper I, Book Chapter	I led the design of the online survey questions and oversaw their pilot testing.	For Paper I, I led the analyses and collaborated with co-authors to ensure analytical coherence. For the Book Chapter, I contributed following the initial analysis conducted by the first author, with all co-authors engaging to maintain coherence;
(2) User generated reviews	Paper I	I designed and compiled the dataset.	I conducted the dataset analysis and collaborated with co-authors to ensure analytical coherence.
(3) Peer reviewed scientific articles	Paper II	Both authors compiled the original dataset together. I extended the dataset.	Both authors analysed the original dataset, maintaining close collaboration to ensure consistency. I analysed the dataset extension.
(4) Sensory engagements with seaweed	Paper III, informed Paper IV	The primary empirical data from the sensory science exercise was collected by co-authors during my parental leave. The exercise was later replicated with my participation.	The ethnographic dataset for Paper III was analysed solely by the first author. I contributed to the study's conceptualisation, design, and writing, but not to the formal analysis.
(5) (Participant) observations	Paper IV	I designed and developed the dataset.	I conducted the dataset analysis.
(6) Interviews	Paper IV	I designed and developed the dataset.	I conducted the dataset analysis.

4.2. Data analysis

Working with qualitative data, I used a thematic analysis approach to interpret it, inspired in particular by Braun and Clarke's reflexive thematic analysis (Braun & Clarke, 2012; Braun, Clarke, Hayfield, & Terry, 2019). This method used for "formal analysis" (Crang & Cook, 2007, p. 133) is intended to capture themes across datasets, whereby a theme reflects "a pattern of shared meaning organized around a core concept or idea, a central organizing concept" (Braun et al., 2019, p. 845). Reflexive thematic analysis emphasizes the situatedness of meaning, the multiplicity of realities, and the active role the researcher takes in producing knowledge (Braun et al., 2019). It is the aim to offer a sound and convincing interpretation originating from the data (Braun et al., 2019). However, it should be noted that analysis already starts during fieldwork and that the "formal analysis" carried out later might then challenge field interpretations and provide additional layers (Waltorp, 2021). Moreover, rewriting my notes, sketches, and photos into digital ethnographic documents added another layer of analysis (Waltorp, 2021) as I added reflections and comments to the initial descriptions in an iterative way.

Braun and colleagues (2012; 2019) suggest an active and generative six step process for data analysis: familiarization, generating codes, constructing themes, reviewing themes, defining themes, and producing the report. The analytical work of analysing my data was an iterative, flexible, and organic process, evolving as the research progressed¹¹. Several times I started to use Nvivo to organize my materials and to explore the different ways the software offered for sorting data, however, I always ended up going back to a manual mode of coding. To familiarize myself with the data, I read through the materials several times and took notes on parts I found interesting, on connections I noticed (between data items as well as to literature), and on things that seemed a bit odd. Note taking was guided by my project's research questions and broader inquiries into the data's dynamics. However, this also connects to the formulation of research questions, because it may reveal answers to unarticulated inquiries (Crang & Cook, 2007). This phase also blurred with generating codes, where I organised data items around similar meanings¹² with the help of highlighting them in different colours (Crang & Cook, 2007) and sorting them in various modes attaching codes in an inductive way, starting from the data.

¹¹ As parts of the data analysis – particularly in Paper I, Paper II, and the Book Chapter – was a joint effort, the co-authors and I collaborated closely throughout the different steps of the analysis. Analytical coherence was ensured through regular updates, meetings, and ongoing exchanges reviewing for example constructed themes together and defining them and mutually reviewing written paper drafts.

¹² It should be noted that an exception is Paper II, the literature-based study, where the analysis was based more on what Braun and Clarke would call a "domain summary" (2019). In this study we organised the data around particular domains, such as "methods used" or "studies about consumer characteristics".

Some codes captured more explicit meanings, while others were more conceptual. Revising and grouping codes, I generated themes, that then were reviewed and redefined, deductively, drawing on scientific literature and my theoretical framework. This was done in several “cycles” (Crang & Cook, 2007, p. 137), moving back and forth between materials and notes. Writing up my texts was an important part of my analysis as describing, comparing, and relating thoughts and going back to earlier notes, led to refining arguments and interpretations, and forced clarifying ideas (Bazeley, 2009).

This formal analysis process supported the general approach in this thesis towards research as being performative more than representational (Dattatreyan & Marrero-Guillamón, 2019). Knowledge is shaped by our engagement with the field and with the actors, technologies, and infrastructures we navigate (Waltorp, 2021). Attuning to the field occurs through interaction and is then recalibrated through formal analytical immersion (Waltorp, 2021).

4.3. Positionality

As the researcher is a central part of the research, this requires reflection on positionality and its influence. Although this research did “only” involve interactions between myself – a white, European, middle-class woman in my thirties – and people of similar backgrounds on a relatively mundane topic, the results reflect this socially situated position – even when this positionality is not explicitly apparent (see also Bourke, 2014). However, doing research about valorising seaweed in a different cultural context, such as Japan, would have entailed different dynamics.

To borrow from Bourke (2014), I think through the notion insider / outsider to guide my reflections. The research was mainly conducted in English and Swedish, my second and third languages. This involved processes of translation. Even though this project did not involve challenges related to cross-cultural sensitivities in that sense, starting to conduct research in Sweden as an outsider shaped especially the early stages of my project as I navigated everyday interactions from a place of cultural and linguistic limitation. As my language skills developed, this transformation was mirrored in my research practice and for the Papers III and IV, I was able to engage with data creation in Swedish, reflecting also a deeper integration into the context I was studying. Swedes have in general a very high level of proficiency in English (EF EPI, 2024 Edition), and conducting research in English was in a practical way uncomplicated. However, participants might have had difficulties to express themselves in a nuanced way when using their second or third language. In order to reduce such difficulties, I for example encouraged interviewees to use the Swedish expression. As a native German speaker, I would argue that many words and even

meanings of expressions originate from a very similar socio-cultural context. All the materials have been translated by me into English, aided sometimes with a combination of different technologies, such as online dictionaries, Google Translate, DeepL, and Microsoft Copilot. However, working in an interdisciplinary project required even Swedish-speaking researchers to learn the “language(s) of [the] research project” (Crang & Cook, 2007, p. 50) “in the field” (Crang & Cook, 2007, p. 49), as disciplinary terminologies often carried distinct assumptions and implicit theoretical framings.

Being part of an externally government funded research project may have supported a flow in the research process, as it added a notion of credibility and professionalism when introducing myself and my thesis project in various networks and to research participants. The interdisciplinary research project and the largely female research team¹³ provided contacts to people working with novel foods outside academia and across disciplinary borders and gave me the opportunity to connect to researchers interested in seaweed and novel foods from a broad range of perspectives. It ultimately also provided access to the sensory science laboratory and the people working there. In the laboratory my position as PhD student in the first half of my project from another discipline, may have contributed to being perceived as non-threatening while observing for example the training sessions, as I was interested in learning about sensory science and seaweed.

Like the “Marine food resources for new markets” – project and its associated research questions, my educational background – combining Social and Cultural Anthropology with Organisation and Management studies focused on sustainability – shaped the thesis. Drawing on my training in for example participant observation and intercultural competence, an ethnographic approach to consumers and seaweed as food was taken, which prompted inquiries into everyday encounters and a deep immersion in the empirical field. Additionally, the environmentally friendly qualities of seaweed provided a shared empirical interest within the project team, with “sustainability” emerging as a key concept of connection between us three PhD students from the different disciplines.

Shifting between the different contexts and reflecting on my social position prompted consideration of power dynamics (Bourke, 2014). As Kvale (2006)

¹³ The interdisciplinary team included: from Analytical Chemistry, one professor, one senior researcher, and one PhD student (the sole male and non-European researcher); from Biotechnology, one professor and one PhD student; and from Service Studies, one professor, one senior researcher, and me as PhD student. The project aimed to develop sustainable, economically viable food ingredients from marine brown seaweed with high consumer acceptance. Research objectives centred on innovation potential and consumer acceptance to sustainable novel foods. As social scientists in the project, our role was to examine how algae could generate added value, how consumers engage with raw materials and conversion technologies, and what conditions support market expansion for new food products. (Department of Service Studies, 2020)

highlights, qualitative interviews involve a hierarchical relation, as the interview is specifically in the interest of the researchers, who lead the conversation and control the interpretation of the created material. In other contexts, such as project meetings power asymmetries shifted among PhD students, senior researchers, and professors. Nonetheless, recognizing my own positional privilege remains fundamental in shaping and communicating the overall results in my thesis work.

4.4. Transferability

This thesis work acknowledges the researcher as fundamental part of the overall research process and emphasizes a variability in rich and complex explanations and the situatedness of knowledge, instead of generalisability (see also Terry & Braun, 2017). The focus in the research is on performativity instead of representation and a key limitation of this thesis might be inherent to the overall type of study. Given the qualitative, ethnographic approach of the research, interpretation and meaning making are central elements. Throughout the research process I have prioritized transparency in the practice of doing research (see Kvale, 1995), enabling readers to assess my choices and trace primary sources independently. By diversifying datasets, I have minimized emphasis on claims that could not be confirmed from other sources. However, the interdisciplinary project's focus on innovation – alongside my own developing enthusiasm for seaweed – might have foregrounded seaweed's perceived potential (see Chapter 4.3. footnote 13). While I have adopted a critical and reflexive approach – which I have illustrated here, presenting my evidence, citing my sources, and reasoning for my interpretation – the evolving interest likely shaped the overall framing.

The data selected for this thesis has two main limitations: the spatial and temporal constraint. Thinking geographically, I focused on Sweden, where tracing seaweed as a novel food into an everyday consumption context proved challenging. For example, an attempt to identify active seaweed consumers in Southern Sweden, to investigate valuation processes in households, was largely unsuccessful. Broadening my scope and focusing on seaweed in the Nordic countries might have offered comparable socio-cultural cases of valorising. To explore valorising seaweed, a cross-cultural study with for example Japan, where seaweed is highly visible in an everyday life and not attributed the quality “novel”, could have been useful. Taking a historical perspective, either examining valorising seaweed in Sweden (or the Nordics) in the past, or tracing another successfully integrated (once novel) food in Sweden, could have yielded further valuable insights.

More broadly, the generated knowledge may inform other contexts, such as the valorisation of novel resources beyond seaweed. Selecting additional sites and intermediary actors for fieldwork, such as a broader food shopping context

including different retailers and alternative food networks, following human-nature encounters at a seaweed safari, or investigate a raw material to dish in a dining out setting, would allow for following seaweed and explore a variety of valuation processes to complement the present work and continue the investigation.

To conclude, this thesis work seeks to encourage ideas and foster deeper exploration about the potential of thinking through “valorising in everyday encounters” when approaching novel resources. Considering practical, everyday engagements with valuation processes may be useful in understanding current realities of novel food consumption and considering interventions towards changing eating that are grounded in a particular context.

4.5. Ethical considerations

The project adhered to the Swedish Research Council’s (2017) ethical guidelines and was conducted in compliance with the Swedish Ethical Review Act (SFS 2003:460), which safeguards individual rights and promotes respect for human dignity in research. Due to its emphasis on everyday eating and valuation practices, the research presented no obvious ethical concerns. As it explored perceptions of food and eating, the generated data was not classified as sensitive personal information under the Data Protection Ordinance (Data Protection Act, SFS 2018:218). However, as researchers, we contribute to the construction of representations of the phenomena, the individuals, and the environments in which both they and we are engaged, whereby the researcher bears the responsibility for the representations produced and disseminated (Waltorp, 2021).

Throughout the research process, all participants – including survey respondents, panellists, and interviewees – received detailed information sheets outlining the study and their right to withdraw at any time. When applicable, oral briefings were provided, allowing participants to ask further questions immediately. Informed consent was obtained at each stage, including consent for participation and archival of responses (e.g., survey data archived at the Folklife Archives, Lund University). All research data were anonymized and securely stored on Lund University servers. Panellists employed by the university’s sensory unit received monetary remuneration for their involvement.

Reviews collected from an online consumer-to-consumer travel-planning platform were treated as public documents (Ess & AoIR ethics working committee, 2002). All reported results maintain the anonymity of individuals and do not reveal personal identities.

The research content and framing were subject to continual revision throughout the process (Crang & Cook, 2007), and researchers involved in the studies (some also

participants) received regular updates and draft manuscripts for review and feedback. While standard academic conventions may render their identities detectable, the reported results were assessed as posing no significant risk.

In the final version of the thesis, a variety of technological tools were used to enhance readability, improve grammar, and support academic writing in English. These include Microsoft Office and its build-in features such as the Thesaurus and spelling and grammar check, AI assistant Microsoft Copilot, and the reference management software Endnote. Furthermore, several online translation tools were utilized, including Linguee, Google Translate, DeepL, and the Cambridge English Dictionary. All sections of this thesis have been thoroughly reviewed and edited by me as the author to ensure that they reflect the intended arguments and meanings to the best of my knowledge.

A note on evolving research narratives and audience adaptation: I began by exploring people's everyday encounters with seaweed and novel foods more generally. As my understanding deepened, broader and simplified versions of the final research questions were generated to guide further exploration, whereby multiple, audience-specific versions of my research were created, changing over time and context (Crang & Cook, 2007). For example, I explored concepts and topics in course assignments and conference presentations that later became part of chapters in this thesis.

5. Results and discussion

In this thesis I show how valuations and modes of valorising seaweed as a novel food in Sweden manifest in both, consumption and scientific contexts. First, I describe different understandings and how people make sense of seaweed as a resource in contemporary consumption contexts to show how seaweed as a novel food is emerging and becoming part of an everydayness in Sweden (RQ1). Second, I trace professional modes of approaching novel foods and investigate how research (as intermediary between consumers and producers) informs their valuation to examine how seaweed is valorised in scientific contexts (RQ2). Third, I demonstrate how everyday valuations of seaweed and professional valuations reflect and interact with each other, highlighting the dynamic relationship between everyday meaning making and institutional knowledge production (RQ3).

The research questions and answers are presented below (Table 3) and discussed in more detail in the following sections in this chapter. Combining the results from Paper I and the Book Chapter answers research question 1. Synthesising the results from Paper II, Paper III, and Paper IV provides research question 2 with an answer. Linking RQ1 and RQ2, research question 3 is addressed by the results in Paper IV. The results are discussed, interpreted, and contextualised within previous research throughout this chapter.

Table 3. Overview of main results.

