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Understanding the future of carbon neutrality in the culinary arts through non-representational theory, practice theory, and design

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Introduction

The hospitality and culinary arts industry stand at a crucial crossroad. With the imperative to reduce carbon emissions in line with 2050 Paris accord (United Nations, 2024), restaurants and culinary institutions are compelled to rethink their practices; it could also be argued that the rethinking is part of a wider "rebalancing" of the food system (Public Health Advisory Committee, 2024).

A combination of non-representational theory, practice theory, and design could offer a unique lens to understand and communicate the necessary changes. By integrating these theories, I believe we can pave the way for a more sustainable and resilient culinary sector, as it allows for a greater understanding of sustainability that goes beyond theoretical frameworks and addresses the practical challenges facing the culinary industry. Second, the iterative and user-centric nature of design thinking ensures that the research remains grounded in the realities of culinary professionals, promoting the development of solutions that are both effective and feasible. This is in contrast to the current examples where a combination of siloed information has resulted in a "lack of clear vision" within the hospitality industry (McMahon, 2024).

Moreover, the combination of design thinking, non-representational and practice theory fosters a transdisciplinary approach, acknowledging the diverse perspectives and expertise needed to tackle complex sustainability issues. It encourages collaboration between culinary arts, design, sociology, and other relevant fields, creating a synergistic environment for innovative problem-solving. This opinion piece explores how these theories can illuminate pathways for the culinary sector to become carbon neutral and considers the transformation experiences of the Danish island of Bornholm into an example of ecological, economic, and social regeneration.

Understanding the challenge

Restaurants are significant contributors to carbon emissions, with the average New Zealand restaurant emitting around 72 tons of CO_2 equivalent annually (SkootEco, 2024). These emissions stem from various sources, including on-site energy use, electricity, and the broader supply chain and can assigned under a framework to scope one, two or three for measuring carbon emissions (Ministry for the Environment, 2020). Addressing this

requires a holistic approach that considers the entire lifecycle of culinary products and services, from sourcing and production to waste management, but also considers the role that people and specifically those who operate in the hospitality sector play in this.

Practice theory and non-representational theory in culinary sustainability

Practice theories, as articulated by scholars such as Elizabeth Shove, delve into the interplay of materials, competencies, and meanings that constitute social practices. Such theories are used to frame problems in such a way as to make specific methodological demands of those who work with them (Shove, 2010). When applied to the culinary arts, practice theory helps us understand how chefs, restaurateurs, and consumers enact sustainability in their daily routines. It reveals the material conditions, skills, and cultural values that shape sustainable culinary practices and explores human behavior against the backdrop of social structures split into three constituent elements: materials, competencies, and meanings (Shove, 2010). Materials, in this context, are not merely physical substances but carriers of cultural, social, and symbolic significance. Practice theory enriches design by highlighting how materials are embedded within social practices, influencing and being influenced by them (Shove, 2017). By acknowledging the interplay between these elements, practice theory enriches our understanding of sustainable culinary practices.

Non-representational theory, developed by Nigel Thrift, complements design thinking by providing a theoretical lens that goes beyond traditional representational approaches (Thrift, 2007). The theory emphasizes the embodied and experiential aspects of social phenomena, recognizing the significance of non-discursive elements in shaping human behavior. By acknowledging the non-discursive aspects, the research gains insights into the tacit knowledge and implicit behaviors that contribute to or hinder sustainable culinary practices. This approach aligns with the holistic nature of sustainability, acknowledging that it extends beyond mere representations and involves lived experiences, emotions, and sensory perceptions.

Design thinking: bridging theory and practice

Design thinking, particularly as outlined by V.J. Kumar in "101 Design Methods," complements the above theoretical frameworks by providing practical tools for innovation and problem-solving (Kumar, 2012). It emphasizes user-centric and iterative processes, ensuring that sustainability solutions are grounded in the realities of culinary professionals.

While design thinking and non-representational theory provide valuable perspectives, practice theory offers a deeper understanding of how sustainability practices are enacted and negotiated within culinary settings. Furthermore, these theories can complement each other, in several ways as reflected by Bech-Danielsen (2012) in his paper The Kitchen: An Architectural Mirror of Everyday Life and Societal Development, whereby the physical and embodied role of the kitchen is interrogated and reflected upon as it changes over time.

Integrating design thinking with non-representational and practice theory allows for a nuanced approach to sustainability. This synthesis acknowledges the complexity of culinary practices and the diverse factors influencing sustainability outcomes, from material resources to social norms and cultural values. The approach encourages collaboration among culinary arts, design, sociology, and other relevant fields, creating a synergistic environment for innovative problem solving.

Opportunities for sustainable practices on Bornholm

Exploring the sustainable practices on the Danish Island of Bornholm, known as the "Bright Green Island," provides an opportunity to highlight the adoption of an integrated approach and investigate its merits. Bornholm's commitment to the United Nations Sustainable Development Goals (SDGs) provides a fertile ground for examining how sustainability can be practically achieved in the culinary sector. The study will investigate how Bornholm's restaurants and businesses embed SDGs 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), and 13 (Climate Action) into their practices. By observing and analyzing these practices, the aim is to validate a template for change that can be applied to culinary arts education and the wider industry. Dissemination of this information, in the form of podcasts and radio interviews, mediums could be further expanded upon using video or other multimedia platforms (Guo et al., 2014), and is more likely to reach hospitality workers than academic publication.

Conclusion

The combination of non-representational theory, practice theory, and design thinking could provide a powerful framework for understanding and driving sustainable change in the culinary arts. By focusing on the material, embodied, and symbolic dimensions of culinary practices, this integrated approach offers valuable insights and practical solutions for achieving carbon neutrality in the hospitality industry. Such an approach can move beyond theoretical frameworks and address the practical challenges faced by the culinary industry and educators alike. Exploring practices on the Danish Island of Bornholm, could demonstrate how sustainability can be practically achieved in the culinary sector. Educators can draw from the insights gained through the case study on Bornholm to incorporate principles of SDGs into the curriculum. Integrating such practices into culinary arts programs reflects a commitment to shaping future

professionals who are equipped to drive positive change. This approach aligns with targets to achieve carbon neutrality by 2050 as part of global commitments to sustainability, espoused by the United Nations.

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Conflict of interest

The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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