UNLEARNING UNSUSTAINABILITY

Facilitating phase-out in sustainability transitions in the Dutch food system

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MLP	Multi-level perspective
CSA	Community-supported agriculture
PGS	Participatory guarantee system
CBG	Consumer-buying group
MBO	Middelbaar beroepsonderwijs / Secondary vocational education

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CHAPTER 1

Introduction

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This thesis aims to contribute to scholarly debates on the governance of regime destabilisation and phase-out in sustainability transition studies. In particular, I suggest broadening the notion of phase-out in ways that account for *"unlearning"*. To this end, I develop the concept of unlearning for sustainability transition studies. The empirical focus of this thesis is on the Dutch food system.

1.1. Background

Transition theory and practice tend to assign a pivotal role to innovation and new technologies in shifting modern societies towards sustainability. Across sectors, calls for a sustainability transition are most often met with calls for innovation, starting from a diagnosis that prevailing arrangements inadequately respond to and aggravate persisting global crises (Grin et al. 2010; Davidson 2019). This ***"innovation bias"*** forces attention to the new and novel while often obscuring what holds things in place (Shove et al. 2012; Turnheim and Sovacool 2020; Svennevik et al. 2020). Interrogating the stability of systems and studying how and why stable arrangements deteriorate is often of lesser valued academic and political concern (Shove et al. 2012).

However, attention to the ***"flipsides"*** of transition processes is clearly of timely relevance as, despite decades of innovation support, unsustainability remains rife (Davidson 2019; Koretsky et al. 2023). Our planet faces many interconnected ecological and social crises. The recent update on the planetary boundaries framework found that six of nine boundaries have been transgressed and concluded that ***"Earth is now well outside of the safe operating space for humanity"*** (Richardson et al. 2023:1). Therefore, without drastic efforts to curb systems' unsustainability, current trends are likely to deepen ecological crises while failing to afford the social foundations sufficient to avoid critical human deprivation (Fanning et al. 2022; Schmeltzer et al. 2022). Confronting the unsustainability of prevailing systems will, therefore, be a necessary part of any plausible trajectory of societal change. For this purpose, ***"how the 'death' of undesirable systems might be engineered"*** (Shove and Walker 2007:67) has become a burgeoning question for transition theory and practice. It suggests that governing

sustainability transitions involves multi-actor and multi-level processes that actively challenge the stability of unsustainable arrangements as much as the promotion of new ones (David and Gross 2019; Hebinck et al. 2022).

This thesis aims to contribute to the literature that examines how destabilisation processes unfold in support of sustainability transitions. To situate this research in its theoretical context, I now turn to the concepts of socio-technical regime, regime destabilisation and phase-out before introducing the notion of unlearning.

1.2 Sustainability transitions and regime destabilisation

Theoretically, this thesis builds on the conceptualisation of societal change as it has been developed in the sustainability transitions literature (Geels 2011; Grin et al. 2010; Markard et al. 2012; Fuenfschilling and Truffer 2014). This literature defines transitions as *"long-term, multi-dimensional, and fundamental transformation processes through which established socio-technical systems shift to more sustainable modes of production and consumption"* (Markard et al. 2012:956). Such processes come with a particular diagnosis of persistent unsustainability, in which persistence is attributed to the lock-in and path dependency of socio-technical regimes (Avelino et al. 2016).

The socio-technical regime *"forms the 'deep structure' that accounts for the stability of an existing socio-technical system. It refers to the semi-coherent set of rules that orient and coordinate the activities of social groups that reproduce the various elements of socio-technical systems"* (Geels 2011:5; Rip and Kemp 1998). In other words, the regime presents either the *"grammar"* or *"rule set"* of a system that prescribes the directions of socio-technical change to pursue and those to neglect (Dosi 1982; Fuenfschilling and Truffer 2014). In this view, sustainability transitions are shifts from one socio-technical regime to another.

The multi-level perspective (MLP), as an effective heuristic in transition theory, depicts sustainability transitions and subsequent regime shifts as interactions between *"niche-regime-landscape"* levels (Rip and Kemp

1998; Markard et al. 2012). In particular, this perspective designates the performativity of ***niches*** to interfere with the alignment of ongoing processes in stable socio-technical regimes (Geels 2011; Sengers et al. 2019; Turnheim 2023). ***Regime destabilisation***, then, is described as ***"the process of weakening reproduction of core regime elements"*** (Turnheim and Geels 2012:35). Transition scholars cast regime destabilisation as a complex process that ends the dynamic stability of socio-technical systems (Rosenbloom and Rinscheid 2020; Frank and Schanz 2022). Interactions between the niche and regime are influenced by exogenous ***landscape*** pressures**,** including long-term changes and trends, but also external ***"shocks"*** that cause socio-technical regimes to disintegrate and lose relevance (Geels 2011; Schot and Kanger 2018). Regime-destabilising landscape pressures may create ***"windows of opportunity"*** for niches to emerge and mature. In this sense, what constitutes a niche is always defined in relation to a socio-technical regime namely as ***"practices or technologies that deviate substantially from the existing regime"*** (Geels 2011:26) and the niche's classification of ***"more sustainable"*** amounts to normative judgements about regime ***unsustainability.***

To understand sustainability transitions, one must understand the destabilisation of existing socio-technical regimes (Turnheim and Geels 2012). Nevertheless, how and why previously stable configurations have lost relevance has been less documented and researched when compared with the emergence and acceleration of novelty (Shove 2012; Turnheim and Sovacool 2020; Hebinck et al. 2022). In addition, regime destabilisation is often assumed to be a consequence of innovation as disruption through novelty (Kivimaa et al. 2021). Lately, however, some transition scholars have begun to make socio-technical regime destabilisation and its governance a focal object of study in a manner that adds intentionality to more traditional depictions of regime destabilisation as long-term decay (Rogge and Johnston 2017; Rinscheid et al. 2021; Turnheim 2023). Regime destabilisation, then, is neither the result of unmanageable, slow-moving landscape pressures nor the conclusion of niche-regime competition but a process that involves deliberate attempts to interfere with the stability of existing socio-technical regimes. Such an approach to ***deliberate regime destabilisation*** directs our analytical attention to the lock-in and sources of path dependency in incumbent socio-technical regimes (Frank and

Schanz 2022). Exploring and indicating how to purposefully unlock existing socio-technical regimes in view of a sustainability transition is an emerging aim for transition theory and practice.

1.3 Regime destabilisation through phase-out

The zeitgeist of the 21st century is infused with a sense of urgency among citizens, activists, and scholars who seem determined to redirect socio-technical regimes and the systems they are part of towards more sustainable and just directions (Baron and Fisher 2015; Moore 2016). Substantially, this redirection includes calls to dismantle, disrupt, and unmake unsustainable systems in a targeted manner utilising ***phase-out*** (Feola et al. 2021).

Phase-out ***"refers to deliberate (governance) interventions seeking the partial or total discontinuation of a socio-technical form that is deemed undesirable"*** (Turnheim 2023:45). It explicitly engages with the intentional termination of unsustainable arrangements over time, usually targeting a specified end date (Rosenbloom and Rinscheid 2020). Studies on phase-out suggest that the unit undergoing termination is typically a technology, process, or substance (Rogge and Johnstone 2017; Rinscheid et al. 2021). Phase-out has also been referred to as ***exnovation,*** thereby stressing its oppositeness to innovation (e.g. David 2017; Davidson 2019; Fossati et al. 2022 and Hebinck et al. 2022), or ***outnovation*** (e.g. Joly 2019), in sustainability transition studies. There is a continuing rise in the number of academic studies on phase-out with conceptual and empirical work across domains, which also appears societally relevant as ***"transition studies continue to aim at informing policy makers"*** (Truffer et al. 2022:337) on the governance of sustainability transitions (Rinscheid et al. 2022).

In the context of a growing urgency to reach sustainability targets, phase-out has become an increasingly accepted political reality (Rogge and Johnstone 2017; Rosenbloom and Rinscheid 2021). Phase-out as a policy proposal often aims at banning, discarding, or limiting the use and production of unsustainable technologies (Stegmaier et al. 2014; Rogge and Johnstone 2017; Hoffman et al. 2017). At the same time, phase-out is assumed to accelerate the uptake of more sustainable alternatives, such as coal phase-out that favours renewable energy (David 2017). To the extent

it facilitates technological change, phase-out is proposed to advance unfolding innovation potential (Stegmaier et al. 2014; Heyen et al. 2017). Hence, innovation support becomes merely a part of the solution that must be paired with strategies to dismantle incumbent socio-technical regimes and curb existing unsustainability. If not, innovation efforts ***"may not receive the support they need, as . . . resources are committed to supporting incumbent ideas and practices"*** (Davidson 2019:255). In the governance of sustainability transitions, phase-out is typically considered a catalyst for accelerated change, speaking to the unequal distribution of power between niche and regime actors and the complexities of tipping such power imbalances (Avelino and Wittmayer 2016; Rosenbloom and Meadowcroft 2022).