Research question	Paper I	Paper II	Paper III	Paper IV	Book Chapter
RQ1: How is seaweed interpreted and valued within consumption contexts?	Seaweed is interpreted within both everyday and extraordinary consumption contexts. Three main experience categories have been identified: food, nature, and wellness. Valuing it varies depending on situational frames, which reveals diverse meanings.				Consumer expectations towards seaweed as food are shaped by framings of the retail and food service environments, where those products are encountered, and by diverse currently offered supermarket categories, such as "Foreign foods", "Supplements", or "Plant-based substitutes". The categorizations reflect flexibility and openness from consumers while pointing to limited innovation in product placement from the retailers' side.
RQ2: How are novel foods approached and valorised within scientific contexts?		Novel foods are approached in different ways, such as having pre-given values that can be measured and evaluated but also as being part of specific cultural contexts that shape how meanings emerge. Five dominant, non-	Professional evaluating activities shape novel foods in particular ways, for example through the 5-sense model and as having attributes that can be assessed. At the same time, direct sensuous engagement with seaweed assisted	Novel foods are valorised in laboratory-specific ways that stabilize and attribute properties to them for future commodification. This includes competence, devices, and collective interactions. A (new) taste is actively produced and	

		mutually exclusive conceptual modes have been identified: Modes 1–3 explain novel food consumption by measuring, assessing, and evaluating psychological processes, consumer characteristics, and product qualities. Modes 4 and 5 adopt a broader perspective, situating novel food consumption within social, material, and cultural contexts. They highlight how meanings and valuations emerge in context, rather than being pre-given.	understanding valuations that underly sensory analysis. For example, discrepancy in perception and descriptive terminology were highlighted, which combined more private, diverse valuing modes with ideas about professional evaluations. Sensuous engagement was shaped by memory, experiences, and prior knowledge. In addition, shared experience and reflexive methodologies were identified as central to interdisciplinary endeavours.	performed in collaborative interaction through different valuing activities and modes of professional valuation. The “focused mobilization of the senses” and “shared consumption moments” are identified as valuing activities. These two activities evaluate sensuous encounters and find value descriptions, which makes them central parts of stabilizing values into sensory properties while developing a language for future products.	
RQ3: How does valuing seaweed in everyday experiences resonate with professional valuations created through laboratory-specific processes?				(De)valuing seaweed in everyday encounters and professional valuations mutually constitute one another, reflected in four registers of valuing: language, sensuous experience, production modes, and culinary frames.	

5.1. Seaweed valuation in consumption contexts

This thesis argues that seaweed in contemporary consumption contexts in Sweden gets attributed changing interpretations and values, reflecting the shifting roles as social, material, and economic resource (RQ1).

Paper I and the Book Chapter show how seaweed is (becoming) visible in a “mainstream culture” (O’Connor, 2016, p. 27) in Sweden in different ways. Seaweed can be interpreted within different everyday (such as a retail setting) and extraordinary (such as a holiday setting) consumption contexts, revealing its diverse roles and meanings. Everyday and extraordinary consumption contexts overlap in real life and for example experiences from holidays and travelling follow tourists home in diverse forms (Long, 2004; Stone et al., 2018). This changes perceptions of what is other, foreign, special, or exotic as well as everyday, common, mundane, or domestic. Seaweed’s value and usage vary, depending on situational frames, encompassing mundane daily practices as well as distinctive, leisure-driven experiences.

First, taking a consumer perspective and employing a coastal tourism and food tourism lens (Paper I), a variety of experience-descriptions have been investigated while focusing on the socio-economic potential for the seaweed and food tourism industry in Sweden. Three main experience categories have been identified where marine macro algae are visible: food, nature, and wellness. Even though various utilizations and experiences of seaweed were reported – for example in medical products, as textiles, as part of cultural exhibitions, as animal feed, as biofuels, as building material, or as fertilizers – analysis of domain summaries revealed that food-related experiences were most frequently reported, followed by those related to nature and wellness applications. This encompasses applications in everyday life as well as special occasions. Reflecting on the results and the “instrumental utility values” (Craig et al., 2019, p. 814), the experience categories resemble mainly an economic valuation as emphasized in dominant discourses on regenerative resources through concepts such as Ecosystem Services (see chapter 1.3.1.).

As outlined in Paper I, the experience categories, similar to the “registers of value” (Heuts & Mol, 2013), are made up of different “valuations” and “devaluations” (Evans, 2020) of seaweed, meaning sometimes seaweed is “good”, sometimes “bad”. While reported applications as extraordinary treat in the wellness sector and natural treatments for wellbeing were in general highly appreciated but few, sensuous experiences of seaweed as part of a natural environment were more ambivalent: Appreciated and “visible” in marine national parks for its aesthetically pleasing looks underwater paired with knowledge about its life supporting functions to ensure biodiversity in contrast to unappreciated and “invisible” encounters such

as unexpectedly coming into contact with unfamiliar material while partly being under the water surface or smelling it rotting on the beach as “matter out of place” (Douglas, [1966] 2004, p. 44). Seaweed was valued as “natural” and “healthy” and at the same time as “good nature”, “providing” for other life forms and “beautiful” to look at. Seaweed was devalued as something “bad” when it was categorized as being “out of place” and disturbed an expected order. Those tensions occurred within and between the different experience categories (see also Heuts & Mol, 2013), but were different for food in a tourism context.

Previous research has conceptualized tourists as adventurous consumers, curious about new food experiences (Cleave, 2013; Long, 2004) and the results in Paper I are in line with these perspectives. Seaweed as food were the most reported (most memorable?) experiences. However, this refers to seaweed being “visible” as food, in contrast to seaweed as an “invisible” ingredient in processed food products or as additive and stabilizer, which was not very prominent. In the food experience category seaweed is especially visible (and expected by consumers?) in Asian and other non-western cuisine. Where seaweed was not expected and a surprise, for example in Nordic or Swedish cuisine, reporting about it appeared in more detail, elaborating often on “the creative use of nutritious ingredients or ideas about environmental sustainability” (Merkel et al., 2021, p. 400). This reflects an emerging shift, indicating that knowledge of seaweed as food in the Nordics is evolving and approaching mainstream culture¹⁴: as an everyday ingredient in a non-western or Asian cuisine and as an extraordinary ingredient in a Swedish or Nordic cuisine. In this context, it is valued as a healthy, nutritious, and vital, as well as renewable, green, local, seasonal, and climate-smart ingredient. The variety of symbolic and practical values that are attached to seaweed, reflect its multifaceted appeal and relevance across consumption contexts.

The results in Paper I also revealed a consumer driven demand and interest in expanding knowledge about seaweed consumption, including sourcing, preparation, and culinary pairing. Both the survey and review data indicated that consumers valued educational experiences, praised knowledgeable restaurant staff and chefs’ craftsmanship, and highlighted seaweed aesthetics through descriptors such as “creative” and artistic references. Valuing seaweeds for aesthetics and using them for decorative reasons is well known from cuisines, where seaweed is a well-established ingredient, such as in Japan (Mouritsen & Pérez-Lloréns, 2024).

Second, exploring the categorization and accessibility of seaweed products through consumer experiences in retail environments (Book Chapter) shows that seaweed can be introduced through various forms and contexts, such as processed food products, nutritional supplements, skincare items, and cooking ingredients. This

¹⁴ A side note on terminology: Figure 1 in Paper I shows that while “seaweed” was the predominant term used by review writers, in 2018 an increased use of the word “kelp” is notable, which could suggest a growing differentiation in seaweed related knowledge within popular discourse.

reflects diverse modes and possibilities of integrating seaweed food products and services into mainstream consumption. The Book Chapter centred on food products as these showed to be the most reported experiences in our previous study and it highlights the role of the retail sector as one of the main food intermediaries in consumers everyday life. The chapter traces several enabling conditions necessary for seaweed to break through a broader retail market, such as consumer awareness, accessible product formats, and strategic positioning within food and lifestyle trends. Price, taste, visibility, packaging, availability, and alignment with established dietary habits are key determinants of food purchasing decisions (House, 2016; Jaeger, 2006), but, as retail actors are also providing categorisations to shopping consumers, new products and their classifications must make sense as well.

Locating retailers that sell seaweed seemed often difficult, underscoring the challenges consumers face in categorizing this novel food ingredient. The respondents primarily purchased seaweed products from small specialty shops, such as health and Asian stores, pharmacies, selected supermarkets, restaurants, and through online platforms. Several informants also reported acquiring such products abroad. Ambiguities can arise from overlapping product categories, such as seaweed items marketed with health claims or positioned as plant-based substitutes. Moreover, in contrast to a specific tourism setting, many respondents exhibited reluctance to consume seaweed and expressed concerns regarding its composition in a context connected to everyday grocery shopping.

Consumer expectations characterizing seaweed as a marine resource were shaped by its perceived alignment with various currently offered supermarket categories, for example plant-based products or fish products. This binary categorization reflects limited innovation in product placement from the retailers' side, typically constrained to traditional labels such as fish or vegetables. Such classification practices are shaped, in part, by material and technological infrastructures (Finstad, 2013) enabling for example increased shelf life of a product and keeping it safe and fresh.

The importance of the value “freshness” (Evans, 2020) is not only relevant from the retailers side, but also for consumers. Mouritsen and Pérez-Lloréns (2024) highlight, that many Western chefs tend to insist on fresh, wet seaweed, likely influenced by similar preferences for vegetables, which contrasts sharply with Asian culinary traditions, where seaweed is predominantly traded in salted or dried forms. When properly stored and transported, dried seaweed readily rehydrates to its original texture and can be used accordingly (Mouritsen & Pérez-Lloréns, 2024). Several respondents reported “cold counters”, “vegetables”, “fresh food sections”, or “fish counters” as places for seaweed products, which might as well point to European consumers thinking about acquiring fresh seaweed, while Asian consumers are used to prepare foods from dried products.

The Book Chapter's results show, that in Sweden, seaweed is often associated with vegetarian or vegan alternatives and valued as plant-based substitute product. In that framing, seaweed is linked to sustainability, encompassing both ecological and health-oriented food categories. This does not necessarily position it as common, everyday food, instead it becomes linked to climate-smart alternatives. Those products are frequently transferred to peripheral shelf locations, and many tend not to persist within Swedish food retail environments (Fredriksson, Merkel, & Säwe, 2024). The respondents also highlighted how the product's form and its placement on shelves is an important indicator to understand how seaweed products can be used. For example, vegetarian or vegan alternatives can be placed next to already established products such as "kaviar", a sandwich spread in a tube, snacks, or algae-based gelatine replacement on the baking shelf, indicating how novel foods can fit into existing cooking and eating practices (see also House, 2019b; Micheelsen et al., 2014; Weiner & Will, 2015).

Retail classifications such as "exotic," "world food," "ethnic," or "foreign", particularly those referencing Japanese or broader Asian cuisines, also influence where consumers expect to find seaweed products. The notion of "the exotic" or "the other" has been prominent in Western food encounters (e.g., Cook, 2008; Cook & Crang, 1996; House, 2019a; Mintz, 1986; Warde, 1997). Since the 1990s a "routinization of the exotic" (Warde, 1997, p. 61) has been taking place, where people consider other cuisines as appropriate in times of globalisation processes. However, an "exotic" ingredient still adds a special taste and value to a dish linking to something extraordinary. What is considered novel or unfamiliar is dependent on the specific context. In the retail environment the cultural "leftovers" from the 20th century seem to persist in the categorisation of the food shelf, such as "canned foods", "convenience foods", and "exotic foods".

Overall, consumers appeared open and adaptable to varied store placements and positionings of seaweed products. Although consumer interest in novel marine products in Sweden is cautiously optimistic, limited knowledge of preparation techniques and applications were brought to the fore in the survey responses analysed for the Book Chapter (this theme was also highlighted in Paper I). Following Kopytoff (1986) and the "biography of things" node, I emphasise that as resources move in and out of the status of being food, so do knowledges on how to produce and consume them, including acquiring them, preparing, and cooking them. Apart from being aware and curious about seaweed as food, survey responses highlighted time as important constraint when learning how to consume new food resources and cook new recipes (see also Micheelsen et al., 2014).

Despite limited innovation in the retail sector, certain restaurants have successfully positioned seaweed as a novel culinary experience. Moreover, chefs are viewed as key facilitators of its gastronomic potential (Mouritsen et al., 2018, 2019). The nutritional value, rich flavour profile, and visual appeal of seaweed have contributed to its rising popularity in the restaurant industry. Entrepreneurs along the Swedish

west coast are investing in seaweed as a resource, supplying selected restaurants and retailers. Their initiatives include pick-your-own offerings and seaweed safaris, combining nature-based experiences with culinary engagement. In this context, seaweed is framed as an exclusive product that generates ecological and experiential value through small-scale, locally embedded business models.

The results suggest that seaweed experiences generate multidimensional values through interactions among diverse actors and contextual settings. Tourism experiences, and especially food tourism provides a great opportunity to promote and enjoy seaweed as a food ingredient as tourists are curious consumers on the hunt for other, unusual experiences that are new and exotic to them (Long, 2004). Research indicates a growing consumer interest, mainly driven by sustainability concerns (e.g., Wendin & Undeland, 2020). In addition, Paper I and the Book Chapter included in this thesis illuminate utilizations, categorizations, and values that are connected with seaweed in consumption contexts and point to possibilities of turning it into different appealing food products. Seaweed exhibits the potential to be perceived as both exceptional and ordinary, contingent upon situational contexts and associated expectations. A range of encounters and perceptions has been brought to the fore that shape how seaweed is experienced and understood. In Sweden no traditional practices of consuming seaweed as food have been reported and although seaweed can be bought in different forms in various stores, it has only reached a niche market and remains a rare ingredient. Seaweed has so far been introduced primarily through exclusive restaurant offerings and “guided seaweed safaris” (Merkel et al., 2021, p. 402).

5.2. Novel food valuation in scientific contexts

While professional modes of approaching novel foods are often about assessing values and evaluating consumer responses and product properties, this thesis reasons that valuations in a scientific context are actively assigning values to novel foods, contributing to their valorisation (RQ2).

To examine how scientific knowledge about consumers’ approaches to novel foods and understandings of consumption are generated, a literature-based study has been conducted as a starting point (Paper II). As brought to the fore in Chapter 1.2., consumption reflects different modes of valuation (and devaluation). Mapping conceptualizations of novel food consumption and the consumer, Paper II identifies five dominant modes of conceptualizing consumption that are not mutually exclusive: Mode 1: Consumption as outcome of cognitive processes; Mode 2: Consumption as result of consumer characteristics; Mode 3: Consumption as response to external factors and stimuli; Mode 4: Consumption as a consequence of

social activities and material contexts; Mode 5: Consumption as shaped by sociohistorical structures.

The results in Paper II show that most research in the sample follows psychological and behavioural perspectives, which attend to consumption activities and valuing novel foods as being shaped by psychological processes, consumer characteristics, and product qualities (see also Chapter 1.2.1.). The first two modes emphasise the role consumer related variables, for example reactions, choices, or characteristics, play for accepting / valuing novel foods. Mode 1 conceptualizes consumption as outcome of cognitive processes, including attitudes (beliefs or emotions that show values attributed towards a food ingredient) and perceptions (measures how a specific food is assessed and evaluated), and how these are shaped by, for example, information about production technologies or sustainability arguments. Mode 2 conceptualizes consumption as result of consumer characteristics. Studies investigate how for example demographics and personality traits influence valuing novel foods. Thereby investigations into measuring neophobia (the fear to eat unfamiliar food) as a trait are most frequent. Mode 3 identified in the study is related to the product and conceptualizes consumption as a response to external factors. In these studies, extrinsic and intrinsic product characteristics are assessed, such as the sensory qualities, consumers' liking of food attributes, the labelling, and the product positioning. This research demonstrates for example that consumer understandings of product attributes depend on cultural meanings, or in other words valuations, which are interlinked with particular categories (e.g. freshness and juice). The first three modes (1, 2, and 3) conceptualize consumption, in essence valuing, as separate from the everyday, a-historical, and static. These studies share a common perspective of values, such as consumers' liking or product qualities, as external, observable and assessable and measurable (see also Barinaga, 2023).

Moreover, Paper II highlights that shifting to a broader lens of conceptualizing consumption, contextualizes novel foods as socially, materially, and culturally embedded phenomena, that unfold over various scales, places, and time. The last two modes (4 and 5) show novel food consumption as a historical process depending on wider cultural contexts and sociomaterial dimensions. This shift corresponds to a shift from understanding value as static, given, something "external", and measurable, to focusing on processes of valuation and different modes for valorising (Barinaga, 2023). Modes 4 and 5 mark a shift from focusing on consumer and product attributes to examining the broader valuation context of consumption, foregrounding spatial and temporal dimensions. By addressing multiple aspects of both "novelty" and "consumption", these modes emphasize the embeddedness of novel foods and consumers within specific contexts. Mode 4 conceptualizes consumption as emerging from social activities and material conditions. Highlighting sociomaterial dynamics, it illustrates how valuation arises through the interplay of diverse elements, for instance, how novel foods may be simultaneously valued as both meat and non-meat (Sexton, 2016). Mode 5 frames consumption as

shaped by sociohistorical processes. Studies trace particular foods over time, revealing processes of routinization (Warde, 1997) and their role in signalling for example social distinction (House, 2019a; Landweber, 2015).

Paper II raises important questions about how novel food consumption is conceptualized and valuation of novel foods informed. Dominant approaches (Modes 1 – 3) often assess diverse values in various ways, which implies framing them as given, external, and measurable. For instance, by focusing on consumer attitudes, sensory responses, and evaluating product attributes, these studies reinforce the idea that values can be objectively captured. Yet, this underlying assumption is problematic: it risks reducing valuation to technical measurement while neglecting the social and contextual dimensions. Less dominant approaches (Modes 4 – 5) embed novel foods and consumption processes within everyday life and specific contexts. These perspectives highlight how meanings and valuations emerge in context, rather than being pre-given. The differences between these modes have wider implications. If research practices, including the conceptualizations and underlying assumptions are understood as enacting and shaping reality (Asdal, 2015; Law, 2010), then the choice of approach directly shapes how novel foods are valorised. Assessing values, interpretations, and qualities through measurements and evaluations frames consumers and products in particular ways, while assigning values (see also Barinaga, 2023; Law, 2010). For example, it foregrounds “responsible consumers” to choose nutritious and environment friendly products (Beacham & Evans, 2023). This framing, however, deflects attention from structural challenges such as availability, infrastructure, and knowledge systems. In contrast, contextual approaches open space for questioning these assumptions, suggesting that novel food consumption and (de)valuations (Evans, 2020) are inseparable from broader societal arrangements, while foregrounding the dynamic interplay of practices, infrastructures, and meanings. In this sense, it is about how different modes of valuation practices shape the possibilities for integrating novel food into everyday life as they actively shape what counts as valuable, who is responsible, and which pathways for change are imagined.

Building on the results of Paper II, empirical investigations examined professional evaluating activities and knowledge production surrounding the tasting of novel foods (Paper III and IV). Both these explorations centred on the performative nature of valuation (Muniesa, 2011), considering how evaluative practices actively shape the realities they seek to assess (Barinaga, 2023). The professional evaluating activities assess the “commodity candidacy” (Appadurai, 1986) of items before they obtain commercial value, for example through assessment by experts (see also Antal et al., 2015). Paper III explored collaborating across disciplines through a guided sensory testing during a project meeting, where different dried seaweed species were valued and sensuously experienced. The paper offers insight behind the scenes of professional evaluating activities and argues that shared experience and reflexive

methodologies are central to interdisciplinary endeavours. Paper IV investigated sensory testing as a valuation process. Focusing on diverse valuing activities and modes of valuation, I demonstrate how competence, devices, and collective interactions stabilize sensory properties and produce taste.

In the “Marine food resources for new markets” – project, sensory research, functioned as a disciplinary bridge. The firsthand engagement with novel resources through the guided sensory testing in Paper III proved useful for conducting and interpreting future sensory analyses. The practical experiment included categorizing the different seaweed species, making sense of them, and evaluating their appearance, odour, taste / flavour, and texture (hand- and mouthfeel). The exercise highlighted the activation of multiple senses and the difficulty of articulating unfamiliar sensory experiences, underscoring the influence of prior knowledge, memory, and experience. During the sensory session direct descriptions were encouraged by the group’s instructor, such as asking participants to write what the seaweed “looks like” while cautioning against “strange” associations, which are often challenging to evaluate. Although the species were labelled, participants struggled to articulate for example the visual attributes of dried seaweed, raising questions about appropriate descriptors and evaluative criteria for assessment. The four species varied noticeable in appearance, yet verbalizing these differences proved difficult. For example, one participant related *Ulva* to spinach; another noted its “beautiful green colour” – a valuing term that invites interpretation. The exercise revealed not only interspecies variation but also discrepancy in individual perception and descriptive terminology choices for valuing seaweed (see also the section on “language” as a register of valuing from Paper IV in the next chapter (4.3.)). The experiment made a combination of “immediate valuations [and] more reflexive ones” (Vatin, 2013, p. 32) visible. Moreover, it blurred “private valuations” (Kopytoff, 1986) and ideas about professional evaluations (see also Antal et al., 2015). Sensory perception extends beyond physiological ingestion; it is a layered, interpretive process shaped by contextual awareness and meaning making (Fredriksson et al., 2023).

Exploring professional evaluating activities further and how they shape the valuation of novel foods, I investigate sensory testing as a “valuation process” (Helgesson & Muniesa, 2013) in Paper IV¹⁵. The study identifies, describes and analyses laboratory-specific valuing activities, demonstrating how competence, devices, and collective interactions stabilize sensory properties and produce taste. Paper IV approaches taste as an activity and investigates the production of this product quality. The laboratory-specific activities stabilize and attribute qualities to

¹⁵ The analytical sensory testing was conducted as part of another study, describing the sensory characteristics of four common Northern European seaweed species intended for food (Paper V, not included in this thesis).

seaweed. Outside of a market these can be thought of as values (see also Evans, 2020).

Following seaweed into the controlled environment of a sensory science laboratory, brings the specific valuing activities, competences, interactions, and devices used to evaluate and valorise to the fore. Emphasizing the laboratory's material environment underscores the element of control inherent in the valuing activities, which are enacted through specific practices and materials (Mol, 2011). Asdal and Huse (2023) refer to specific "valuation tools" and in the subsetting of the sensory science laboratory this can include material tools (such as measurement scales, notepads, and a whiteboard) and immaterial tools (such as the conceptualization of taste, the 5-sense model, and terminology used). For example, in sensory science, taste encompasses five basic categories (salty, bitter, sweet, sour, and umami) (Mouritsen, 2017), while flavours, though experienced orally, are primarily facilitated by the sense of smell (Figueroa, Farfán, & Aguilera, 2023). Conceptualizing taste as encompassing five basic categories shapes the outcome of the sensory characterization in a particular way. However, a growing body of research demonstrates that taste is more than five categories and both reflects and shapes social interactions (e.g. Abbots & Lavis, 2016; Counihan & Højlund, 2018; Mol, 2011; Shapin, 2016), with sensory experiences varying across contexts (Mondada, 2021), such as experimental settings, social gatherings, or restaurants. Consequently, researchers emphasize the importance of context and activity, foregrounding the "practices of sensing" (Mondada, 2021, p. 24) in food perception.

Paper IV identifies the "focused mobilization of the senses" and "shared consumption moments" as valuing activities. The two activities evaluate sensuous encounters and find value descriptions, which makes them central parts of stabilizing values into sensory attributes. The "focused mobilization of the senses" includes an individual familiarisation with the seaweed materials by the panellists in order to identify and describe the sensory attributes according to predefined categories (appearance, smell, taste, texture / mouthfeel). The panellists test the seaweed materials and write up their impressions and characterizations. Reflecting on the experiment in Paper III and the sensory engagement with the different seaweed species this step is similar but professionalized. In contrast to the "focused mobilization of the senses", which is an individual activity, the "shared consumption moments" happen in interaction (see also Mondada, 2021) between the panellists and the panel leader.

The valuing activity "shared consumption moments" consist of two steps as Paper IV describes: In a first step words are being produced, and sensory attributes are negotiated and structured with the help of the panel leader. The five basic tastes constitute herby important reference points. Describing the seaweed in the laboratory separates sensuous encounters based on the 5-senses model even though experiences in a less controlled environment are usually multimodal (Mouritsen, 2017). However, interlinks and connections between the different categories, for

example smell and taste, show in the use of terminology. Flavour experiences (the combination of smell and taste) bring memories of previous embodied experiences to the fore and link to an everyday meaning making and interpretation. Panellists' "subjective" (Shapin, 2016) experiences and knowledges are built upon in this process of "sensory attunement" (Sutton, 2018), which includes sharing and comparing the sensuous encounters. In a second step the words get structured by being reduced and defined into sensory attributes with the help of the panel leader's expertise. This involves grouping similar words, counting how many panellists agree, and general consultations within the group of panellists. It is important to note that reducing attributes merely renders them invisible in descriptions; their existence is not negated but rather reflects the group's inability to establish a shared meaning or measure. The densification of value descriptions and the definition of sensory attributes, constitute central components of the valuation process by identifying what is essential. This process is conducted in agreement with the panellists, requiring clarification of terminology to ensure consistent assessment of defined attributes during the sensory testing later (which will utilize a numerical scale). This is therefore an important preparatory step for the professional evaluation.

Valorising seaweed in the laboratory and framing it as food in different contexts, goes hand in hand with attributing values to it and creating a language for the future food products (see also Shapin, 2016). Thinking about sensory evaluation as a valuation process, shows how specific values and product qualities are actively produced, established, and attributed to the seaweed, framing it as a food deemed "good to eat". It is demonstrated how a (new) food's taste is produced collectively through various modes of professional evaluation while developing a language and stabilizing ideas about seaweed perceptions. Thereby value(s) is / are assigned to the resource seaweed as a step towards turning it into food products – from edible to tasty.

5.3. The dynamic relationship between everyday meaning making and institutional knowledge production

In this thesis, I argue that everyday valuation of seaweed reflects and interacts with scientific processes of valuation, highlighting the dynamic relationship between lay practices and institutional knowledge production (RQ3). This is particularly demonstrated in Paper IV, where I investigate a sensory testing as a valuation process (see also Chapter 5.2.).

In addition to the production of taste, Paper IV also explores how the resource seaweed becomes a “tasty” food ingredient. Research from sensory science and consumer psychology highlights the necessity for “appealing and tasty forms” (Figueroa et al., 2023, p. 17) for foods newly introduced into specific contexts, for example seaweed foods entering a European market. Experiencing and valuing “tasty” as something “good” I set out to explore not only the production of taste but also seaweed’s potential for becoming tasty by bringing the professional valuations in resonance with valuations of seaweed from everyday encounters.

Mintz (1986) highlights that “good food” requires thinking about it as good before it will also become something good to eat. To investigate if seaweed is good to think about, I employ the notion “registers of valuing” (Heuts & Mol, 2013). Following Heuts and Mol (2013) a register indicates a shared relevance, such as sensual appeal and it refers to the different ways values are assessed and expressed, which is highly context dependent. For example, seaweed under water can be valued and appreciated for looking beautiful while snorkelling or it can be devalued as coming in contact with something strange while swimming (see also the experience-descriptions in Chapter 5.1. and Paper I).

This part of Paper IV is based on interviews with the professional panellists, where seaweed eating was contextualized and valuations of seaweed in everyday encounters were in focus. Despite practical challenges, for example availability at retailers and lack of preparation, cooking, and pairing knowledge, all interviewees showed interest and curiosity about seaweed as food and had had diverse previous sensuous encounters with seaweed including outside of a laboratory. Paper IV refers to the professional panellists as “expert consumers” when the contextualisation refers to another (sub)setting than the laboratory (see also Chapter 4.1.6.).

Besides demonstrating that taste emerges through valuing activities, which temporarily stabilize seaweed’s sensory properties via interactive evaluations, Paper IV discusses four registers that contribute to rendering seaweed as tasty: (1) language, (2) sensuous experience, (3) production modes, and (4) culinary frames. Those will be presented below in more detail.