However, despite the acclaimed potential of phase-out as a destabilising policy to overcome the inertia of socio-technical regimes, most of its conceptualisation and empirical validation has been derived from studies on the phase-out of particular technologies or processes in the energy transition. Rinscheid et al. (2022) found that ***"scholarly debates about phase-out are dominated by CO_2-emitting technologies and processes [and] targets especially include coal mining and power generation and other fossil fuel-based technologies such as gas heaters, the internal combustion engine and conventional kerosene powered aircraft"*** (p. 231). In taking stock of phase-out research, these authors found that ***"climate change"*** was the most often addressed sustainability challenge, with phase-out increasingly being discussed as an approach to decarbonise modern societies (Rinscheid et al. 2022). Thus, studies of phase-out may be skewed towards technologies and environmental sustainability in the energy sector, which may obscure important dynamics of phase-out for the destabilisation of other socio-technical regimes related to other societal and sustainability challenges.

1.4. Broadening research on phase-out in sustainability transitions

This thesis proposes expanding studies on phase-out conceptually and empirically based on the abovementioned limits to practice and research on phase-out.

Conceptually, this thesis suggests phase-out beyond narrowly focused policies to discontinue technologies, processes, or substances (Rinscheid et al. 2021). As such, this thesis considers how research and practice on phase-out may shift from the ***"material"*** as its mere unit of analysis to the ***"social"*** and ***"cultural"*** dimensions of socio-technical regimes. Essentially, I suggest using the notion of ***unlearning*** for this specific ambition (see **Section 1.5**). As this thesis demonstrates, unlearning is a well-established and often researched concept in adjacent fields capable of eliciting the phase-out (i) of socio-cultural dimensions (ii) at the individual and group levels.

In line with work on ***"transformation leverage points"*** by Meadows (1999) and later O'Brien (2013; 2018) and Abson et al. (2017), this thesis situates and examines phase-out processes that occur within the ***"personal sphere of transformation"***.[1] In short, leverage points are places to intervene in a system to effectively foster its transformation, as grouped into three spheres of transformation: the practical, the political, and the personal (O'Brien and Sygna 2013; O'Brien 2018). Interventions in the personal sphere, representing ***"the subjective beliefs, values, worldviews and paradigms that influence how people perceive, define or constitute systems and structures, as well as their behaviors and practices"*** (O'Brien 2018:156), are deemed most effective for systems' change (Meadows 1999; Abson et al. 2017). Considering phase-out for sustainability transitions points to the importance of deliberate interventions to unsettle these ***socio-cultural dimensions***.

How to leave behind and reduce our reliance on unsustainable ways of being and doing is a key question to understanding the opportunities and barriers of sustainability transitions (Hargreaves et al. 2013; Köhler et al. 2019; Kaufman et al. 2021). What hinders such change is ***"convenience . . . and the way we often organise our social life around a particular way of doing things"*** (Bell and Ashwood 2016:115; Shove 2003). This sentiment suggests the importance of phase-out related to individual decisions about everyday behavioural practices, including the mindsets and beliefs that (re)produce existing arrangements (Abson et al. 2017; Rosenbloom and Rinscheid 2020; Wojtynia et al. 2023). When practices are abandoned, it

1 This sphere represents individual and shared understandings and assumptions about the world that influence perceptions, interpretations, and constructions of reality (O'Brien 2018).

appears pertinent to simultaneously deconstruct our ideas about them as ***"effective, beneficial, appropriate, inevitable and so on (i.e. as unproblematic)"*** (Maguire and Hardy 2009:151). This thesis foregrounds phase-out as an ***individual choice*** (or that of a group of individuals) to discard and reduce reliance on unsustainable mindsets, practices, and beliefs.

Empirically, I aim to expand the sectoral variety of phase-out studies that overly focus on energy transitions (Rinscheid et al. 2022; Turnheim 2023). Despite its considerable contribution to persisting unsustainability, phase-out has only marginally appeared in studies on sustainability transitions in food systems (Trencher et al. 2022). The study of phase-out related to food systems additionally opens the possibility to include objectives other than decarbonising society, such as ambitions for health and wellbeing, biodiversity, and farmers' improved livelihood (Rinscheid et al. 2022; Frank et al. 2024).

In sum, the novelty of my research is to broaden the notion of phase-out in sustainability transition studies in ways that account for unlearning while applying it to the lesser-examined empirical domain of food systems.

1.5. Two perspectives on unlearning

This thesis contends that an unlearning perspective affords new ways of thinking about phase-out and the deliberate destabilisation of socio-technical regimes. To study unlearning in sustainability transitions, I build on ***strategic*** and ***pedagogical*** perspectives on unlearning.

First, this thesis draws on a ***strategic*** perspective on unlearning from organisational theory that focuses on unlearning organisational ***routines***, mostly in commercial business settings. Organisational unlearning was initially defined as ***"the process of reducing or eliminating pre-existing knowledge or habits that would otherwise represent formidable barriers to new learning"*** (Newstrom 1983:36). Many other definitions of unlearning were subsequently formulated (e.g. Akgün 2007; Tsang and Zahra 2008; Zhao et al. 2013; Starbuck 2017; Cegarra-Navarro and Wensley 2019). Most repeated the following key aspects: (a) unlearning is ***intentional,***[2] which

2 Unlearning is therefore not the same as forgetting, whereby existing accumulated knowledge naturally or accidentally deteriorates, decays or disappears (e.g. de Holan and Philips 2004).

means that unlearning is planned and premeditated; (b) unlearning is ***a process*** rather than an event or end goal that involves (c) individuals and/or groups of individuals, often organisations ***"abandoning"***, ***"eliminating"***, ***"rejecting"***, ***"discarding"***, ***"giving up"***, or ***"stop using"*** established routines, and (d) unlearning occurs related to organisational learning.

A strategic perspective on unlearning foregrounds the added value of timely questioning and abandoning established organisational routines, including their ***"performative"*** aspects (i.e. skills and practices at the behavioural level) and ***"ostensive"*** aspects (i.e. norms, values, and beliefs at the cognitive level) that dynamically interact (Sinkula 2002; Fiol and O'Connor 2017; Tsang 2017). Hence, organisations must be prepared to abandon obsolete or outdated routines to accommodate ***"better and more appropriate ones"*** to remain relevant in turbulent environments (Tsang and Zahra 2008:1438).

In its ambition to develop the concept of unlearning for sustainability transitions, this thesis additionally mobilises insights from postcolonial and feminist scholarship about unlearning (e.g. Spivak 1996; Cochran-Smith 2000; Choi, J. 2008). In addition to strategic unlearning, these studies embrace a more ***pedagogical approach*** and consider the value of unlearning in uprooting and rejecting certain mindsets and worldviews – leading to stereotypical thinking and biases underpinning our known and unknown behaviours (Macdonald 2002). To this end, a pedagogical approach to unlearning helps to capture the more ethically charged and broadly speaking, ***"political"*** objectives of those involved in processes of unlearning in sustainability transitions.

Unlearning has been overlooked in sustainability transition studies and rarely examined empirically. Whereas insightful theorisations of learning processes have been proposed, unlearning itself has remained a fuzzy concept (van de Kerkhof and Wieczorek 2005; Schot and Geels 2008; van Mierlo and Beers 2020; van Poeck et al. 2020). Few scholars have treated it as a process in its own right (Nygren et al. 2017; Feola et al. 2021). Instead, they have tended to consider unlearning as an event or an episode in the learning process when an individual discards learned habits or rejects long-held beliefs (Visser 2017). This tendency undermines the ability to grasp the processual nature of unlearning (Fiol and O'Connor 2017; Cegarra-Navarro and Wensley 2019). Hence, relevant

questions for transition theory include what an unlearning perspective would contribute to understanding sustainability transitions and to what extent the foregrounding of unlearning may draw attention to different and potentially hidden aspects of such transitions.

Lastly, the few studies that have mentioned unlearning in sustainability transitions studies have been subject to limitations: either casually recommending what needs to be unlearned for transformative change (e.g. Wolfram 2019) or being guided by a strategic perspective on unlearning alone (e.g. Nygren et al. 2017). These limitations have implications for how transition scholars have thought about conceptualising and facilitating unlearning for sustainability. Altogether, unlearning has often been neglected or misunderstood in sustainability transition studies. This thesis aims to fill exactly these gaps.

In conclusion, this thesis develops the concept of unlearning for sustainability transition studies. The following research questions guide my research:

a. How can the concept of unlearning be operationalised for empirical studies?

b. Whether and how do processes of unlearning unfold?

c. How can processes of unlearning be facilitated?

1.6. Research design and practice

This thesis draws insight from cases of sustainability transitions in the Dutch food system. Calls for a transformation of the Dutch food system abound due to a growing urgency in public and political debates to redirect the food system towards more sustainable and just alternatives (Runhaar 2017; Sibbing et al. 2021; Vermunt, Wojtynia et al. 2022; Rijksoverheid 2023). The need to mitigate ecological and social problems caused by industrial food systems is societally recognised, yet food system transformation is vastly complicated by ***"path dependencies, lock-ins and the covering up of possibilities"*** (Leitheiser et al. 2022:705; also see IPES-Food 2018; Oliver et al. 2018). The industrial Dutch food system is guided by a ***"modernisation paradigm"*** that casts progress as increased production volume, enhanced

technical efficiency of production, and global competitiveness (van der Ploeg et al. 2000). Prioritised as a post-war policy objective, the continued modernisation of food systems has led to the Netherlands to become a leader in the global market, standing as the most productive and efficient producer of agricultural products in the EU per unit of land (Smit 2018; van Grinsven et al. 2019; Leitheiser et al. 2022). Dubbed ***"the tiny country that feeds the world"*** (Vivano 2017), the Dutch food system is lauded for innovativeness. It continues to benefit from strong (European) political support and institutional funding favouring large-scale and intensified farming practices.