The first register of valuing refers to “language” (Paper IV). To talk about the seaweed, biological classifications are the terminology in the laboratory and “algae” is the umbrella term used to describe the materials to the panellists. Terminology and words used to talk about seaweed are less clear outside of the laboratory and scientific contexts. In consumption contexts biological classifications do not necessarily correspond to everyday terminology and for example in the Swedish language the word “sjögräs” (seagrass in English) is sometimes used by food producers or restaurants to refer to marine macro algae even though it names a different biological species (Nylén, 2024). Food intermediaries, such as producers, retailers, and marketers, refer to already recognisable classifications and what sounds “tasty” as in “good to eat” might vary depending on the context (see also

Chapter 5.1. and the Book Chapter). Several interviewees reported an insecurity while searching for words to talk about seaweed and categorizing it, which reflects the complexities regarding language and sense making that comes with introducing new foods. Questions arise about appropriate terminologies when talking about new foods and their attributed values. These complexities were also part of the survey responses for Paper I and the Book Chapter (see also Chapter 4.1.1. and including the terms “algae” and “seaweed” in the survey without defining them). As the controlled environment and the specific practices of a laboratory offer a defined set of categorizations as part of the valuation process, these issues are less complex in that setting than in everyday encounters.

Second, “sensuous experiences” inside the laboratory are as much about biochemical processes as they are about interpretation and meaning making (Paper IV). They are not only isolated independent attribute descriptions as in the laboratory-specific activities, instead they simultaneously link to other, previous experiences that usually involve a combination of the senses (Mouritsen, 2017). In addition, describing the sensuous experiences relies on negotiations with previously experienced materialities of a resource in question (Hayes-Conroy & Hayes-Conroy, 2008; Hocknell, 2016). Especially the flavour (smell and taste) of the seaweed, described during the sensory testing training session for example as “dried shitake mushrooms”, “lemon”, or “licking on a salt stone”, brought previous experiences and knowledges to the fore. Those descriptions tapped into previous memories and shape the production of words for the overall taste experience. The interviews gave the space to discuss previous seaweed encounters outside the laboratory and raised questions about what imagined sensations are “tasty” as in “good”. The different (de)valuations (Evans, 2020) that the interviewees described, such as appreciating or disapproving seaweed encounters on a beach or in a dish at a restaurant, were corresponding to the experience-descriptions collected for Paper I.

The third register of valuing presented in Paper IV, “production modes”, refers to knowledges about a food’s origin and what is valued as something positive while thinking about seaweed. During the training sessions questions about where the seaweed for the testing comes from, remained unanswered. However, the interviews showed that the origin of food is important and something the expert consumers cared about. In the interviews “local” was interlinked with notions of seasonality (e.g. food that ripened in the sun) and place, adding a special, that is a “good”, taste to fruit and vegetables, making them more valuable and “tasty” food experiences. O’Connor (2016) has linked a specific local visibility to the expression “terroir”, a French term, referring often to artisanal products and linking a specific place and its environment to food produce. In addition, the register also connects to broader questions and knowledges about environmental concerns and food production practices (e.g., unsustainable fishery practices resulting in a lot of by-catch, or water quality) that contribute to valuing seaweed. The laboratory setting presents algae as

edible food stuff when the panellists encounter them for the first time. This is less well established outside the laboratory. The interviews indicated that concerns related to food safety, such as water quality or the potential presence of toxins in seaweed, must be carefully navigated, contingent on how and where seaweeds get obtained. Buying it in a grocery store can frame seaweed as a safe food product, while harvesting it oneself in “nature” would need different knowledge to frame it as “food”. Even though the expert consumers were used to forage other foods, such as mushrooms or berries, no one had experience foraging seaweeds.

The fourth and last register discussed in Paper IV, “culinary frames”, draws attention to familiar and unfamiliar reference points regarding food. As a novel food in Sweden, seaweed is often perceived and tasted as unfamiliar or “foreign” (e.g., Cook, 2008; Mintz, 1986). Not only foods are introduced to new contexts, also words, categories, and cultural notions connected to tastes travel. Examples include Nori and Wakame, two edible seaweeds from the Japanese cuisine, and the notion “umami”, which describes the fifth basic taste (see also Paper III). “Umami” made it only recently into a Western taste vocabulary (e.g., Mouritsen, 2017). At the same time, the interviews highlighted that prior food experiences, such as consuming sushi or seaweed dishes abroad, render seaweed familiar, linking it to tasting something “common” and everyday consumption. These experiences “follow people home” (see also Chapter 5.1. and Paper I). During the sensory testing training sessions familiar reference points (e.g., notes of pepper and citrus, and appearance like green kale) were brought up and discussed, while in the interviews associations with high-end cuisine and contemporary culinary trends, such as the New Nordic Cuisine, were mentioned. Learning about new foods and notions connected to them highlights the fleeting quality of “tasty” and the potential for developing ideas about taste preferences further.

In Paper IV, I argue that thinking through “registers of valuing” (Heuts & Mol, 2013) and asking if seaweed is good to think about, highlights (de)valuations (Evans, 2020) in everyday encounters with the novel resource. Moreover, it makes previous understandings visible. Those understandings shape and are shaped by the professional valuations. Creating a language that describes sensory properties is based on embodied, sensuous impressions connecting to previous experiences and knowledges. This goes hand in hand with framing seaweed as food and linking eating it to a tasty experience.

The results highlight the importance of valuation in shaping products beyond their material production. Connecting laboratory-specific practices and professional evaluations with everyday valuations of seaweed, highlights the dynamic interplay between the everyday meaning making and scientific knowledge production. In addition, it emphasizes the fluid nature of “tastiness”. Encounters with novel food resources are shaped by culturally and temporally situated understandings. “Tasty” is not an inherent quality that is easy to grasp. For something to be perceived as “tasty”, it must first be valued.

6. Conclusions

This thesis has explored aspects that facilitate the embedding of novel food resources in established contexts through an empirical investigation of valorising seaweed in Sweden. A Valuation Studies perspective was adopted (e.g., Doganova et al., 2014; Heinrich, 2020; Helgesson & Muniesa, 2013; Hutter & Stark, 2015; Muniesa, 2011; Vatin, 2013), which focuses on examining everyday desires and what is cared about (Vatin, 2013) and how these meanings are negotiated in practice (Heinrich, 2020; Hutter & Stark, 2015) involving diverse activities, actors, and objects (Helgesson & Muniesa, 2013). The research evolved processual, beginning with an exploration of consumption contexts, illuminating diverse experiences, (instrumental) values, as well as contemporary uses and categorisations attributed to seaweed in different settings. The thesis examined seaweed's shifting everyday framings, from something exotic to something local and sustainable. Through a focus on scientific contexts, including theoretical perspectives and empirical practices, the thesis' design evolved from an ethnographic exploration of seaweed encounters into an ethnographic exploration of knowledge practices (Law, 2004). Specifically, drawing on Heuts and Mol's (2013) concept of "valuing" and theories of tasting as interactions among individuals, settings, and valuation practices (e.g., Hennion, 2015), this research examined further how qualities are produced and attributed to novel food products. Ultimately, the thesis provides insights into the dynamic interplay between scientific and consumer contexts in the valorisation of emerging (food) resources.

A focus on valuation underscores the culturally and temporary specific interpretations of novel resources, such as seaweed. Moreover, valuation and modes of valorising seaweed as a novel food reveal meaning making and interpretations and highlight further that processes of valuation are central to approaching novel foods and their possible integration in established contexts and future consumption. The processes of valuation and modes of valorising seaweed as a novel food in Sweden are evident in both consumption and scientific contexts:

First, diverse interpretations of seaweed as a resource within contemporary consumption contexts illustrate its emergence as part of everyday life in Sweden (RQ1). The results demonstrate that (expert) consumers, tourists, and retailers assign diverse values to seaweed (Paper I and the Book Chapter). The categorizations often reflect instrumental utility values such as utilizations in cosmetic products or as foods. Yet, the analysis also reveals other modes of valuing

seaweed that highlight more context specific interactions, such as enjoying aesthetic values or feeling good about a diverse underwater landscape. In retail environments seaweed as food is valued so far mainly as a foreign ingredient and as a vegan or vegetarian alternative product, while restaurants have managed to position seaweed as a novel culinary experience linked to high-end cuisine and innovative food movements. Paper I and the Book Chapter illustrate where seaweed as food is visible in a “mainstream culture” (O’Connor, 2016, p. 27) in Sweden and in what ways. Its diverse interpretations within different consumption contexts, reflects its shifting roles and attached meanings.

Second, scientific modes of approaching and valorising novel foods have been examined, and I have argued that valuations in a scientific context are actively assigning values to novel foods (RQ2). Novel foods are approached in different ways, such as having pre-given values that can be measured and evaluated but also as being part of specific cultural contexts that shape how meanings emerge (Paper II, III, and IV). Professional modes of approaching novel foods are often about assessing values and evaluating consumer responses and product properties (Paper II). Reassessing novel food consumption, Paper II introduces the framework “consumability” to integrate diverse research perspectives. Balancing the evaluation of product attributes, consumer characteristics and behaviours, with assessing social and material consumption contexts could change how the integration of novel foods in consumers’ everyday diets is approached in research and ultimately wider societal arrangements. Paper III explores the practical challenges of interdisciplinary collaboration, illustrating how shared experience and reflexive methodologies enable constructive dialogue and common ground. As the results in Paper III and Paper IV demonstrate, professional evaluating activities shape novel foods in particular ways, for example as having attributes that can be assessed and measured. At the same time, direct sensuous engagement with seaweed assisted understanding valuations that underly sensory analysis, such as the influence of memories or prior knowledge (Paper III). In a laboratory setting, competence, devices, and collective interactions stabilize and attribute properties to novel foods for future processes of commercialization (Paper IV). Different valuing activities and modes of professional valuation produce taste while evaluating sensuous encounters and finding value descriptions.

Third, I have demonstrated how everyday valuations of seaweed and scientific processes of valuation reflect and interact with each other, underscoring the dynamic interplay between everyday meaning making and institutional knowledge production (RQ3). Framing a sensory analysis as a setting for a valuation process, Paper IV shows how laboratory-specific activities contribute to valuing seaweed and producing taste. The results illustrate that (de)valuing seaweed in everyday encounters and professional valuations mutually constitute one another. Four registers of valuing that contribute to rendering seaweed from something edible to something tasty have been emphasised: (1) language, (2) sensuous experience, (3)

production modes, and (4) culinary frames. The registers make previous understandings visible. Creating a language in the laboratory that describes sensory properties is based on embodied, sensuous impressions connecting to previous experiences and knowledges.

6.1. Research contributions

This thesis contributes to broader debates on sustainable food system transitions by offering a multifaceted understanding of how novel foods are valued, embedded, and negotiated within everyday life. More specifically, the thesis contributes to literature on novel food consumption empirically, theoretically, and methodologically.

Empirically, the thesis traces the emergence of a specific novel food resource (seaweed) in Sweden, demonstrating how valuations render it visible and pave the way for facilitating its integration into people's everyday diets. In addition, it has been shown how consumers and tourists perceive seaweeds – as part of food, wellness, and nature – and categorizations and possibilities for retailing seaweed have been highlighted. Furthermore, conceptualizations of the consumer and consumption in novel food research have been mapped and laboratory-specific valuing activities examined. The thesis advances understanding of how seaweed as a novel food is valorised within contexts of everyday life, which highlights the possibilities that reconfiguring meanings and categorizations around food resources hold for transitioning towards ways of eating adapted to changing environmental conditions.

Theoretically, this thesis demonstrates the utility of “commodity biography approaches” as well as Valuation Studies as a lens for understanding aspects that facilitate embedding novel foods into established contexts. Those theoretical perspectives help to explain how novel foods become desirable and appreciated in everyday life, not only as bodily nourishment but also as cognitively and culturally “delicious” and “tasty” (see Mintz, 1986). The thesis contributes in three different ways:

First, the thesis complements socio-cultural studies on novel food consumption, (e.g., House, 2019a, 2019b; Micheelsen et al., 2014; Volden, 2024). The thesis shows how specific foods, such as seaweed, are rendered visible and integrated into mainstream culture through valuation processes. These processes are shaped by everyday meaning making and collective interactions, revealing how values attributed to emerging food resources are culturally and temporally situated. Foregrounding the cultural dimensions (such as situated meanings, interpretations, and symbolic associations) connected to a novel food resource, it contributes to the

broader efforts to “bring the cultural back” (Evans, 2018a, 2020; Halkier, 2020; Welch, Halkier, & Keller, 2020) into studying consumption.

Second, this thesis extends studies on commodity chains, by extending “follow the thing approaches” (see also Evans, 2018a). I locate seaweed in consumption and scientific contexts and trace it in two specific “nodes” (Evans, 2018a): a sensory science laboratory and a retail environment. Focusing on valuations within those two specific nodes, I traced the shifting status of an edible resource becoming a tasty food product. In that way my research enriches conventional commodity chain analyses. In addition, unlike typical “follow the thing” approaches, which often overlook consumer engagement (Cook, 2006; Evans, 2018a), this research incorporates valuations from tourists, consumers, researchers, and sensory panellists.

Third, the thesis contributes to Valuation Studies in two central ways: by examining valuation in a controlled scientific setting (a sensory science lab), and by exploring the valuation of a novel food resource embedded in a specific temporal and geographical context (seaweed in contemporary Sweden). It also reflects on the fleeting nature of novelty, showing how the status of “novel” is dependent on and subject to transformation through repeated exposure and evolving experiences and knowledges.

Methodologically, this thesis draws on sensuous ethnography to demonstrate how embodied engagement with seaweed enriches analytical interpretation and supports iterative development of insights (Lorimer & Lund, 2003; Pink, 2007). For food science and product development, these results offer an alternative approach to understanding the cultural meanings (and their presence) embedded in sensory qualities of novel food resources (Pink, 2015). The research also serves as a practical inquiry into interdisciplinary collaboration within the context of seaweed valorisation. By experimenting with sensuous engagement and valorisation practices, it contributes to methodological discussions on conducting research across disciplines. The results underscore the potential of material and sensory encounters to foster productive dialogue and establish common ground across disciplinary boundaries.

The integration of novel foods into everyday consumption is increasingly viewed as a strategy for addressing unsustainable food practices and advancing less resource-intensive sustainable diets. Such integration necessitates cultural change, raising questions about how values and norms are shifted. This thesis contributes to the broader literature on less resource-intensive diets by examining seaweed as a novel food resource in Sweden and highlighting how everyday valuations function as both enablers and constraints in transforming food consumption and how we eat. By tracing valuations through which seaweed becomes recognized as food, this research underscores that novel foods do not emerge in isolation, instead they are embedded in broader dynamics of resource recognition, consumption patterns, and

cultural dependent valuation. Understanding how seaweed is valorised within everyday contexts reveals the conditions under which novel foods gain acceptance and can potentially become integrated in everyday diets. While novel foods may serve as temporary interventions within largely unchanged food economies, this thesis argues that their adaptation to existing contexts is a critical way through which dietary habits and food systems can be reoriented toward sustainability.

6.2. Future scientific directions and wider implications

A central finding of this thesis is that valuations play a critical role in the consumption of novel foods. The meanings attributed to emerging food resources are dynamic, shaped by shifting social, material, and economic contexts. This underscores the need for deeper insight into the interrelations among these contexts. As Mann (2015) argues, contexts do not merely reflect reality – they are political constructs that function as interventions.

Situating novel food resources within processes of valuation challenges dominant assumptions about consumer acceptance, which often rely on product attributes, consumer profiles, and behavioural models. This approach highlights cultural and temporal diversity, by demonstrating that effective dietary change requires transformations across interconnected food-related and non-food related valuations. Understanding these relational dynamics demands more than mapping existing contexts. Instead, it requires the creation of contexts that actively enable the integration of novel resources into the everyday, that is if and how the everyday allows for incorporating (novel) resources as food. Relevant examples for future studies of seaweed foods in Sweden could include investigating different food intermediaries and their role in promoting them; educational initiatives at cultural festivals or schools; examining relations between humans and aquatic organisms in marine allotment gardens; tracing discourses in traditional media (e.g., *Buffé*, published by one of Sweden's largest grocery retailers); and analysing valuation processes through big data and interpretations in social media. Such knowledge is essential for reshaping dietary practices and advancing a transition towards eating that is adapted to changing environmental conditions.

For practitioners this thesis underscores that the development of novel foods alone does not guarantee more environment-friendly eating practices. Market infrastructure, including retail availability, product categorization, and pricing, plays a critical role, highlighting the role of food intermediaries. While increased retail presence of seaweed products may enhance consumer uptake, everyday knowledge regarding preparation, processing, and cooking it, remains limited. Adoption may be supported through complementary services, such as smart packaging, recipe provision and meal kits, cooking workshops and demonstrations,

in-store tastings and promotions, and influencer partnerships. Furthermore, appropriate meal contexts for integrating seaweed into daily diets are yet to be established.

Although the thesis' results indicate consumer interest, it remains uncertain whether seaweed will become a dietary staple. Beyond its immediate scope, the thesis suggests that mainstreaming seaweed consumption requires supportive regulatory frameworks, such as the EU novel food regulations, that are successfully addressing food safety concerns. Additionally, producers may benefit from positioning seaweed foods as artisanal products or local specialties, given that sensory flavour impressions vary significantly by species, harvest timing, geographic origin, and processing methods (Chapman et al., 2015; Figueroa, Bunger, Ortiz, & Aguilera, 2022).

In conclusion, the insights from this thesis contribute to the Sustainable Development Goals, particularly SDG 12 (Responsible Production and Consumption) by revealing how everyday valuations act as both enablers and constraints in reshaping food consumption, and SDG 14 (Life Below Water) by demonstrating the increasing visibility of seaweed and marine ecosystems within mainstream culture in Sweden.

Appendix

Appendix A



2022 Screenshot of "Nu skördas nya svenska supermaten". © Dagens Nyheter. Newspaper Article: Anna Skoog. Photo: Jenny Ingemarsson. Reprinted with permission.

The screenshot is taken from the opening section of an article reporting on Nordic Seafarm, a Sweden-based seaweed farming company. The Swedish text reads: The new Swedish superfood is now being harvested. Bas Wensveen, Göran Nylund and Oscar Gustavsson are part of Nordic Seafarm's "harvest team". During the busy harvest season, they work up to 12 hours a day, mostly on the barge out at sea. (Skoog, 2022; Translation by the author.)

Appendix B



2022 The entrée. © Nobel Prize Outreach. Photo: Dan Lepp. Reprinted with permission.

The Nobel Prize banquet is an annual event honoring that year's Nobel Prize laureates and features a uniquely composed menu for the occasion. This description is taken from The Nobel Prize's website: "The entrée: Seaweed baked pike-perch and tomato stuffed with marinated pike-perch, parsley emulsion, kohlrabi and bread spices with dill seed pearls and flower crisp." (The Nobel Foundation, 2022).



2023 The entrée. © Nobel Prize Outreach. Photo: Dan Lepp. Reprinted with permission.

The Nobel Prize banquet is an annual event honoring that year's Nobel Prize laureates and features a uniquely composed menu for the occasion. This description is taken from The Nobel Prize's website: "The entrée at the banquet: Yellow beetroot baked with seaweed and salt and a cream made from seaweed from Sweden's west coast. Served with buttermilk and dill-seed plus sturgeon caviar from Strömsnäsbruk." (The Nobel Foundation, 2023).

Appendix C



2024 Årgångsglögg Rökig whisky. © Blossa. Image: Pressbilder. Reprinted with permission.

Blossa is one of Sweden's most prominent producers of glögg (mulled wine) and has since the early 2000s issued an annual vintage glögg. "Blossa 24" is described on the companies website as: "[...] a white mulled wine in which the classic blend of spices was enhanced with smoky Scotch whiskey and rounded off with dulce seaweed, which adds saltiness and umami." (Blossa, 2024; Translation by the author.)

Appendix D



2025 Windfarmed. © Vattenfall. Image: Wind Farmed Seaweed Snacks. Reprinted with permission.

The image is from Vattenfall's Windframed project website: "The taste of wind power – We've made snacks from seaweed grown between the wind turbines at a Vattenfall offshore wind farm. As it grows, the seaweed can help regenerate the surrounding marine environment. After the harvest, it can be used as food or in other products." (Vattenfall AB, 2025).

Appendix E



2025 Bamses Skola. © Story House Egmont. Artwork: Susanne Adolfsson and Lars Bällsten. Reprinted with permission.

The artwork originates from the popular children comic “BAMSE – the world’s strongest bear”, which has since its introduction during the 1960s become a cultural reference point. The Swedish text reads: “We must protect our oceans and ensure that they are used sustainably. One way to do this is to cultivate algae that capture emissions.” (Adolfsson & Bällsten, 2025, p. 21; Translation by the author.)

Appendix F



AFTONBLADET MÅNDAG 24 NOVEMBER 2025
Dagens namn: Gudrun, Rune

Nöje / Sveriges mästarkock

Deltagaren höll på att spy – av stjärnkockens mat

”Äckligaste jag någonsin har ätit”

 Annie Månsson >

Publicerad 2025-11-09

+ Följ ✉ Mejla [Dela](#) [Spara](#)

”Det finns en naturlig sälta, umami och...”

Stjärnkocken Thomas Sjögren hann inte ens avsluta sin mening innan en deltagare började hulka.

– Det här är det äckligaste jag någonsin har ätit, säger Linnea Jarnrot i ”Sveriges mästarkock”.

2025 Screenshot of “Deltagaren höll på att spy – av stjärnkockens mat”. © Aftonbladet. Newspaper Article: Annie Månsson. Reprinted with permission.

The screenshot is taken from the opening section of an article reporting on the popular show “Sweden’s Master Chef”. The Swedish text reads: Participant about to throw up – from star chef’s food. “The most disgusting thing I’ve ever eaten.” “There is a natural saltiness, umami flavour and...” Star chef Thomas Sjögren didn’t even have time to finish his sentence before a participant started gagging. “This is the most disgusting thing I’ve ever eaten”, says Linnea Jarnrot on “Sveriges mästarkock”. (Månsson, 2025; Translation by the author.)

References

- Abbotts, E.-J., & Lavis, A. (2016). *Why we eat, how we eat: Contemporary encounters between foods and bodies*: Routledge.
- Abrahamsson, S., Bertoni, F., Mol, A., & Martín, R. I. (2015). Living with omega-3: New materialism and enduring concerns. *Environment and Planning D: Society and Space*, 33(1), 4–19.
- Adolfsson, S., & Bällsten, L. (2025). Bamses Skola - Hav och mariner resurser. BAMSE - världens starkaste björn, 14/2025, 20–21.
- Ahmad, T., Esposito, F., & Cirillo, T. (2024). Valorization of agro-food by-products: Advancing sustainability and sustainable development goals 2030 through functional compounds recovery. *Food Bioscience*, 62, 105194. doi:doi.org/10.1016/j.fbio.2024.105194
- Ajetunmobi, O. A., & Laobangdisa, S. (2024). The Effect of Cultural and Socio-economics Factors on Consumer Perception. In D. Bogueva (Ed.), *Consumer Perceptions and Food* (pp. 23–44): Springer Singapore.
- Antal, A. B., Hutter, M., & Stark, D. (Eds.). (2015). *Moments of valuation. Exploring sites of dissonance* (First edition. ed.): Oxford University Press.
- Appadurai, A. (1986). Introduction: commodities and the politics of value. In A. Appadurai (Ed.), *The Social Life of Things: Commodities in Cultural Perspective* (pp. 3–63). Cambridge: Cambridge University Press.
- Asdal, K. (2015). What is the issue? The transformative capacity of documents. *Distinktion: Scandinavian Journal of Social Theory*, 16(1), 74–90.
- Asdal, K., & Huse, T. (2023). *Nature-made economy: Cod, capital, and the great economization of the ocean*: MIT Press.
- Barinaga, E. (2023). From evaluation to valorising: Three moments in the making of social impact value. *Journal of Social Entrepreneurship*, 1–25.
- Bazeley, P. (2009). Analysing qualitative data: More than ‘identifying themes’. *Malaysian journal of qualitative research*, 2(2), 6–22.
- Beacham, J. D., & Evans, D. M. (2023). Production and consumption in agri-food transformations: Rethinking integrative perspectives. *Sociologia Ruralis*, 63(2), 309–327.
- Béné, C., Oosterveer, P., Lamotte, L., Brouwer, I. D., de Haan, S., Prager, S. D., . . . Khoury, C. K. (2019). When food systems meet sustainability – Current narratives and implications for actions. *World Development*, 113, 116–130. doi:doi.org/10.1016/j.worlddev.2018.08.011

- Bennett, J. P., Robinson, L. F., & Gomez, L. D. (2023). Valorisation strategies for brown seaweed biomass production in a European context. *Algal Research*, 75, 103248.
- Bennett, S., Wernberg, T., Connell, S. D., Hobday, A. J., Johnson, C. R., & Poloczanska, E. S. (2016). The 'Great Southern Reef': social, ecological and economic value of Australia's neglected kelp forests. *Marine and Freshwater Research*, 67(1). doi:10.1071/mf15232
- Birch, D., Skallerud, K., & Paul, N. (2019a). Who are the future seaweed consumers in a Western society? Insights from Australia. *British Food Journal*, 121(2), 603–615. doi:10.1108/BFJ-03-2018-0189
- Birch, D., Skallerud, K., & Paul, N. (2019b). Who Eats Seaweed? An Australian Perspective. *Journal of International Food and Agribusiness Marketing*, 31(4), 329–351. doi:10.1080/08974438.2018.1520182
- Blomberg, L. (2024, 2024–09–14). Forskare rasar mot årets Blossa-glögg: ”Inte samma sak”. *Aftonbladet*. Retrieved from <https://www.aftonbladet.se/nyheter/a/aljPPL/blossa-glogg-forskaren-rasar-mot-arets-smak>
- Blomhoff, R., Andersen, R., Arnesen, E. K., Christensen, J. J., Eneroth, H., Erkkola, M., . . . Trolle, E. (2023). *Nordic Nutrition Recommendations 2023 : Integrating Environmental Aspects*. Copenhagen: Nordisk Ministerråd.
- Blossa. (2024). Blossa 24 - Skotsk whisky. Retrieved from <https://blossa.com/sv/blossa-24-skotsk-whisky>
- Bodensten, E. (2021). A societal history of potato knowledge in Sweden c. 1650–1800. *Scandinavian Journal of History*, 46(1), 42–62.
- Bourke, B. (2014). Positionality: Reflecting on the research process. *The qualitative report*, 19(33), 1–9.
- Braun, V., & Clarke, V. (2012). Thematic analysis. In H. Cooper, P. M. Camic, D. L. Long, A. T. Panter, D. Rindskopf, & K. J. Sher (Eds.), *APA handbook of research methods in psychology*, Vol. 2: Research designs: Quantitative, qualitative, neuropsychological, and biological (Vol. 2, pp. 57–71). Washington, DC: American Psychological Association.
- Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative research in sport, exercise and health*, 11(4), 589–597.
- Braun, V., Clarke, V., Boulton, E., Davey, L., & McEvoy, C. (2021). The online survey as a qualitative research tool. *International journal of social research methodology*, 24(6), 641–654.
- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic Analysis. In *Handbook of Research Methods in Health Social Sciences* (pp. 843–860).
- Bridge, G. (2009). Material worlds: Natural resources, resource geography and the material economy. *Geography compass*, 3(3), 1217–1244.
- Buschmann, A. H., Camus, C., Infante, J., Neori, A., Israel, Á., Hernández-González, M. C., . . . Critchley, A. T. (2017). Seaweed production: overview of the global state of exploitation, farming and emerging research activity. *European Journal of Phycology*, 52(4), 391–406. doi:10.1080/09670262.2017.1365175