Simultaneously, the modernisation of the Dutch food system has consistently been connected to environmental harms, economic hardship, and social injustice (van de Ploeg et al. 2000; Campbell et al. 2017; FAO, IFAD, UNICEF, WFP and WHO 2018; Smit 2018). Especially since the Dutch court found in 2019 that the government was breaking EU law by not doing enough to reduce excessive nitrogen emissions affecting Nature 2000 areas, appeals to radically transform the Dutch food systems have been abundant (van de Ploeg 2020; Leitheiser et al. 2022; EEA 2022).

This thesis considers the multi-level and multi-actor efforts to facilitate a sustainability transition in the Dutch food system in terms of targeting the unsustainability of prevailing arrangements that contribute to climate change, extreme weather events, biodiversity loss, rural deprivation, and the spread of diseases (Wiskerke 2009; Smit 2018; Vincent and Feola 2020). Such efforts are most profound in grassroots food initiatives that attempt to reconnect farmers and consumers around local and sustainable food, thereby offering an alternative to the logic of the dominant global, anonymous, and complex food value chain (Renting et al. 2003; Roep and Wiskerke 2012).

I argue that the Dutch food system makes an excellent case to study phase-out and unlearning, with food system actors experimenting with novelty while increasingly being urged to rethink and distance from existing arrangements. In addition, as a Dutch citizen with a keen interest in food system transformation, studying food in the Netherlands was an evident choice. I have participated in different Dutch alternative food initiatives and participated in self-harvesting, gardening, the collective buying of food and advocacy work. These experiences have helped me to better

understand the stories of participating citizens in this research and, to a humble extent, the realities of farmers in the Netherlands. The ability to speak Dutch with knowledge of the cultural context and ongoing political debates helped build meaningful relationships with research participants, with whom I had many thought-provoking discussions about food and agriculture within and outside my research scope. Finally, researching in the country where I live and work has allowed me to conduct research sustainably, predominantly travelling by bike and train. Due to limited travel time, I visited the places I studied for this research as often as possible. In addition, explicitly for the research in **Chapter 3**, I usually stayed full days to conduct interviews, joined collective lunch moments, and helped with farm work. Although this research partly occurred and was affected by the global COVID-19 pandemic, I could conduct my interviews outside safely. Primary data for this thesis were collected in different phases, reflected in the order of the subsequent chapters:

CH 2. Spring/Summer 2020
CH 3. Spring/Summer 2021
CH 4. Winter/Spring 2022
CH 5. Spring/Summer 2023

Considering this research's descriptive and exploratory ambitions, qualitative methods for data collection and analysis were deemed most appropriate. Various qualitative research approaches were used to effectively address the abovementioned research questions and objectives, including ***extant***, ***elicited***, and ***enacted*** data collection forms, assigning different relations to the researcher and participants (Salmons 2015). Except for **Chapter 2**, the empirical chapters were based on a combination of ***elicited*** and ***enacted*** approaches and aimed to examine unlearning in and through the perspective of research participants (See **Table 1.1**). Given this thesis' aim to explore whether and how unlearning unfolds in transition processes, close collaboration with various food system actors – including agroecological and conventional farmers, consumers, teachers and researchers – was considered essential to elicit and capture different unlearning experiences. The proposition is that unlearning, in its explicit confrontation with the habitual, can be emotionally strenuous and uncomfortable, thereby suggesting the importance of nurturing trust and openness between the researcher and participants, as well as among participants. **Table 1.1.** presents the typology of methods and the data collection per chapter.

Typology of methods		Thesis chapter	Data collected from:	Researcher & participant
Extant	Studies using existing material developed *without* the researcher's influence	2	Published (academic) literature Documents and reports Newspapers Websites (posts, blogs, manifestos etc.) Documentaries and/or recorded audio	No direct contact with individual participants
Elicited	Studies using data elicited *from* participants in response to the researcher's questions	3 and 4	Semi-structured interviews Journalling exercises/diary Participant observation	Interaction between the researcher and one or more participants
Enacted	Studies using data generated *with* participants during the study	4 and 5	Facilitated sessions/workshops, including scenario and role-plays Co-design and creative sessions	Interaction and collaboration involving the researcher and one or more participants

Table 1.1. Typology of methods, based on Salmons' typology of qualitative online methods (2015, p.17–18).

Each empirical chapter in this thesis was based on a different case from the Dutch food system. The ***"case study"*** is a research strategy in which ***"the researcher tries to gain a profound and full insight into one or several objects or processes that are confined in time and space"*** (Verschuren and Doorewaard 2010:178). It enables the researcher to closely study data within clearly defined and bounded exemplars of the research phenomenon (Yin 2013). Therefore, a case-study strategy implies a ***selective*** and ***strategic sample*** judged likely to deal with determined research questions (Hanké 2009; Verschuren and Doorewaard 2010). Each chapter presents its rationale for case-study selection. The selected case for **Chapter 2** is the phase-out of hen battery cages in the Netherlands, which represents a technology/material phase-out. **Chapters 3, 4,** and **5** are based on three initiatives where I expected to observe whether and how unlearning unfolds and/or can be facilitated in transition processes, including two community-supported agriculture farms (**Ch. 3**), a consumer-buying group (**Ch. 4**) and an extra-curricular course on family-farm succession in secondary vocational education (**Ch. 5**). I consider these initiatives ***"unlearning spaces"*** for being subversive while experimenting with novelty (Renting et al. 2012; Smith and Stirling 2018).

I refer to ***unlearning spaces*** in this thesis to explore how certain settings and environments may be conducive to unlearning, including physical spaces (e.g. farms) and communities (e.g. a CBG). Participants may be confronted with the limits of their previously acquired learnings in unlearning spaces. What characterised the unlearning spaces studied in this thesis was their ability to engage multiple actors as active participants in a common process of reflection regarding different aspects of food system sustainability. Moreover, they tended to be ***"safe spaces"*** to experiment with alternative ways of being and doing, with a supportive and caring atmosphere (MacDonald 2002; McLeod et al. 2020)

In addition to academic intent, the final selection of cases was a continuous and fluid process shaped by other criteria (i.e. societal relevance, feasibility, and opportunity). First, this research was strongly guided by the dual ambition to make a scientific and ***societal impact***. Hence, working on ***"real-world"*** problems that attune to the struggles ***"on the ground"*** and the lived experiences of those working on food system transformation was crucial to me since I am committed to food system transformation. As such, case selection was always made in consultation with research participants regarding how to meaningfully ***"give back"***. In addition, ***feasibility*** refers to the complexity of navigating qualitative research in times of a global pandemic and acknowledging the reality of farmers and alternative food initiatives in the Netherlands being ***"over-asked"*** to participate in academic research projects. I invested much time to avoid reproducing extractive research practice as much as possible by considering research as co-production (Wilmsen 2008; Klenk et al. 2017). Finally, ***opportunity*** refers to instances when I encountered unexpected but exciting opportunities – and embraced them. These included the invitation to facilitate and design a fieldlab with an enthusiastic CBG (**Chapter 4**) and the opportunity to collaborate with teachers from secondary vocational education, whom I met at a Dutch conference on food system transformation (**Chapter 5**).

Finally, regarding data analysis, this thesis applied a process-tracing methodology to understand how things evolved over time and why they evolved in a particular way (Bennett and Elman 2006; Turnheim 2023). Different data sources were used to construct a qualitative narrative of each studied transition process, including events, activities, and choices over a set period of time (Langley 1999). These constructed narratives

were subsequently analysed through different lenses, as explained in each chapter.

1.7. Outline of the thesis

The remainder of this thesis is based on four articles that form the basis of **Chapters 2–5** and a concluding **Chapter 6**. All chapters are based on original data.

First, before commencing my study on unlearning, I further elaborate and illustrate the limits to research on phase-out in sustainability transitions (see **Section 1.4.**). Thus, **Chapter 2** studies the historical case of hen battery cage phase-out from a political economy perspective. It explains ***"what remains"*** if phase-out focuses solely on the ***"material"*** of socio-technical regimes. In this regard, **Chapter 2** essentially builds the case for bringing in unlearning (see **Intermezzo**). Subsequently, **Chapters 3, 4,** and **5** develop the concept of unlearning by addressing the abovementioned research questions.

Chapter 3 starts by conceptualising unlearning based on insight from organisational theory and postcolonial and feminist approaches to unlearning. It draws empirical insight from two Dutch *community-supported agriculture* (CSA) initiatives: CSAs are sustainable regional food networks based on solidarity among producers and consumers (Flora and Bregendahl 2012; Degens and Lapschieb 2023). Based on interviews with members of these two initiatives, this chapter explores whether and how unlearning manifested in the transition to *solidarity payment* at each farm. With solidarity payment, the amount that members contribute to compensate for work on the farm is based on solidarity with the farmer and among members (Galt et al. 2017; White et al. 2018). Rather than being presented with a fixed price, CSA members decide how much they wish to contribute. At both farms, solidarity payment was introduced to provide farmers with an adequate income to secure a living wage while mitigating economic barriers for low-income households by allowing varied prices per share. This chapter aims to conceptualise and study whether and how unlearning manifests in transition processes.