- Cai, J., & Galli, G. (2021). Global seaweeds and microalgae production, 1950–2019. Retrieved from <https://www.fao.org/3/cb4579en/cb4579en.pdf>
- Callon, M., Méadel, C., & Rabeharisoa, V. (2002). The economy of qualities. *Economy and Society*, 31(2), 194–217. doi:10.1080/03085140220123126
- Cambridge Advanced Learner's Dictionary & Thesaurus. (2025). Definition of valorization. Retrieved from <https://dictionary.cambridge.org/dictionary/english/valorization>
- Chapman, A. S., Stévant, P., & Larssen, W. E. (2015). Food or fad? Challenges and opportunities for including seaweeds in a Nordic diet. *Botanica Marina*, 58(6). doi:10.1515/bot-2015-0044
- Charlton, K. E. (2016). Food security, food systems and food sovereignty in the 21st century: A new paradigm required to meet Sustainable Development Goals. *Nutrition & Dietetics*, 73(1), 3–12. doi:10.1111/1747-0080.12264
- Cherry, P., O'Hara, C., Magee, P. J., McSorley, E. M., & Allsopp, P. J. (2019). Risks and benefits of consuming edible seaweeds. *Nutrition Reviews*, 77(5), 307–329.
- Cleave, P. E. (2013). The Evolving Relationship Between Food and Tourism: A Case Study of Devon in the Twentieth Century. In M. C. Hall & S. Gössling (Eds.), *Sustainable culinary systems*. (pp. 165–168): Routledge.
- Cook, I. (2004). Follow the thing: Papaya. *Antipode*, 36(4), 642–664.
- Cook, I. (2006). Geographies of food: following. *Progress in Human Geography*, 30(5), 655–666. doi:10.1177/0309132506070183
- Cook, I. (2008). Geographies of food: mixing. *Progress in Human Geography*, 32(6), 821–833.
- Cook, I., & Crang, P. (1996). The world on a plate: culinary culture, displacement and geographical knowledges. *Journal of Material Culture*, 1(2), 131–153.
- Cordeiro, C. M., Altintzoglou, T., Rognså, G. H., & Govaerts, F. (2022). Branding Nordic Seaweed: An Applied Multimodal Perspective. *ABAC Journal*, 42(1), 96–120. doi: DOI:10.14456/abacj.2022.38
- Corvellec, H., Hultman, J., Jerneck, A., Arvidsson, S., Ekroos, J., Wahlberg, N., & Luke, T. W. (2021). Resourcification: A non-essentialist theory of resources for sustainable development. *Sustainable Development*, 29(6), 1249–1256. doi:10.1002/sd.2222
- Counihan, C., & Højlund, S. (2018). *Making taste public: Ethnographies of food and the senses*: Bloomsbury Publishing.
- Craig, M. P. A., Stevenson, H., & Meadowcroft, J. (2019). Debating nature's value: epistemic strategy and struggle in the story of 'ecosystem services'. *Journal of Environmental Policy & Planning*, 21(6), 811–825. doi:10.1080/1523908x.2019.1677221
- Crang, M., & Cook, I. (2007). *Doing ethnographies*: SAGE.
- Data Protection Act. (SFS 2018:218). Lag med kompletterande bestämmelser till EU:s dataskyddsförordning. Retrieved from <https://www.medarbetarwebben.lu.se/sites/medarbetarwebben.lu.se/files/dataskyddslag-april2018.pdf>

- Dattatreyan, E. G., & Marrero-Guillamón, I. (2019). Introduction: Multimodal Anthropology and the Politics of Invention. *American Anthropologist*, 121(1), 220–228. doi:10.1111/aman.13183
- Department of Service Studies. (2020). Marine food resources for new markets. Retrieved from <https://www.ses.lu.se/en/marine-food-resources-new-markets/marine-food-resources-new-markets>
- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., . . . Zlatanova, D. (2015). The IPBES Conceptual Framework — connecting nature and people. *Current Opinion in Environmental Sustainability*, 14, 1–16. doi:10.1016/j.cosust.2014.11.002
- Dillehay, T. D., Ramírez, C., Pino, M., Collins, M. B., Rossen, J., & Pino-Navarro, J. D. (2008). Monte Verde: seaweed, food, medicine, and the peopling of South America. *Science*, 320(5877), 784–786.
- Directorate-General for Maritime Affairs and Fisheries. (2024). More than 20 algae species can now be sold as food or food supplements in the EU. Retrieved from https://oceans-and-fisheries.ec.europa.eu/news/more-20-algae-species-can-now-be-sold-food-or-food-supplements-eu-2024-02-26_en
- Doganova, L., Giraudeau, M., Helgesson, C.-F., Kjellberg, H., Lee, F., Mallard, A., . . . Zuiderent-Jerak, T. (2014). Valuation studies and the critique of valuation. *Valuation Studies*, 2(2), 87–96.
- Douglas, M. ([1966] 2004). *Purity and danger: An analysis of concepts of pollution and taboo*: Routledge.
- Duarte, C. M., Holmer, M., Olsen, Y., Soto, D., Marbà, N., Guiu, J., . . . Karakassis, I. (2009). Will the oceans help feed humanity? *BioScience*, 59(11), 967–976.
- EF EPI. (2024 Edition). EF English Proficiency Index. Retrieved from <https://www.ef.com/assetscdn/WIBIwq6RdJvcD9bc8RMd/cefcom-epi-site/reports/2024/ef-epi-2024-english.pdf>
- Embling, R., Neilson, L., Randall, T., Mellor, C., Lee, M. D., & Wilkinson, L. L. (2022). ‘Edible seaweeds’ as an alternative to animal-based proteins in the UK: Identifying product beliefs and consumer traits as drivers of consumer acceptability for macroalgae. *Food Quality and Preference*, 100, 104613. doi:10.1016/j.foodqual.2022.104613
- Erlandson, J. M., Graham, M. H., Bourque, B. J., Corbett, D., Estes, J. A., & Steneck, R. S. (2007). The kelp highway hypothesis: marine ecology, the coastal migration theory, and the peopling of the Americas. *The Journal of Island and Coastal Archaeology*, 2(2), 161–174.
- Ess, C., & AoIR ethics working committee. (2002). Ethical decision-making and Internet research: Recommendations from the aoir ethicsworking committee. Retrieved from www.aoir.org/reports/ethics.pdf
- European Commission. (n.d.–a). Food law general principles. Retrieved from [https://food.ec.europa.eu/horizontal-topics/general-food-law/food-law-general-principles_en#:~:text=The%20General%20Food%20Law%20Regulation%20establishes%20the,the%20European%20Food%20Safety%20Authority%20\(EFSA\)%20](https://food.ec.europa.eu/horizontal-topics/general-food-law/food-law-general-principles_en#:~:text=The%20General%20Food%20Law%20Regulation%20establishes%20the,the%20European%20Food%20Safety%20Authority%20(EFSA)%20)
- European Commission. (n.d.–b). Novel food. Retrieved from https://ec.europa.eu/food/safety/novel_food_en

- Evans, D. M. (2018a). Rethinking material cultures of sustainability: Commodity consumption, cultural biographies and following the thing. *Transactions of the Institute of British Geographers*, 43(1), 110–121. doi:10.1111/tran.12206
- Evans, D. M. (2018b). What is consumption, where has it been going, and does it still matter? *The Sociological Review*, 67(3), 499–517. doi:10.1177/0038026118764028
- Evans, D. M. (2020). After Practice? Material Semiotic Approaches to Consumption and Economy. *Cultural Sociology*, 14(4), 340–356. doi:10.1177/1749975520923521
- FAO. (2020). Land use in agriculture by the numbers. Retrieved from <https://www.fao.org/sustainability/news/detail/en/c/1274219/>
- FAO. (2021). FAO Yearbook: FISHERY AND AQUACULTURE STATISTICS 2019. Retrieved from Rome: <https://www.fao.org/3/cb7874t/cb7874t.pdf>
- Farghali, M., Mohamed, I. M., Osman, A. I., & Rooney, D. W. (2023). Seaweed for climate mitigation, wastewater treatment, bioenergy, bioplastic, biochar, food, pharmaceuticals, and cosmetics: a review. *Environmental Chemistry Letters*, 21(1), 97–152.
- Figuroa, V., Bunger, A., Ortiz, J., & Aguilera, J. M. (2022). Sensory descriptors for three edible Chilean seaweeds and their relations to umami components and instrumental texture. *J Appl Phycol*, 34(6), 3141–3156. doi:10.1007/s10811-022-02848-2
- Figuroa, V., Farfán, M., & Aguilera, J. M. (2023). Seaweeds as Novel Foods and Source of Culinary Flavors. *Food Reviews International*, 39(1), 1–26. doi:10.1080/87559129.2021.1892749
- Finstad, T. (2013). Familiarizing food: Frozen food chains, technology, and consumer trust, Norway 1940–1970. *Food and Foodways*, 21(1), 22–45.
- Food Programme Lloyd's Register Foundation. (2020). The Seaweed Manifesto. Retrieved from <https://unglobalcompact.org/library/5743>
- Fredriksson, C., Jönsson, M., Merkel, A., Nordberg Karlsson, E., & Wendin, K. (2023). Sensing seaweed settings: Making sense of a mixed-method design for sensory analysis. *International Journal of Gastronomy and Food Science*, 33. doi:10.1016/j.ijgfs.2023.100762
- Fredriksson, C., Merkel, A., & Säwe, F. (2024). Trending Seaweed: Future Opportunities in Retail? In *The Future of Consumption: How Technology, Sustainability and Wellbeing will Transform Retail and Customer Experience* (pp. 145–158): Springer International Publishing Cham.
- Fuentes, C., & Fuentes, M. (2023). Making alternative proteins edible: market devices and the qualification of plant-based substitutes. *Consumption and Society*, 2(2), 200–219.
- Geertz, C. (1973). *The interpretation of cultures : selected essays*: Basic Books.
- Giles, D. (2017). Online Discussion Forums: A Rich and Vibrant Source of Data. In V. Braun, V. Clarke, & D. Gray (Eds.), *Collecting Qualitative Data: A Practical Guide to Textual, Media and Virtual Techniques* (pp. 166–188). Cambridge: Cambridge University Press.
- Govaerts, F., & Olsen, S. O. (2023). Environmental values and self-identity as a basis for identifying seaweed consumer segments in the UK. *British Food Journal*. doi:10.1108/BFJ-07-2023-0576

- Grace, K., Siddiqui, S., & Zaitchik, B. F. (2020). A framework for interdisciplinary research in food systems. *Nature Food*, 2(1), 1–3. doi:10.1038/s43016-020-00212-6
- Graeber, D. (2001). *Toward an anthropological theory of value: The false coin of our own dreams*: Springer.
- Grebe, G. S., Byron, C. J., Gelais, A. S., Kotowicz, D. M., & Olson, T. K. (2019). An ecosystem approach to kelp aquaculture in the Americas and Europe. *Aquaculture Reports*, 15. doi:10.1016/j.aqrep.2019.100215
- Gundersen, H., Bryan, T., Chen, W., Moy, F. E., Sandman, A. N., Sundblad, G., . . . Walday, M. G. (2017). Ecosystem Services : In the Coastal Zone of the Nordic Countries. Retrieved from Copenhagen: <https://norden.diva-portal.org/smash/get/diva2:1067839/FULLTEXT01.pdf>
- Halkier, B. (2017). Normalising convenience food? The expectable and acceptable places of convenient food in everyday life among young Danes. *Food, Culture & Society*, 20(1), 133–151.
- Halkier, B. (2020). Social Interaction as Key to Understanding the Intertwining of Routinized and Culturally Contested Consumption. *Cultural Sociology*, 14(4), 399–416. doi:10.1177/1749975520922454
- Hanna, P., & Mwale, S. (2017). ‘I’m Not with You, Yet I Am . . .’: Virtual Face-to-Face Interviews. In V. Braun, V. Clarke, & D. Gray (Eds.), *Collecting Qualitative Data: A Practical Guide to Textual, Media and Virtual Techniques* (pp. 235–255). Cambridge: Cambridge University Press.
- Hasler, B., Ahtiainen, H., Hasselström, L., Heiskanen, A.-S., Soutukorva, Å., & Martinsen, L. (2016). *Marine Ecosystem Services : Marine ecosystem services in Nordic marine waters and the Baltic Sea – possibilities for valuation*. Copenhagen: Nordisk Ministerråd.
- Hasselstrom, L., Thomas, J. B., Nordstrom, J., Cervin, G., Nylund, G. M., Pavia, H., & Grondahl, F. (2020). Socioeconomic prospects of a seaweed bioeconomy in Sweden. *Sci Rep*, 10(1), 1610. doi:10.1038/s41598-020-58389-6
- Hasselstrom, L., Visch, W., Grondahl, F., Nylund, G. M., & Pavia, H. (2018). The impact of seaweed cultivation on ecosystem services - a case study from the west coast of Sweden. *Mar Pollut Bull*, 133, 53–64. doi:10.1016/j.marpolbul.2018.05.005
- Hayes-Conroy, A., & Hayes-Conroy, J. (2008). Taking back taste: feminism, food and visceral politics. *Gender, Place & Culture*, 15(5), 461–473. doi:10.1080/09663690802300803
- Heinich, N. (2020). A Pragmatic Redefinition of Value(s): Toward a General Model of Valuation. *Theory, Culture & Society*, 37(5), 75–94. doi:10.1177/0263276420915993
- Helgesson, C.-F., & Muniesa, F. (2013). For what it’s worth: An introduction to valuation studies. *Valuation Studies*, 1(1), 1–10.
- Hellsten, A., Ekengren, S., Berlin, L., & Shevtzoff, E. (2019). *En kulinarisk tidsresa. Buffé: Inspiration & Matlust Från ICA*, 04.
- Hendlin, Y. H., Weggelaar, J., Derossi, N., & Mugnai, S. (2024). Introduction: Algal mor(t)ality. In Y. H. Hendlin, J. Weggelaar, N. Derossi, & S. Mugnai (Eds.), *Being algae: transformations in water, plants* (pp. 1–25): Brill.