Chapter 4 is based on research on participatory guarantee systems (PGSs) in a fieldlab. Like living labs (see Hossain et al. 2019), a fieldlab is a

temporary, practical spaces where ideas about ***"struggles on the ground"*** are jointly developed, tested, and implemented. The PGS fieldlab was facilitated and designed by Jacob Smessaert and me, with whom I shared first authorship. PGSs are local quality assurance systems that recognise sustainable production methods in local markets without the compliance requirements, high investments, and transaction costs associated with third-party certification (Nelson et al. 2010; IFOAM 2019). The initial idea for this chapter arose when the national CSA network expressed interest in PGSs as a promising tool for Dutch CBGs to foster dialogue about sustainable production and consumption practices among participating actors. In a CBG, consumers join their buying power and organise their shopping via direct and stable arrangements with local producers (Kallio 2018). This chapter explores the social dynamics that underlie the CBG's ambition to ***"take the next steps"*** in becoming a food community. The aim is to explore whether and how unlearning unfolds and may be facilitated.

Chapter 5 considers how unlearning may be facilitated in agricultural education. As a case study, it takes an extra-curricular course on family-farm succession from secondary vocational education (MBO). This chapter is based on a series of design sessions in which three teachers and I explored how unlearning may feature in the course on family-farm succession and what it means to facilitate unlearning in a changing world and the Dutch food system. This chapter aims to understand how unlearning may be facilitated.

In sum, Figure 1.1. overviews the different cases studied per chapter and depicts how Chapter 2 sets the scene for conceptualising and studying unlearning in the subsequent chapters. The details of each case are presented in their designated chapters.

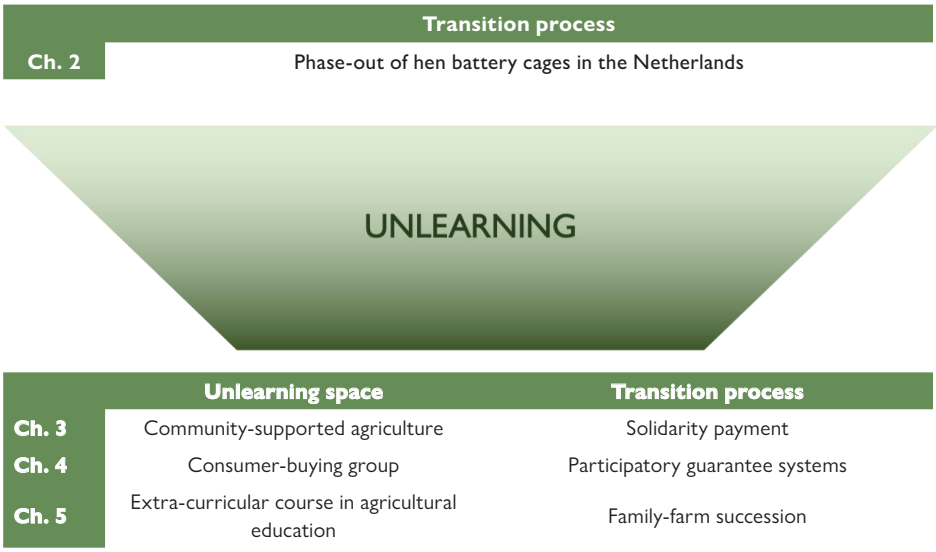

Figure 1.1. Overview of chapters and selected cases

In **Chapter 6**, I summarise the main findings, reflect on my research practice and limitations, and list empirical and theoretical considerations for future research.

1.8. Overview of papers, publication statuses and co-authors

Table 1.2. overviews the publication status of the four chapters and mentions the co-authors who contributed to each chapter.[3] All chapters greatly benefited from the suggestions of the team members of the research project UNMAKING, in alphabetic order: Leonie Guerrero Lara, Guilherme Raj, Jacob Smessaert, Julia Spanier, and Olga Vincent. They are recognised in the acknowledgements of the published and submitted papers.

3 I share first authorship with Jacob Smessaert in the paper based on Chapter 5.

Ch.	Paper	Journal		Title	Co-authors
Ch. 2	Paper 1	Environmental Innovation and Sustainability Transitions	Published	The politics of deliberate destabilisation for sustainability transitions	Giuseppe Feola, Ellen Moors and Hens Runhaar
Ch. 3	Paper 2	Environmental Innovation and Sustainability Transitions	Published	Unlearning in sustainability transitions: Insight from two Dutch community-supported agriculture farms	Giuseppe Feola, Hens Runhaar and Ellen Moors
Ch. 4	Paper 3	Sociologia Ruralis	Submitted	"Taking the next step": investigating social processes of transformation in a Dutch grassroots agrifood initiative	Shared first authorship with Jacob Smessaert, and Giuseppe Feola
Ch. 5	Paper 4	Agricultural Education and Extension	Submitted	Facilitating unlearning in agricultural education: preparing family-farm succession	Giuseppe Feola, Ellen Moors and Hens Runhaar

Table 1.2. Overview of papers, publication statuses and co-authors

CHAPTER 2

The politics of phase-out in sustainability transitions

Published as:

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Abstract

This chapter advances scholarship on deliberate destabilisation and phase-out for sustainability transitions. To understand how phase-out plays out in practice, the politics of such processes must be confronted. To this purpose, this chapter bridges research on the political economy of sustainability transitions with recent theorisations about the deliberate destabilisation of unsustainable socio-technical regimes and proposes a set of analytical dimensions and guiding questions for the study of the latter. The added value of a political economy perspective to understand the politics of deliberate destabilisation in capitalist economies is demonstrated through the historical example of the phase-out of hen battery cages in the Netherlands. The poultry sector in the Netherlands is characterised by an industrial approach to food and farming; orientated towards producing large amounts of standardised and cheap food. We foster new insights on the influence of intertwined political and economic interests for deliberate destabilisation processes, which may reproduce, rather than transform, unsustainable and unjust socio-technical regimes.

CHAPTER 2 The politics of phase-out in sustainability transitions

2.1. Introduction

This chapter introduces a framework that unites research on the political economy of sustainability transitions with recent theorisations of the deliberate destabilisation of unsustainable socio-technical regimes. We propose a set of analytical dimensions and guiding questions for understanding the politics of deliberate destabilisation in capitalist economies. By employing this theoretical lens to one example, we also illustrate how intertwined political and economic interests influence the rationale, process and outcome of deliberate destabilisation for sustainability transitions.

Sustainability transition researchers have recently been urged to more explicitly discuss the capitalist political economy in which transitions towards more sustainable futures are embedded (Newell 2019; Feola 2020). In this context, a political economy perspective can make two important contributions to the debate on sustainability transitions. First, contextualising sustainability transitions within the wider political economy enables one to examine how the systemic interplay of capitalist economic and political conditions influence whether and how sustainability transitions happen (Lawhon and Murphy 2012; Newell and Phillips 2016; Wilhite 2016; Gorg et al. 2017). Such an approach requires asking fundamental questions about what interests are addressed and supported through transition initiatives and what alternatives are being obscured. For example, the dominant green growth[1] movement demonstrates how the capitalist logic of economic growth and competitive markets shape certain transition pathways and prioritise technological innovation while side-lining and excluding those that might entail a fundamental change of the capitalist political economy (Liodakis 2010; Newell and Phillips 2016; Newell 2019; Vandeventer et al. 2019; Feola 2020). Sustainability transitions are inherently political (Scoones et al. 2015); they reflect a particular diagnosis of persistent social

1 Green growth defends the viability of a continuously growing economy through the assumption of a fast decoupling of gross domestic product from critical environmental challenges (OECD 2019).

problems and a vision of how to deal with them (Geels 2014; Avelino et al. 2016). To this end, 'by who and for whom' questions help explain the nature and direction of sustainability transitions (Meadowcroft 2007; Bush and Marschke 2014)

Second, accounting for the political economy in sustainability transitions opens the door to questioning the actual sustainability and justice of transitions achieved under capitalism (Lawhon and Murphy 2012; Swilling and Annecke 2012; Newell and Mulvaney 2013; Feola 2020). The structural causes of multiple inequality and sustainability crises lie at the core of capitalist societies and should therefore be central to inquiries into 'the sustainability of sustainability transitions' (Feola 2020:244, also see Velicu and Barca 2020). Many popular sustainability innovations, such as electric vehicles and solar panels, promise to sustain present ways of life with much lower carbon emissions; however, they may do so at the cost of bypassing imperatives of justice and democracy (Jackson 2016; Healy and Barry 2017; Hickel and Kallis 2020). As people and places unequally experience environmental change and socio-technical progress, a truly ***sustainable*** sustainability transition calls for a just transition whereby the political economy in which such transitions are embedded can be debated and contested (Swilling and Annecke 2012; Newell and Mulvaney 2013). Furthermore, a critical evaluation of the environmental sustainability of sustainable alternatives requires a political economy perspective. For example, the relationship between economic growth and sustainability in capitalist contexts may offset expected environmental gains from efficient resource use because these gains are likely to be spent on enhancing consumption and production capacity – a phenomenon known as the ***"rebound effect"*** (Antal and van den Bergh 2016; Shove 2018; Hickel and Kallis 2020; Feola 2020). Moreover, environmental problems may not be solved but rather shifted along value-chains and spatially distant, but functionally interconnected under capitalism (Feola 2020). Efforts to relieve one source of environmental pressure may create or aggravate others, often at the expense of other, less powerful regions (Antal and van den Bergh 2016; Gorg et al. 2017).