- Hendrich, S. (2016). Novel Foods. In *Encyclopedia of Food and Health* (pp. 79–83).
- Hennion, A. (2015). Paying Attention: What is Tasting Wine About? In A. B. Antal, M. Hutter, & D. Stark (Eds.), *Moments of valuation: Exploring sites of dissonance* (pp. 0): Oxford University Press.
- Heuts, F., & Mol, A. (2013). What is a good tomato? A case of valuing in practice. *Valuation Studies*, 1(2), 125–146.
- Heymann, H. (2019). A personal history of sensory science. *Food, Culture & Society*, 22(2), 203–223. doi:10.1080/15528014.2019.1573043
- Hocknell, S. (2016). Chewing the Fat: “Unpacking” Distasteful Encounters. *Gastronomica*, 16(3), 13–18. doi:10.1525/gfc.2016.16.3.13
- House, J. (2016). Consumer acceptance of insect-based foods in the Netherlands: Academic and commercial implications. *Appetite*, 107, 47–58.
- House, J. (2018). Insects as food in the Netherlands: Production networks and the geographies of edibility. *Geoforum*, 94, 82–93. doi:10.1016/j.geoforum.2018.05.011
- House, J. (2019a). Insects are not ‘the new sushi’: Theories of practice and the acceptance of novel foods. *Social & Cultural Geography*, 20(9), 1285–1306.
- House, J. (2019b). Modes of Eating and Phased Routinisation: Insect-Based Food Practices in the Netherlands. *Sociology*, 53(3), 451–467. doi:10.1177/0038038518797498
- Hultman, J., Corvellec, H., Jerneck, A., Arvidsson, S., Ekroos, J., Gustafsson, C., . . . Wahlberg, N. (2021). A resourcification manifesto: Understanding the social process of resources becoming resources. *Research Policy*, 50(9). doi:10.1016/j.respol.2021.104297
- Hultman, J., Säwe, F., & Fredriksson, C. (2023). Seaweed-Making in the Anthropocene. In *A World Scientific Encyclopedia of Business Storytelling* (pp. 75–89): WORLD SCIENTIFIC.
- Hutter, M., & Stark, D. (2015). Pragmatist Perspectives on Valuation: An Introduction. In A. B. Antal, M. Hutter, & D. Stark (Eds.), *Moments of valuation: Exploring sites of dissonance* (pp. 0): Oxford University Press.
- Højlund, S. (2015). Taste as a social sense: rethinking taste as a cultural activity. *Flavour*, 4(1), 6. doi:10.1186/2044-7248-4-6
- IPBES. (2019). Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. Retrieved from Bonn, Germany:
- IPCC. (2018). Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty Retrieved from https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf
- IPCC. (2019). IPCC Special Report on the Ocean and Cryosphere in a Changing Climate. Retrieved from Cambridge University Press, Cambridge, UK and New York, NY, USA: <https://www.ipcc.ch/srocc/>

- Jackson, P., Evans, D., Truninger, M., Baptista, J., & Nunes, N. C. (2022). Tasting as a social practice: A methodological experiment in making taste public. *Social & Cultural Geography*, 23(5), 739–756.
- Jackson, P., Everts, J., Brembeck, H., Hertz, F. D., Fuentes, M., Wenzl, C., . . . Halkier, B. (2018). *Reframing Convenience Food*. [Elektronisk resurs] (1st ed. 2018. ed.): Springer International Publishing.
- Jaeger, S. R. (2006). Non-sensory factors in sensory science research. *Food Quality and Preference*, 17(1-2), 132–144. doi:10.1016/j.foodqual.2005.03.004
- Jayasinghe, S., Byrne, N. M., & Hills, A. P. (2025). Cultural influences on dietary choices. *Progress in Cardiovascular Diseases*.
- Jönsson, M., Maubert, E., Merkel, A., Fredriksson, C., Karlsson, E. N., & Wendin, K. (2024). A sense of seaweed: Consumer liking of bread and spreads with the addition of four different species of northern European seaweeds. A pilot study among Swedish consumers. *Future Foods*, 9, 100292. doi:doi.org/10.1016/j.fufo.2023.100292
- Kabongo, J. D. (2013). Waste Valorization. In S. O. Idowu, N. Capaldi, L. Zu, & A. D. Gupta (Eds.), *Encyclopedia of Corporate Social Responsibility* (pp. 2701–2706). Berlin, Heidelberg: Springer Berlin Heidelberg.
- Kallio, G. (2020). A carrot isn't a carrot isn't a carrot: tracing value in alternative practices of food exchange. *Agriculture and Human Values*, 37(4), 1095–1109. doi:10.1007/s10460-020-10113-w
- Kinley, R. D., Martinez-Fernandez, G., Matthews, M. K., de Nys, R., Magnusson, M., & Tomkins, N. W. (2020). Mitigating the carbon footprint and improving productivity of ruminant livestock agriculture using a red seaweed. *Journal of Cleaner Production*, 259, 120836.
- Kjellberg, H., Mallard, A., Arjaliès, D.-L., Aspers, P., Beljean, S., Bidet, A., . . . Geiger, S. (2013). Valuation studies? Our collective two cents.
- Kopytoff, I. (1986). The cultural biography of things: commoditization as process. In A. Appadurai (Ed.), *The Social Life of Things: Commodities in Cultural Perspective* (pp. 64–92). Cambridge: Cambridge University Press.
- Kotta, J., Raudsepp, U., Szava-Kovats, R., Aps, R., Armoskaite, A., Barda, I., . . . Barboza, F. R. (2022). Assessing the potential for sea-based macroalgae cultivation and its application for nutrient removal in the Baltic Sea. *Sci Total Environ*, 839, 156230. doi:10.1016/j.scitotenv.2022.156230
- Krause-Jensen, D., & Duarte, C. M. (2016). Substantial role of macroalgae in marine carbon sequestration. *Nature Geoscience*, 9(10), 737–742.
- Kvale, S. (1995). The social construction of validity. *Qualitative inquiry*, 1(1), 19–40.
- Kvale, S. (2006). Dominance through interviews and dialogues. *Qualitative inquiry*, 12(3), 480–500.
- Lahne, J., & Spackman, C. (2018). Introduction to Accounting for Taste. *The Senses and Society*, 13(1), 1–5. doi:10.1080/17458927.2018.1427361
- Landweber, J. (2015). “This Marvelous Bean”: Adopting Coffee into Old Regime French Culture and Diet. *French Historical Studies*, 38(2), 193–223.

- Lange, K. W., Hauser, J., Nakamura, Y., & Kanaya, S. (2015). Dietary seaweeds and obesity. *Food Science and Human Wellness*, 4(3), 87–96. doi:10.1016/j.fshw.2015.08.001
- Latour, B. (2004). How to Talk About the Body? the Normative Dimension of Science Studies. *Body & Society*, 10(2-3), 205–229. doi:10.1177/1357034x04042943
- Latour, B., & Woolgar, S. ([1986] 2013). *Laboratory life*. [Elektronisk resurs] The construction of scientific facts ([2.] ed.): Princeton University Press.
- Law, J. (2004). *After method. Mess in social science research*: Routledge.
- Law, J. (2010). *The double social life of methods*.
- Lawless, H. T., & Heymann, H. (2010). *Sensory evaluation of food: principles and practices*: Springer Science & Business Media.
- Li, T., Ahsanuzzaman, & Messer, K. D. (2021). Is there a potential us market for seaweedbased products? A framed field experiment on consumer acceptance. *Marine Resource Economics*, 36(3), 255–268. doi:10.1086/714422
- Lomartire, S., & Gonçalves, A. M. M. (2024). Seaweed-Based Biodegradable Packaging: A Green Alternative for a Plastic-Free Future. In K. Bala, T. Ghosh, V. Kumar, & P. Sangwan (Eds.), *Harnessing Microbial Potential for Multifarious Applications* (pp. 271–295). Singapore: Springer Nature Singapore.
- Long, L. M. (2004). Culinary tourism: A folkloristic perspective on eating and otherness. In L. M. Long (Ed.), *Culinary tourism* (Vol. 55, pp. 20–50): Lexington: The University Press of Kentucky.
- Lorimer, H., & Lund, K. (2003). Performing facts: finding a way over Scotland's mountains. *The Sociological Review*, 51(2_suppl), 130–144.
- Losada-Lopez, C., Dopico, D. C., & Faína-Medín, J. A. (2021). Neophobia and seaweed consumption: Effects on consumer attitude and willingness to consume seaweed. *International Journal of Gastronomy and Food Science*, 24. doi:10.1016/j.ijgfs.2021.100338
- Lucas, S., Gouin, S., & Lesueur, M. (2019). Seaweed consumption and label preferences in France. *Marine Resource Economics*, 34(2), 143–162. doi:10.1086/704078
- Luke, T. W. (2002). The Practices of Adaptive and Collaborative Environmental Management: A Critique. *Capitalism Nature Socialism*, 13(4), 1–22. doi:10.1080/10455750208565497
- Mann, A. (2015). Which Context Matters? *Food, Culture & Society*, 18(3), 399–417. doi:10.1080/15528014.2015.1043105
- Marcus, G. E. (1995). Ethnography in/of the world system: The emergence of multi-sited ethnography. *Annual review of anthropology*, 24(1), 95–117.
- Martins, A., Silva, J., Alves, C., Pinteus, S., Félix, C., Augusto, A., . . . Carvalho, A. P. (2024). Towards a zero-waste sustainable biorefinery of *Codium* sp. seaweed: From bioactives application to soil enhancement materials. *Journal of Cleaner Production*, 453, 142191.
- Mattioni, D., Galli, F., & Massari, S. (2024). Underutilized or undervalued? The role of restaurants in valorizing agrobiodiversity. *The International Journal of Sociology of Agriculture and Food*, 30(2), 27–43.

- Maye, D., Coles, B., & Evans, D. (2022). Food geographies ‘in’, ‘of’ and ‘for’ the Anthropocene: Introducing the issue and main themes. *The Geographical Journal*, 188(3), 310–317.
- Meiselman, H., Jaeger, S., Carr, B., & Churchill, A. (2022). Approaching 100 years of sensory and consumer science: Developments and ongoing issues. *Food Quality and Preference*, 100, 104614.
- Mellor, C., Embling, R., Neilson, L., Randall, T., Wakeham, C., Lee, M. D., & Wilkinson, L. L. (2022). Consumer Knowledge and Acceptance of “Algae” as a Protein Alternative: A UK-Based Qualitative Study. *Foods*, 11(12). doi:10.3390/foods11121703
- Mendes, M. C., Navalho, S., Ferreira, A., Paulino, C., Figueiredo, D., Silva, D., . . . Jacinto, R. (2022). Algae as food in Europe: An overview of species diversity and their application. *Foods*, 11(13), 1871.
- Merkel, A., & Fuentes, M. (unpublished). Charting a Conceptual Pathway to Novel Food Consumption.
- Merkel, A., Säwe, F., & Fredriksson, C. (2021). The seaweed experience: exploring the potential and value of a marine resource. *SCANDINAVIAN JOURNAL OF HOSPITALITY AND TOURISM*, 21(4), 391–406. doi:10.1080/15022250.2021.1879671
- Micheelsen, A., Holm, L., & O’Doherty Jensen, K. (2014). Living with the New Nordic Diet. *British Food Journal*, 116(8), 1247–1258. doi:10.1108/BFJ-03-2013-0058
- Mintz, S. W. (1986). *Sweetness and power: The place of sugar in modern history*: Penguin.
- Mkono, M. (2011). The Othering of Food in Touristic Eatertainment: A Netnography. *Tourist Studies*, 11(3), 253–270. doi:10.1177/1468797611431502
- Mohamed, S., Hashim, S. N., & Rahman, H. A. (2012). Seaweeds: A sustainable functional food for complementary and alternative therapy. *Trends in Food Science & Technology*, 23(2), 83–96. doi:10.1016/j.tifs.2011.09.001
- Mol, A. (2002). *The body multiple. [Elektronisk resurs] ontology in medical practice*: Duke University Press.
- Mol, A. (2011). Tasting food: Tasting between the laboratory and the clinic. *A Companion to the Anthropology of the Body and Embodiment*, 467–480.
- Mol, A. (2021). *Eating in theory*: Duke University Press.
- Mondada, L. (2021). *Sensing in Social Interaction: The Taste for Cheese in Gourmet Shops*. Cambridge: Cambridge University Press.
- Mosikyan, S., Dolan, R., Corsi, A. M., & Bastian, S. (2024). A systematic literature review and future research agenda to study consumer acceptance of novel foods and beverages. *Appetite*, 107655.
- Moss, R., & McSweeney, M. B. (2021). Do consumers want seaweed in their food? A study evaluating emotional responses to foods containing seaweed. *Foods*, 10(11). doi:10.3390/foods10112737
- Mouritsen, O. G. (2017). Those tasty weeds. *Journal of applied psychology*, 29(5), 2159–2164. doi:10.1007/s10811-016-0986-1

- Mouritsen, O. G., & Pérez-Lloréns, J. L. (2024). Algae in the Human World: Beauty and Taste Come First. In Y. H. Hendlin, J. Weggelaar, N. Derossi, & S. Mugnai (Eds.), *Being algae: transformations in water, plants* (pp. 109–133): Brill.
- Mouritsen, O. G., Rhatigan, P., Cornish, M. L., Critchley, A. T., & Perez-Llorens, J. L. (2021). Saved by seaweeds: phyconomic contributions in times of crises. *J Appl Phycol*, 33(1), 443–458. doi:10.1007/s10811-020-02256-4
- Mouritsen, O. G., Rhatigan, P., & Pérez-Lloréns, J. L. (2018). World cuisine of seaweeds: Science meets gastronomy. *International Journal of Gastronomy and Food Science*, 14, 55–65. doi:10.1016/j.ijgfs.2018.09.002
- Mouritsen, O. G., Rhatigan, P., & Pérez-Lloréns, J. L. (2019). The rise of seaweed gastronomy: phycogastronomy. *Botanica Marina*, 62(3), 195–209. doi:10.1515/bot-2018-0041
- Mouritsen, O. G., Williams, L., Bjerregaard, R., & Duelund, L. (2012). Seaweeds for umami flavour in the New Nordic Cuisine. *Flavour*, 1(1), 1–12.
- Muniesa, F. (2011). A flank movement in the understanding of valuation. *The Sociological Review*, 59(2_suppl), 24–38.
- Muradian, R., & Gómez-Baggethun, E. (2021). Beyond ecosystem services and nature's contributions: Is it time to leave utilitarian environmentalism behind? *Ecological Economics*, 185. doi:10.1016/j.ecolecon.2021.107038
- Månsson, A. (2025, 9th November). Deltagaren höll på att spy – av stjärnkockens mat: ”Äckligaste jag någonsin har ätit”. *Aftonbladet*. Retrieved from <https://www.aftonbladet.se/nojesbladet/a/7394pw/sveriges-masterkock-linnea-jarnrot-fick-kvaljningar>
- Newton, L. (1951). *Seaweed utilisation*. London: Sampson Low.
- Nylén, K.-J. (2024). Alger, tång eller sjögräs – professorn reder ut begreppen. Retrieved from <https://www.gu.se/nyheter/alger-tang-eller-sjogras-professorn-reder-ut-begreppen-0>
- O'Connor, K. (2016). Invisible foodscapes: into the blue. In *Why We Eat, How We Eat* (pp. 31–50): Routledge.
- O'Hagan, L. A. (2025). Going bananas! The scientific marketing of a ‘new’ fruit in early 20th-Century Sweden. *Food, Culture & Society*, 28(3), 685–710. doi:10.1080/15528014.2024.2338982
- Palmieri, N., & Forleo, M. B. (2020). The potential of edible seaweed within the western diet. A segmentation of Italian consumers. *International Journal of Gastronomy and Food Science*, 20. doi:10.1016/j.ijgfs.2020.100202
- Palmieri, N., & Forleo, M. B. (2022). An Explorative Study of Key Factors Driving Italian Consumers' Willingness to Eat Edible Seaweed. *Journal of International Food and Agribusiness Marketing*, 34(4), 433–455. doi:10.1080/08974438.2021.1904082
- Pink, S. (2007). Walking with video. *Visual Studies*, 22(3), 240–252. doi:10.1080/14725860701657142
- Pink, S. (2015). *Doing sensory ethnography*.
- Richardson, T., & Weszkalnys, G. (2014). Introduction: Resource Materialities. *Anthropological Quarterly*, 87(1), 5–30. doi:10.1353/anq.2014.0007

- Rioux, L.-E., Beaulieu, L., & Turgeon, S. L. (2017). Seaweeds: A traditional ingredients for new gastronomic sensation. *Food Hydrocolloids*, 68, 255–265. doi:10.1016/j.foodhyd.2017.02.005
- Roe, E. J. (2006). Things Becoming Food and the Embodied, Material Practices of an Organic Food Consumer. *Sociologia Ruralis*, 46(2), 104–121. doi:10.1111/j.1467-9523.2006.00402.x
- Roohinejad, S., Koubaa, M., Barba, F. J., Saljoughian, S., Amid, M., & Greiner, R. (2017). Application of seaweeds to develop new food products with enhanced shelf-life, quality and health-related beneficial properties. *Food Res Int*, 99(Pt 3), 1066–1083. doi:10.1016/j.foodres.2016.08.016
- Rozin, P. (2015). Food preferences, psychology and physiology of. *International encyclopedia of the social & behavioral sciences*. 2nd ed. Oxford: Elsevier, 296–299.
- Rönnbäck, P., Kautsky, N., Pihl, L., Troell, M., Söderqvist, T., & Wennhage, H. (2007). Ecosystem goods and services from Swedish coastal habitats: identification, valuation, and implications of ecosystem shifts. *AMBIO: a Journal of the Human Environment*, 36(7), 534–544.
- Sage, C., Quieti, M. G., & Fonte, M. (2021). Sustainable Food Systems Sustainable Diets. *The International Journal of Sociology of Agriculture and Food*, 27(1), 1–11.
- Sayer, A. (2003 [1999]). 'Long Live Postdisciplinary Studies! Sociology and the curse of disciplinaryparochialism/imperialism'. Retrieved from <http://www.comp.lancs.ac.uk/sociology/papers/Sayer-Long-Live-Postdisciplinary-Studies.pdf>
- Sexton, A. (2016). Alternative proteins and the (non) stuff of “meat”. *Gastronomica*, 16(3), 66–78.
- Sexton, A. (2018). Eating for the post-Anthropocene: Alternative proteins and the biopolitics of edibility. *Transactions of the Institute of British Geographers*, 43(4), 586–600.
- Shapin, S. (2016). A taste of science: Making the subjective objective in the California wine world. *Social studies of science*, 46(3), 436–460. doi:10.1177/0306312716651346
- Skoog, A. (2022, 2022–04–27). Nu skördas nya svenska supermaten. *Dagens Nyheter*. Retrieved from <https://www.dn.se/ekonomi/nu-skordas-nya-svenska-supermaten/>
- Smale, D. A., Burrows, M. T., Moore, P., O'Connor, N., & Hawkins, S. J. (2013). Threats and knowledge gaps for ecosystem services provided by kelp forests: a northeast Atlantic perspective. *Ecol Evol*, 3(11), 4016–4038. doi:10.1002/ece3.774
- Snethlage, J., de Koning, S., Giesbers, E., Veraart, J., Debrot, A., Harkes, I., . . . Hamon, K. (2023). Knowledge needs in realising the full potential of seaweed for world food provisioning. *Global Food Security*, 37, 100692.
- Soluri, J. (2002). Accounting for taste: Export bananas, mass markets, and Panama disease. *Environmental History*, 7(3), 386–410.
- Spillias, S., Cottrell, R. S., Kelly, R., O'Brien, K. R., Adams, J., Bellgrove, A., . . . McDonald-Madden, E. (2022). Expert perceptions of seaweed farming for sustainable development. *Journal of Cleaner Production*, 368. doi:10.1016/j.jclepro.2022.133052

- Spradley, J. P. (2016a). *The ethnographic interview*: Waveland Press.
- Spradley, J. P. (2016b). *Participant observation*: Waveland Press.
- Springmann, M., Clark, M., Mason-D'Croz, D., Wiebe, K., Bodirsky, B. L., Lassaletta, L., . . . Willett, W. (2018). Options for keeping the food system within environmental limits. *Nature*, 562(7728), 519–525. doi:10.1038/s41586-018-0594-0
- Statista. (2018). Share of new seaweed and algae products introduced in European food and drinks market from 2012 to 2017*. Retrieved from <https://www.statista.com/statistics/894912/algae-product-launches-share-europe/>
- Statista. (2021). Type of plant-based meat alternatives consumed. Retrieved from https://www.statista.com/global-consumer-survey/tool/38/fod_swe_202100?index=0&absolute=0&population=0&missing=0&rows%5B0%5D=v2008_plant_meat&tgeditor=0
- Stone, M. J., Migacz, S., & Wolf, E. (2018). Beyond the journey: the lasting impact of culinary tourism activities. *Current Issues in Tourism*, 22(2), 147–152. doi:10.1080/13683500.2018.1427705
- Sugiura, L., Wiles, R., & Pope, C. (2016). Ethical challenges in online research: Public/private perceptions. *Research Ethics*, 13(3-4), 184–199. doi:10.1177/1747016116650720
- Sutton, D. (2018). Foreword. In C. Counihan & S. Højlund (Eds.), *Making taste public: Ethnographies of food and the senses* (pp. xiii–xv): Bloomsbury Publishing.
- Swedish Ethical Review Act. (SFS 2003:460). Lag (2003:460) om etikprövning av forskning som avser människor. Retrieved from https://www.riksdagen.se/sv/dokument-och-lagar/dokument/svensk-forfattningssamling/lag-2003460-om-etikprovning-av-forskning-som_sfs-2003-460/
- Swedish Research Council. (2017). Good Research Practice. Retrieved from <https://www.vr.se/english/analysis/reports/our-reports/2017-08-31-good-research-practice-2017.html>
- Terry, G., & Braun, V. (2017). Short but Often Sweet: The Surprising Potential of Qualitative Survey Methods. In V. Braun, V. Clarke, & D. Gray (Eds.), *Collecting Qualitative Data: A Practical Guide to Textual, Media and Virtual Techniques* (pp. 13–14). Cambridge: Cambridge University Press.
- The Nobel Foundation. (2022). Nobel Banquet Menu 2022. Retrieved from <https://www.nobelprize.org/ceremonies/nobel-banquet-menu-2022/>
- The Nobel Foundation. (2023). Nobel Banquet Menu 2023. Retrieved from <https://www.nobelprize.org/ceremonies/nobel-banquet-menu-2023/>
- Thomas, J. B. E., Sodré Ribeiro, M., Potting, J., Cervin, G., Nylund, G. M., Olsson, J., . . . Byron, C. (2021). A comparative environmental life cycle assessment of hatchery, cultivation, and preservation of the kelp *Saccharina latissima*. *ICES Journal of Marine Science*, 78(1), 451–467. doi:10.1093/icesjms/fsaa112
- Trethewey, L. (2020). What Victorian-era seaweed pressings reveal about our changing seas. *The Guardian*. Retrieved from <https://www.theguardian.com/environment/2020/oct/27/what-victorian-era-seaweed-pressings-reveal-about-our-changing-seas>

- Ureta, S., Flores, P., Barrena, J., & Miranda, P. (2024). Pacifying seaweed: imagining docile objects for novel blue bioeconomies. *Maritime Studies*, 23(3), 38.
- Valdivia, G., Himley, M., & Havice, E. (2022). Critical resource geography. In M. Himley, E. Havice, & G. Valdivia (Eds.), *The Routledge handbook of critical resource geography* (pp. 1–20): Routledge.
- Vásquez, J. A., Zuñiga, S., Tala, F., Piaget, N., Rodríguez, D. C., & Vega, J. M. A. (2013). Economic valuation of kelp forests in northern Chile: values of goods and services of the ecosystem. *Journal of applied phycology*, 26(2), 1081–1088. doi:10.1007/s10811-013-0173-6
- Vatin, F. (2013). Valuation as evaluating and valorizing. *Valuation Studies*, 1(1), 31–50.
- Vattenfall AB. (2025). Windfarmed. Retrieved from <https://group.vattenfall.com/windfarmed>
- Volden, J. (2024). ‘A wing in the throat’: Negotiating edibility in everyday insect consumption. *Geoforum*, 157, 104132.
- Waltorp, K. (2021). Multimodal Sorting. In Ballesterio & Winthereik (Eds.), *Experimenting with ethnography: A companion to analysis* Duke University Press.
- Warde, A. (1997). *Consumption, Food and Taste: Culinary Antinomies and Commodity Culture*: SAGE Publications.
- Warde, A. (2014). After taste: Culture, consumption and theories of practice. *Journal of Consumer Culture*, 14(3), 279–303.
- Weiner, K., & Will, C. (2015). Materiality matters: Blurred boundaries and the domestication of functional foods. *BioSocieties*, 10(2), 194.
- Welch, D., Halkier, B., & Keller, M. (2020). Introduction to the Special Issue: Renewing Theories of Practice and Reappraising the Cultural. *Cultural Sociology*, 14(4), 325–339. doi:10.1177/1749975520954146
- Wendin, K., & Undeland, I. (2020). Seaweed as food – Attitudes and preferences among Swedish consumers. A pilot study. *International Journal of Gastronomy and Food Science*, 22. doi:10.1016/j.ijgfs.2020.100265
- Whatmore, S. (2003). From Banana wars to Black Sigatoka. Another case for a more-than-human geography. In (Vol. 34, pp. 139): Pergamon.
- Willet, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., . . . Murray, C. J. L. (2019). Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170), 447–492. doi:10.1016/s0140-6736(18)31788-4
- Zimmermann, E. W. (1951). *World resources and industries : a functional appraisal of the availability of agricultural and industrial materials* (Rev. ed.): Harper & Brothers.

Dissertations at the Department of Service Studies, Lund University

1. Fuentes, Christian. Green Retailing: A socio-material analysis. (2011)
2. Wengelin, Mattias. Service, Regulations, and Ports: An Actor-Network perspective on the social dimension of Service-Dominant Logic. (2012)
3. Svingstedt, Anette. Servicemötets praktik: på en tingsrätt, ett äldreboende och ett hotell. (2012)
4. Eksell, Jörgen. Värdeskapande gästfrihet: Hur gästfrihet som värde ramas in, etableras och förhandlas i hotellbranschen. (2013)
5. Månsson, Maria. Mediatized tourism: The convergence of media and tourism performances. (2015)
6. Nilsson, Tomas. Rhetorical business: A study of marketing work in the spirit of contradiction. (2015)
7. Raissova, Alma. Servicescapes seen by visually impaired travellers: Time-geography approach to servicescape research. (2017)
8. Samsioe, Emma. Consumer Contextual Learning: The Case of Fast Fashion Consumption. (2017)
9. Kronen, Manuela. Tales of uniqueness: Value creation in rural tourism development. (2018)
10. Lainpelto, Jack. Ämnade för restaurangarbete? Om politisk styrning och lågutbildade ungdomars väg fram till arbetsmarknadens tröskel. (2018)
11. de Wit Sandström, Ida. Kärleksaffären: Kvinnor och köpenskap i kustens kommers. (2018)
12. Andersson, Malin. Kustnära yrkesfiske i förändring: Från mångsysslare till entreprenör. (2019)
13. Östrup Backe, Josefine. Enacting “the local” in culinary tourism: A study of culinary actors and their practices. (2020)
14. Aslan, Devrim Umut. Praxitopia: How shopping makes a street vibrant. (2021)
15. Reid, Stuart. Touring Tourism Enterprising: Mundane Practices of Tourism Development. (2022)
16. Mieli, Micol. Smartphoned Tourists in the Phygital Tourist Experience. (2022)
17. Spitzkat, Anna. Understanding Social Media Shopping: Instagram and the reconfiguration of the practice of shopping. (2022)

18. Liu, Rui. Tinkered care: Assembling Medicine Consumption in Grey Zones. (2023)
19. Rehncrona, Carin. Payments: Understanding the use of retail payment service platforms in the era of digitalisation. (2024)
20. Pumputis, Aurimas. Trust and control on peer-to-peer platforms: A sociomaterial analysis of guest-host relationships in digital environments. (2024)
21. Tölg, Réka. The (im)possibilities of circular consumption: Producing and performing circular clothing consumption in retail and household settings. (2025)
22. Nehl, Marthe. Infrastructuring independent cultural production: Empirical and conceptual explorations. (2025)
23. Persson, Marcus. Hur görs ledarskap? Sakralisering i vardagliga interaktioner på en vård- och omsorgsförvaltning. (2026)
24. Danielsson, Pernilla. User Orientation in Welfare Services: Challenges from a public service logic perspective. (2026)
25. Merkel, Annabell. Valorising seaweed: Novel food valuation in everyday encounters. (2026)

Valorising seaweed: Novel food valuation in everyday encounters

As pressure grows to reduce the climate impact of our diets, researchers are increasingly turning towards underutilized food sources that demand fewer resources. For Western diets, seaweed is a promising candidate – growing in the ocean it does not require freshwater, fertilizers, or farmland.

Despite these environmental advantages, seaweed as food remains unfamiliar to most Swedish consumers. How, then, does an unfamiliar resource become embedded in a new culinary context and become recognized as “food”? This thesis addresses this question by examining the ongoing valorisation of seaweed in Sweden. By exploring aspects that facilitate, or hinder, the embedding of novel food resources in established contexts, the research highlights valuations as both enablers and constraints in transforming food consumption and how we eat.

This thesis traces contemporary, everyday encounters with seaweed across multiple settings, including people’s previous experiences while dining at restaurants, categorizations in retail environments, and (e)valuation processes within scientific laboratories. Across four papers and one book chapter, the research assembles an emerging food narrative. By attending to these everyday encounters, it illustrates how “recognizing something as food” can unfold and shows how consumption- and scientific contexts shape whether a new resource becomes food embedded in everyday eating or stays a novelty.

Taken together, the studies offer a multifaceted understanding of how novel foods are embedded, negotiated, and valued in different contexts, and provide insight into seaweed’s potential role in adapting food systems to a changing environment.

ANNABELL MERKEL is an interdisciplinary researcher interested in the meeting of environment and culture. Her doctoral research focuses on sustainability, food consumption, and valuation, exploring socio-cultural processes and everyday encounters through which emerging resources are transformed into food products and services. Her background spans sustainability, leadership and organisation studies, and social and cultural anthropology.