Thus, the literature on sustainability transitions risks omitting essential parts of the picture if economic and political forces are not taken into account (Lawhon and Murphy 2012; Newell and Mulvaney 2013; Newell and

Phillips 2016; Power et al. 2016; Newell 2019). However, while a growing number of researchers have called for and adopted a political economy approach to examine sustainability transitions, such a perspective and its associated concerns have not yet been discussed in relation to recent debates on deliberate destabilisation as a crucial element of sustainability transitions.

The destabilisation and decline of socio-technical regimes has always been important for transitions studies to make space for niches to emerge (Turnheim and Geels 2012). However, researchers have gradually begun to consider destabilisation not merely as a background process of innovation, but rather have made destabilisation and its governance a focal object of study (Stegmaier et al. 2014; Kivimaa and Kern 2016; Heyen et al. 2017; Normann 2019). Deliberate destabilisation as a governance strategy carries the assumption that the managed decline of unsustainable systems provides opportunities for alternatives to emerge (Rosenbloom and Rinscheid 2020). In so doing, it recognises unequal power distributions between niches and regimes in sustainability transitions and the complexities of redirecting resources committed to supporting incumbent technologies, ideas and practices (Geels 2014; Avelino and Wittmayer 2016).

While the destabilisation of socio-technical regimes is a process that entails multiple dynamics, involving environmental or economic policies, societal crises and shifts in public opinion, it is increasingly accepted that to orientate regimes towards sustainability requires interventions that weaken prevailing socio-technical configurations (Koretsky and van Lente 2020). Phase-out (Kivimaa and Kern 2016; Rogge and Johnstone 2017; Brauers et al. 2020) and 'exnovation' (Heyen et al. 2017; David 2017; Davidson 2019) are two such interventions that ***"actively seek the termination of a specific technology, substance or process that causes negative externalities"*** (Rosenbloom and Rinscheid 2020:11). Deliberate destabilisation is also finding its way into a variety of mission statements and policy objectives in which it is presented as an important catalyst for accelerated change, such as the coal phase-out agenda aiming to transition to fossil-free energy systems (David 2017; Brauers et al. 2020).

Building on extant debates on the political economy of sustainability transitions, this chapter focuses on deliberate destabilisation as a

governance strategy in sustainability transitions. Transition scholars tend to recognise deliberate destabilisation as a policy strategy to unsettle incumbent interests, authority and power relations (e.g. Geels (2014), whereas this chapter shows how processes of deliberate destabilisation are affected by capitalist political economies that reflect, among others, particular diagnoses of persistent social problems, extant configurations of actors and their value-structures, and notions and visions of socio-economic development. Specifically, we argue that the (i) rationale, (ii) process and (iii) outcomes of destabilisation processes are influenced by intertwined political and economic interests, and we propose a set of questions that researchers and analysts should be asking to understand the politics of deliberate destabilisation in capitalist economies. As an empirical illustration of our approach, we examine the phase-out and ultimate ban on battery cages as housing systems for laying hens in the Netherlands (Mollenhorst and de Boer 2004; de Olde et al. 2020). In doing so, we also thematically expand the literature on deliberate destabilisation, in which case studies from the energy sector and more specifically fossil fuel technologies are overrepresented. The poultry sector and egg production in the Netherlands embodies an industrial approach to food and farming, geared towards producing large amount of standardised and cheap food. By examining this historical example through three dimensions of political economy, we foster new insights on the influence of the political economy for deliberate destabilisation processes, which may reproduce, rather than transform unsustainable and unjust socio-technical regimes.

2.2. Theoretical background

2.2.1. Sustainability transitions and destabilisation

Sustainability transitions are commonly defined as entailing a fundamental shift to new and more sustainable socio-technical systems (Geels and Schot 2007; Smith et al. 2010; Köhler et al. 2019), which implies a "major technological transformation in the way societal functions such as transportation, communication, housing, feeding are fulfilled: (Geels 2002: 1257). Transition scholars assign a pivotal role to ***niches*** (Kemp et al. 1998; Geels and Schot 2007; Loorbach and Rotmans 2010; Grin et al.

2010), which provide the protective space for alternatives to incumbent realisations of societal functions (Smith and Raven 2012). Transition processes are set in motion as sustainable niche innovations spread, scale-up and are adopted in more commercial and market settings. However, they are likely to encounter resistance from the incumbent ***regime*** of existing actors and interests that benefit from ongoing reliance on current socio-technical configurations and therefore tend to prioritise incremental improvements. Resistance to change can be vigorous due to vested interests, organisational commitments and cognitive lock-ins (Geels 2014). However, exogenous pressures or ***landscape*** developments create destabilising pressures that may open up incumbent regimes and create a window of opportunity for alternatives to gather momentum (Geels 2002; Smith et al. 2010). This multi-level conceptualisation of niche-regime-landscape dynamics in transition processes is an influential heuristic to understand sustainability transitions occurring through socio-technical change (Smith et al. 2010; Köhler et al. 2019).

Regime destabilisation that is influenced by both higher and lower societal levels is thus essential for the occurrence of sustainability transitions. Transition research and practice typically focus on how to facilitate the emergence, development and diffusion of niche technologies that may create new and more sustainable regimes (Geels and Schot 2007; Hekkert et al. 2007; Fuenfschilling 2019). The destabilisation of socio-technical regimes that have developed around incumbent technologies has long been assumed to happen 'along the way', i.e. in the form of automatic displacement caused by destructive innovations, and has hitherto received limited analytical and empirical attention (Shove 2012). More recently, researchers have begun to consider destabilisation not merely as a background process of innovation and have rather made destabilisation and its governance a focal object of study.

Broadly speaking, two distinct lines of research are stimulating a more specific debate on destabilisation. One of these lines explores destabilisation as the 'flipside' of innovation processes (Turnheim and Geels 2012; Isoaho and Markard 2020). These scholars take a historical perspective to identify and examine patterns in the process by which incumbent industries lose their grip and socio-technical regimes become destabilised. In their seminal work, Turnheim and Geels (2012,

2013) conducted a historical case study of the British coal sector to illustrate how once powerful industries decline. The authors defined destabilisation as ***"the process of weakening reproduction of core regime elements"*** (Turnheim and Geels 2012:35).

Another line of research, which we explore in this chapter, perceives destabilisation as an object of governance. The continued prevalence of unsustainable socio-technical regimes evinces the limits of innovation and Schumpeterian notions of 'creative destruction' (e.g. Turnheim and Geels 2013; Stegmaier et al. 2014; Kivimaa and Kern 2016; Heyen et al. 2017). In addition to understanding regime resistance and how incumbent interests hinder the progress of sustainability transitions (e.g. Geels 2014), transition researchers are increasingly focussing on intentional actions that may unsettle the stability of regimes. According to this perspective of destabilisation, the prevalent 'innovation bias' should be overcome by complementing innovation policy and research with a phase-out agenda (Kivimaa and Kern 2016; Rogge and Johnstone 2017). Thus, sustainability transitions not only rely on the development of alternative technologies or practices in niches but also require the active destabilisation of regimes to make space for such alternatives, which would otherwise be constrained by extant regimes (Davidson 2019; Normann 2019).

Various scholars have begun to explore how policy might facilitate active destabilisation processes. The phase-out policy approach has been successful in moving away from resistant regimes by accelerating the retirement of, among others: inefficient light bulbs (Stegmaier et al. 2014), the use of DDT (Maguire and Hardy 2009), nuclear energy (David and Gross 2019) and private passenger cars with internal combustion engine (Hoffman et al. 2017). While such strategies have alternately been referred to as exnovation (Heyen et al. 2017; David 2017; Davidson 2019), destruction policies or policy-mixes (Kivimaa and Kern 2016), or discontinuation (Stegmaier et al. 2014; Hoffman et al. 2017), they coincide on identifying a governance approach that actively seeks to discourage, restrict or reduce the production and use of specific infrastructures, technologies, products or practices that cause negative externalities (Rosenbloom and Rinscheid 2020).

Phase-out policies may directly target unsustainability through hard and abrupt bans that prohibit use or production, or they may restrict usage

in certain contexts–e.g. low-emission zones to restrict car usage in city centres (Hofmann et al. 2017). In contrast, indirect measures make the production and use of unsustainable products or services less feasible or less attractive. Such approaches may include stringent production and performance standards, the removal of subsidies, changes in market rules such as carbon taxes or pollution limits, or policies that affect institutional rules or social norms (Heyen et al. 2017; Rosenbloom and Rinscheid 2020). Indirect measures can also be a precursor of an actual ban. For example, when discussing the EU's ban of incandescent light bulbs (ILB), Stegmaier et al. (2014) explained that ***"the step-by-step reduction of wattage was necessary in order to allow time for the new, not yet fully functioning and marketable replacement products to mature, and to make users aware of the advantages of efficient lighting"*** (p.11). Typically, phase-out is a response to growing concerns voiced by social movements or interest groups that question the legitimacy of persisting regimes (Turnheim and Geels 2012). Examples of Greenpeace campaigning for the phase-out of chlorofluorocarbon (CFC) in refrigerators or Fossil Free Germany convincing investors to divest from fossil fuel industries (David 2017; Heyen et al. 2017) illustrate the importance of social movements in advocating change.

The social and economic acceptance of policy strategies for destabilisation are likely influenced by the time span in which it takes place. According to Heyen et al. (2017), short-term processes can trigger strong socio-economic friction, and more extended phase-outs may therefore be essential for several reasons. First, they are less likely to meet strong resistance because they lessen social and economic hardship for affected companies and the individuals employed in those industries. For example, the emission standards for cars in the European Union (EU) were gradually imposed to enhance consumers' and manufacturers' acceptance and willingness to transition to alternatives. Second, a longer time span allows time to grasp the societal impacts of regime destabilisation and for support systems such as conditional compensations or re-education strategies to be put in place (Heyen et al. 2017; Davidson 2019). Finally, longer time spans may be considered necessary in the absence of readily available alternatives (Stegmaier et al. 2014). For example, David (2017)

concluded that ***"if old energy-providing structures become exnovated, new alternatives must be waiting in the wings in order to prevent blackouts"*** (p. 139).

Emerging debates on destabilisation as an object of governance for sustainability transitions evince the potential and necessity of policy strategies to weaken resistant regimes. However, such debate has neglected to reflect on how these strategies are designed and has thereby overlooked pertinent questions regarding their political nature, such as by whom and for whom they are proposed. Literature on the political economy of sustainability transitions provides guidance for opening-up this black box and directs attention to how intertwined political and economic interests influence the governance sustainability transitions and deliberate destabilisation.

2.2.2. The political economy of sustainability transitions

In this chapter, we draw on literature on the political economy of sustainability transitions to approach the politics that influence deliberate destabilisation. Specifically, we use the notion of political economy to illuminate how deliberate destabilisation in capitalist economies is shaped by existing constellations of interests and power relations that dictate which interests are prioritised, whose voices count, and which social groups are poised to benefit. Following Scoones (2016) we recognise that political processes that are articulated through regimes of accumulation have implications for the governance of sustainability transitions, and that, specifically, in capitalist economies ***"the political complexion of interests that maintain the status quo [...] is inevitably influenced by the possibilities of profit and accumulation, whether by private companies, states or individual elites."*** (p.306)

The importance of acknowledging capitalism in understanding whether and how sustainability transition unfold has previously been put on the transitions agenda by various scholars (e.g. Meadowcroft 2011; Lawhon and Murphy 2012; Newell and Phillips 2016; Feola 2020; Johnstone and Newell 2018; Power et al. 2016; Newell 2019). Their critique on the present-day sustainability transitions debate is largely twofold: they posit that the sustainability transitions literature should on the one hand more explicitly consider how transitions are influenced and constrained by the capitalist political economy and on the other hand more critically examine whether

and how fundamental ideas of how our economy should work could change as a result of sustainability transitions (Weingast and Wittman 2008; Newell 2019; Feola 2020; Scoones et al. 2020). Thus, it is commonly accepted that a political economy lens better equips sustainability transition scholars to explain how and why societies transition to more or less sustainable outcomes

Researchers studying sustainability transitions from a political economy perspective illuminate how the structure and systemic interplay of polity and economy serve to perpetuate dominant interests without contestation (Scoones et al. 2020). This perspective is useful for understanding how the socio-political foundations of the economy favour specific accounts of sustainability and transitions and what alternatives they repress (Gorg et al. 2017; Newell 2019). Moreover, this literature centres questions on justice and equality and emphasises sustainability transitions as ***"uneven social and spatial processes . . . in which people and places unevenly experience the costs and benefits"*** of socio-technical change (Newell and Phillips 2016:40) also see Newell and Mulvaney (2013) and Swilling and Annecke (2012). In this sense, political economy contributions to the sustainability transitions literature facilitate recognition of the ecological and justice-related impacts of such transitions as being inherently political.

The central argument of this chapter is that deliberate destabilisation relies upon, and is shaped by political and economic interests, which should therefore be accounted for in our analysis. To this end, we mobilised key political economy questions and grouped them into three categories that serve as the basis for our illustration in Section 2.3. Scholars who critique the capitalist political economy of sustainability transitions (e.g. Newell and Phillips 2016; Power et al. 2016; Brand et al. 2020; Scoones et al. 2020) have asked questions that involve issues of (a) truth and validity, (b) participation and influence and (c) distribution of impacts. Questions on truth and validity are particularly relevant when exploring the (i) ***rationale*** or motivation behind deliberate destabilisation. Questions on participation and influence predominantly zoom in on the (ii) ***process***, exploring who is part of or influences deliberate destabilisation. Finally, questions on distribution are crucial for the discussion of (iii) ***outcomes*** of deliberate destabilisation. In particular, they elucidate

distributive inequalities of who benefits from and who carries the burden of destabilisation.

Rationale

Firstly, a political economy analysis entails questioning what framings of sustainability problems and solutions count and how they govern what kind of transformation occurs, which foregrounds questions on 'truth' or the recognition of 'validity' and how these framings affect why sustainability transitions take shape (Newell and Mulvaney 2013; Scoones 2016). Capitalism prioritises and privileges green growth as a compromise between economic growth and sustainability while excluding non- or post-capitalist framings of sustainability problems (Grundmann 2007; Liodakis 2010; Baker et al. 2014), thereby influencing the definition of such problems and the understanding of acceptable solution spaces (Meadowcroft 2011). Questioning the rationale for sustainability transitions uncovers often hidden assumptions held by different actors as to how our economy and society should work (Feola 2020). Moreover, such questions also direct attention to the choice of ***sustainability*** itself; as Stirling (2014) noted, ***"the complex breadth of "Sustainability"***–canonically highlighted by the Brundtland Commission around social equity, human and wider ecological integrity–tends to contract to a single 'low carbon transition" alone' (p. 89). With the environmental framing dominating mainstream discourses on sustainability transitions, important questions on redistribution, justice and equality risk being overlooked.

An associated concern often discussed by researchers studying sustainability transitions from a political economy perspective relates to what is regarded as reliable or justifiable knowledge about possible sustainability pathways (Lawhon and Murphy 2012; Stirling 2014; Scoones 2016; Patterson et al. 2017). Knowledge is not a neutral entity, and its construction inevitably requires making disputable choices (Jasanoff 2004). The politics of knowledge connotes that we should be asking important questions such as what type of knowledge (e.g. from specific disciplines or institutes and obtained through particular data collection methods) and whose knowledge counts in the development of sustainable alternatives–and whose does not (Grundmann 2007).

The above applies to research on the politics of deliberate destabilisation in at least three ways. First, it requires an understanding of what type

of 'sustainability' is progressed through deliberate destabilisation. In recognising contrasting and plural visions for sustainability transitions, deliberate destabilisation may have different purposes for different actor groups. Second, it requires asking what motivates deliberate destabilisation and when, and for which sustainability problems it is perceived as a valid solution. Thus, we see value in a close examination of what (and whose) framing of sustainability problems and solutions count in deliberate destabilisation. Third, in order to understand the motivation behind deliberate destabilisation as a governance strategy one should pay close attention to the type of knowledge deemed relevant for understanding and designing deliberate destabilisation.

Process

In addition to the aforementioned politics of sustainability framings, researchers have also posed questions regarding 'who influences and participates' in decision-making processes (Newell and Mulvaney 2013). Understanding the political nature of such processes includes reviewing who are the more or less powerful actors in prevailing regimes, which directs attention to 'historical blocks' of power, as social, political or cultural factors may give actors particular positions in society (Baker et al. 2014; Geels 2014; Avelino et al. 2016; Scoones 2016; de Schutter 2019). Moreover, questions on participation and influence involve the issue of representativeness–i.e. who is or is not represented and included in decisions on sustainability transition (Lawhon and Murphy 2012).

Questions regarding participation and influence may lay bare the politics of deliberate destabilisation processes. Hitherto, sustainability transition scholars have not engaged with such debates, and the role of powerful actors in designing destabilisation processes is too often left unmentioned. Key are the decision-making procedures that determine which actors 'are in' and what space they are given to influence the process. To this end, we propose two types of questions to interrogate the politics of deliberate destabilisation. First, to understand who participates in such processes, we ask who is and who is not invited to discuss and design proposals for deliberate destabilisation. Second, to understand what actors and associated value structures influence the process, we ask on what and whose terms decisions are being made and how trade-offs are resolved.

Outcome

Finally, understanding the political economy of sustainability transitions requires us to question ***"who wins, who loses, how and why"*** (Newell and Mulvaney 2013:133) also see Newell (2019). Political economy scholars challenge the neutrality of market mechanisms and recognise that resources are allocated on the basis of power dynamics rather than efficiency or merit (Scoones 2016). The structurally uneven distribution of outcomes across time and space is generally seen as the classic concern of political economy and prioritises questions on who benefits and who experiences the burden of, for example, technological or economic progress (Newell and Phillips 2016; Scoones 2016; Patterson et al. 2017). For example, Newell and Mulvaney (2013) underlined that the interests of global elites are often misaligned with the energy needs and environmental vulnerabilities of the world's poorest people. This insight directs attention to distributions across global supply chains and requires questioning the ecological and justice impacts of technological progress on extractive territories (Gorg et al. 2017).

In the same vein, it is pertinent to understand who does and does not benefit from deliberate destabilisation. Sustainability transition scholars have already alluded to concepts of justice in terms of supporting those who most suffer from unsettling specific regimes, such as workers in the fossil-fuel industry (Heyen et al. 2017). However, a political economy perspective can contribute additional value by directing attention to whether deliberate destabilisation reconfigures whose interests are being both directly and indirectly served through telecoupled systems.

In sum, the politics of deliberate destabilisation in capitalist economies can be examined through a set of analytical political economy questions about the rationale, process and the outcomes of deliberate destabilisation. In the next section, we present an empirical illustration of the politics of deliberate destabilisation.

2.3. The politics of deliberate destabilisation: an empirical illustration

This section further develops the argument that the political economy matters for deliberate destabilisation. Using the historical example of the

phase-out of hen battery cages in the Netherlands (**Inset 1**) we emphasise how political and economic interests reduced a potentially highly challenging critique on farm animal welfare into a very narrow policy: a technology phase-out with limited and controllable effects for the agri-food sector and incumbent actors.

Inset 1.1 Battery cages as a technological innovation

Battery cages were introduced on a large scale in the Netherlands in the 1960s (Mollenhorst and de Boer 2004). Prior to that, laying hens in the Netherlands were kept in small flocks in so-called 'floor housing systems' (Blokhuis and Metz 1992). The demand for cheap food had drastically increased in Europe during the twentieth century, which resulted in a trend towards specialisation, scale-enlargement and intensification in livestock farming (Langeveld et al. 2000; de Boer and Cornelissen 2002; Claeys et al. 2007). Traditional floor housing systems for laying hens were unsuited for such trends because they were unfit for automation and prone to disease spread (Claeys et al. 2007). Developed as a technological innovation in 1940, the battery cage solved both problems. By keeping hens in cages, egg collection, feed and water supply management and manure removal became easier and required less manual labour (de Lauwere et al. 2006; Claeys et al. 2007). While the battery cage is now banned as a housing method for laying hens, it drastically increased the average flock size from 600 in the 1960s to 14,000 in 1989 (Blokhuis and Metz 1992). Slightly over a decade later, farms with battery cages housed an average of 60,000 hens (Drost et al. 2002).

The remainder of this section is divided in two parts. First, we present a historical overview of the phase-out of hen battery cages in the Netherlands. To construct this narrative, data on the main events were collected by the authors through a review of scientific literature and policy documents (see **Appendix A**). Events were considered 'main' if they provided information on farm animal welfare and battery cages in the poultry sector, and their collection gave insights into the public debate and political decisions made on the phase-out of battery cages in the EU and the Netherlands. In addition, we scanned the Nexis Uni online archive for Dutch news items in order to further understand the societal debate

on animal welfare and glean sentiments regarding policy interventions. Search terms included a combination of Dutch translations of our key concepts, i.e. 'hens and animal welfare' (***legkippen en dierenwelzijn),*** **'**battery cage' (***legbatterij***), 'ban' (***verbod***) or 'regulations' (***regelgeving***) and 'the Netherlands' (***Nederland***). Secondly, we examine the politics of the hen battery cage phase-out. In line with our theoretical framework, we concentrate on (i) the rationale, (ii) the process and (iii) outcome.

2.3.1. Farm animal welfare and the phase-out of hen battery cages

In recent decades, poultry farming in the Netherlands has developed into a strong export-orientated sector with production conditions optimised for global market conditions through the continuous reduction of costs and the guarantee of safe produce. As a result, husbandry systems in the Netherlands are characterised by clinical conditions and high productivity and turnover rates. While housing systems for laying hens have been the subject of social criticism for years, only a small number of poultry farmers have chosen to switch to non-cage, organic systems. Principally, cages as housing systems have survived growing social concerns for farm animal welfare and received continued governmental support to ensure cheap and safe egg production.

Historically, the intensification of the poultry sector spurred debates on farm animal welfare and how hens are kept in the Netherlands. In the 1970s, debates on industrial farming practices began to gain traction (Blokhuis and Metz 1992). An early and notable event was the 1972 protest at ***Flevohof***, a former amusement park dedicated to Dutch agricultural farming and technological innovations such as the battery cage (Verdonk 2012). The protest led to the foundation of the activist group ***Lekker Dier*** ('Tasty Animal') to contest the agro-industrial complex. In 1973, the Dutch National Council for Agricultural Research (NRLO) established a commission of enquiry ('Husbandry and Animal Welfare Committee') into the welfare of farm animals, and the report it published two years later described problems with the treatment of various farm animals in the Netherlands (Blokhuis and Metz 1992, 1995). With regard to laying hens, the report concluded:

> *"Although the information on laying cages and rearing cages is at the moment still incomplete, and there are both advantages and disadvantages for the animal, the issues with animal wellbeing outweighs the benefits. It is therefore recommended that a further extension of the cage system for laying animals and rearing animals should be rejected, and in any case not encouraged" (quoted in Hopster 2010:88).*

Farm animal welfare was also discussed at the level of the EU. In 1976, the Council of Europe (COE) outlined the 'Convention on the Protection of Animals Kept for Farming Purposes', which asserted:

> *"The protection guaranteed by the Convention aims to avoid unnecessary suffering or injury, having regard to the condition of housing, food or administered care. To preserve well-being of animals, the Convention imposes on Parties the obligations to inspect the condition and state of health of animals and the technical equipment used in intensive stock-farming systems" (COE 1976:np).*

The EU signed the Convention in 1978 and decided that it should act on the welfare of laying hens (Appleby 2003). In 1979, the EU Council of Ministers of Agriculture commissioned research on the possibility of a battery cage ban for the first time (Appleby 2003; Mollenhorst and de Boer 2004). As a result, formal requirements for laying hen housing systems were introduced stepwise at the European and national levels from 1985 onwards. Enacted in 1986 and taking effect on 1 January 1988, EU directive 88/166/EEC set minimum standards for all newly built battery cages, including a minimum cage area of 450cm^2 (EEC 1986; Blokhuis and Metz 1995; Mollenhorst and de Boer 2004), which applied to all battery cages as of 1 January 1995. This was amongst the first Europe-wide statutes that actually specified how animals were to be kept (Appleby 2003). In the Netherlands, ***Wet houdende vaststelling van minimumeisen voor het houden van legkippen*** ('Law Establishing Minimum Requirements for Keeping Laying Hens'), which ensured a minimum cage area of 425cm^2, had already come into effect on 1 January 1985 (Rijksoverheid 1983).

Research funds to stimulate the development of alternative housing systems substantially increased in the 1990s as attention for farm animal welfare issues and associated restrictions on battery cages grew

(Blokhuis and Metz, 1992; de Boer and Cornelissen, 2002; Appleby, 2003; Fiks et al., 2003). However, the transition to alternative systems remained slow throughout the 1990s. In 1997, the action group ***Wakker Dier*** was established. Following in the footsteps of ***Lekker Dier,*** the group advocated for better conditions for animals in the livestock industry (Savelkouls 2013). However, the LTO (Agriculture and Horticulture Organisation Netherlands) and PVE (Board for Poultry, Livestock and Eggs) saw no need to ban battery cages; in 1998, they presented their vision for the future of poultry farming (1998–2004) as ***Iedereen Kiplekker*** (Trouw 1998; Duindam 2001). In response, the ***Dierenbescherming*** (Dutch Society for the Protection of Animals) and ***Stichting Natuur & Milieu*** (Nature & Environment foundation) joined forces and developed an alternative vision. In the report titled ***Samen hokken of samen Scharrelen,*** they demanded that 'the entire industry must meet minimum animal welfare and environmental requirements within the foreseeable future' (Brunt 1998; Duindam 2001). These NGOs primarily advocated for a complete phase-out of battery cages in the Netherlands by 2003 and a 30% reduction of Dutch poultry stock to meet animal welfare and environmental standards (NRC 1998; de Jong-Timmerman 2003). As Brunt from ***Stichting Natuur & Milieu*** explained in the Dutch newspaper ***Trouw***:

> ***"The thirty percent decline can best be controlled by the introduction of poultry rights per chicken. If a farmer wants to expand, he has to buy rights at a fixed price from a governmental agency that has the exclusive right to buy or sell such rights. When a poultry farmer ends his business, he sells the rights at the same fixed price. The total number of available poultry rights should gradually reduce by thirty percent."*** *(Brunt 1998).*

In 1998, Minister of Agriculture Haijo Apotheker followed suit and announced a stop to the growth of poultry farming in the Netherlands (Vermeulen 1999; Meij 2003). Apotheker called the measure a ***"necessary time-out"*** to give the sector the opportunity to restructure according to sustainability principles (Brinkman 1998). The Dutch Ministry of Agriculture also appointed a steering committee called ***Herorientatie Pluimveehouderij*** or ***Stuurgroep Alders,*** ('Reorientation Poultry Farming in the Netherlands, or 'Alders Committee'), which consisted of representatives from the ministry, the poultry sector, egg traders, the Dutch Society for

the Protection of Animals and the Nature & Environment Foundation to consider a more sustainable future poultry sector (FD 1999; Duindam 2001; Severt 2003).

In 1999, the EU issued Directive 1999/74/EC mandating the gradual phase-out of battery cages in all member states by 2012 (EC 1999; Appleby 2003). The report by the Alders Committee was published in the same year advised the Dutch cabinet to bring forward the European ban on battery cages in the Netherlands by three years. However, the Dutch government decided to follow the European guidelines (Rijksoverheid 2010). In addition, they ensured a transitional period for farmers who had already invested in enriched battery cages before April 2008. To avoid substantial economic losses, these farmers had until 1 January 2021 to transition to colony cages or another alternative to cage housing systems (Rijksoverheid 2010).

In 2001, the Wijffels Committee published a report that envisioned livestock farming in 2010 (Moerland 2001; Meij 2003). Installed by Laurens Jan Brinkhorst, who had succeeded Haijo Apotheker as the Minister of Agriculture, the committee was comprised of academics, civil servants and business representatives, and its report advocated for ***"the end of intensive farming as we know it"*** (Moerland 2001; Bentum 2001). According to the authors, the livestock sector fell short in complying with environmental, animal welfare and food safety requirements. The committee concluded that animals should ***"no longer be perceived as means of production nor material, but rather as real, living beings"***–more specifically, the report asserted that ***"hens should be able to forage"*** (Moerland 2001). This suggests that by preference, all cage housing systems for laying hens were to be banned by 2010.

Alternative systems that conform to the 1999/74/EU directive are enriched or ***kleingruppenhaltungen,*** i.e. colony cages and non-cage housing systems with or without outside range (Leenstra et al. 2012).[2] In 2008, new Minister of Agriculture Gerda Verburg decided to also ban enriched cages; the majority of the Dutch cabinet supported her proposition to support the colony cage as an alternative to battery cages (Pot and Termeer 2010).

2 The colony cage system (Kleingruppenhaltungen) was developed in Germany. This system has a minimum surface area of 800cm2 -which means an average on 12.5 rather than 18 hens per m2 and provides some environmental enrichments, such as a perch and nest box (Windhorst 2018)

In December 2011, the Dutch Ministry of Agriculture reported that nearly all battery cages had been either replaced or removed (Trouw 2011).

2.3.2. The politics of governing deliberate destabilisation

In this section, we hone in on the politics of governing deliberate destabilisation as a means to better understand the phase-out of hen battery cages and why it unfolded in the way that it did. First, we question what facilitated discussions and actions to phase-out battery cages, what motivations lay behind various policy strategies, and how sustainability problems and subsequent solutions were framed. Next, we direct attention to the different actors and consider who participated in, and influenced the decisions to phase-out battery cages. Finally, we discuss the outcome of set policy interventions, the distribution of their impacts, and their transformative effects.

Rationale

As mentioned above, the phase-out of battery cages was primarily supported by growing social concerns for animal welfare. Activist groups and social welfare organisations such as the Nature & Environment Foundation and the Dutch Society for the Protection of Animals successfully mobilised widespread support for their critiques on how hens were kept and how eggs were produced in the country. Initially, research committees such as the one installed by the NRLO in 1973 were directed to study the welfare of farm animals in the Netherlands. However, such inquiries more frequently took a narrower approach by discussing the use of selected technical equipment (e.g. the EU Convention on the Protection of Animals Kept for Farming Purposes and the NRLO report). Eventually, the debate veered towards exploring the potential to gradually phase-out battery cages and imposing minimum requirements for laying hen housing systems. This more specific focus overshadowed fundamental questioning on animal cruelty as inherent to intensive (poultry) farming. Our example shows how such narrowing and the insistence on an extended technology phase-out in policy proposals undercut any discussion of the structural foundations and evolution of poultry farming in the Netherlands, including issues of mass production and consumption, imperatives to grow productivity and export-orientated goals. While these debates did resurface with the publication of the Wijffels report by

2001 and the outbreak of avian influenza in 2003, no concrete steps were taken to restructure the poultry sector–despite the fact that the Alders Committee report provided clear guidance on how to downscale the sector (Severt 2003). Rather, Ministers of Agriculture at the EU and national levels proposed a single technology phase-out to enhance animal welfare in the poultry sector (1999/74/EC). As such, intensive farming methods that remained economically acceptable were made socially acceptable through animal welfare regulations.

EU Directive 88/166/EEC ventured to specify how farm animals were to be kept; however, it was very specific to a single species (Appleby 2003). Such a sub-sectoral approach dismisses how the unsustainability and injustice of the poultry sector are tied to undergirding assumptions of how our economy should work, thereby reducing the potential for more substantial systemic change.

Furthermore, in determining the time span of the phase-out, the Dutch Government chose to follow European guidelines and ban battery cages as of January 2012 rather than the three-year timeframe recommended by the Alders Committee in 1998. The extended time span and the logic to focus on a single technology phase-out shows how animal welfare remained subordinate to defending incumbent economic interests.

Process

The example of the battery cage reveals how producers and their distinctive value-structures gained prominence over other interest groups in decision-making processes. In particular, their argument that a unilateral ban on battery cages would harm the productivity and thus the economic health of the poultry sector in the Netherlands was influential on the design of policy interventions, and their concerns about the high costs of technological change and negative impacts on international competitiveness were shared by the Dutch cabinet. In 1998, when proposals for a progressive ban in the Netherlands were first raised (e.g. '***Samen hokken of Samen Scharrelen'*** and '***Stuurgroep Alders'***), industry representatives remained defensive and although they took part in the Alders Committee's work on restructuring the poultry sector, they disagreed with the recommendation to bring forward the phase-out date to 2009. For example, feed producer Nutreco urged, ***"society should give the sector more time, the poultry sector in the Netherlands can only survive with***

larger and more efficient companies. Without the battery cage, egg production will disappear in the Netherlands" (Brinkman 1998).

In addition to economic arguments, poultry farmers mobilised environmental studies, for example in their own report (*"Iedereen Kiplekker'),* to support battery cages as a housing method for laying hens. The poultry farmers' report applauded battery cages for drastically reducing ammonia emissions and concluded that *"abolishing battery cages, such as in Denmark, is not an option for the time being"*, as *"an appropriate alternative, that does justice to animal welfare and manages ammonia emissions does not exist"* (Trouw 1998). Similar framings of a *"lack of readily available and effective alternatives"* were continuously presented by poultry farmers as a justification for postponing the phase-out of battery cages; the alternatives that were being developed were perceived as being untenable in the context of prevailing economic structures.

Rather than a strict and immediate ban, the Dutch government provided incumbent famers with substantial guidance for transitioning to alternative housing methods. Moreover, while the government financially supported the research and development of animal welfare innovations in the poultry sector,[3] compensation strategies or economic incentives to actively foster and accelerate the phase-out of hen battery cages were absent (Fiks et al. 2003). In contrast to the state's prioritisation of innovations, organisations such as *Wakker Dier*, the Dutch Society for the Protection of Animals and the Nature & Environment Foundation repeatedly stressed the need to fundamentally restructure the poultry sector and foremost integrate environmental and animal welfare requirements as preconditions for poultry farming. However, although two specific committees, i.e. 'Alders' and 'Wijffels', were installed to explore means to develop a more sustainable poultry sector, their recommendations were not at all influential in policy design.

3 In response to the upcoming ban, new and more sustainable animal husbandry systems were developed and implemented. One such example is the 'Roundel system' that resulted from the national programme 'Houden van Hennen'. For more information on this and other system innovations see Klerkx et al. (2010), Zwartkruis et al. (2012) or Elzen and Bos (2019).

Outcome

In our example of the hen battery cage, destabilisation processes were prolonged by the Dutch government to secure the poultry sector's political and economic interests. Growing societal concerns around farm animal welfare and its association with industrial production had put the Dutch government in a difficult position: the battery cage had become a symbol of animal cruelty; however, the technical equipment generated considerable economic rents (Brinkman 1998). Over time, societal concerns for farm animal welfare were constricted into a policy intervention with limited, largely controllable effects for incumbent actors. In particular, the lengthy time span and focus on a specific technology phase-out in the poultry sector created leeway for incumbent farmers to reposition themselves in a changing industry. As such, the decision to phase-out the battery cage as a housing method for laying hens did not undermine the power and authority of an established actors, nor did it invalidate certain modes of production. This situation may be observed in the debate in 2008 around the ***kleingruppenhaltungen*** or colony cages as an alternative to battery cages in the Netherlands. Whereas the majority of the cabinet at the time agreed with Minister Verburg that the colony cage housing system would be an optimal replacement for battery cages, other actor groups such as the Party for the Animals (PvdD), the Christian Union (CU) and Compassion in World Farming (CIWF) lamented that the Dutch government was essentially merely investing in another cage system rather than implementing any substantive change (CIWF 2018; Deligt 2008). In 1999, the CIWF had already critiqued political support for enriched cages to tackle animal welfare issues and questioned whether hens would actually be better off in a sector without the battery cage (Laugs 1999). As of 2021, the colony cage remains the legally permitted minimum standard in the Netherlands; a total ban on cages as housing systems in the Netherlands is still being debated (BNNVARA 2020).

The impact of the two main reports on the future of poultry farming in the Netherlands from the ***Alders*** and ***Wijffels*** committees also appears to have been very limited, and the Dutch government's refusal to take their recommendations into consideration for restructuring the poultry sector resurfaced various times. In 2003, the Dutch poultry sector was heavily impacted by the outbreak of the avian influenza. Then-Minister of

Agriculture Cees Veerman supported the Dutch Society for the Protection of Animals' claim that downsizing or restructuring in the face of crises could have been averted if recommendations by earlier committees such as Alders had been taken seriously (Severt 2003). The Minister acclaimed that the money used for crisis response would have been better used on prior remediation. However, a debate on fundamentally transforming the poultry sector from a high productivity and efficiency model were again averted by poultry farmers and for example, the Board for Livestock, Meat and Eggs (PVE) argued against Minister Veerman's suggested linkage between the avian influenza outbreak and structural issues in the poultry sector (Severt 2003). In the 2010s, various actors continued to denounce intensive farming systems in publications such as the ***Manifesto for Sustainable Livestock*** published in 2010 (Beukema 2010). The manifesto's authors criticised the Dutch Government for ignoring Wijffels' recommendations to radically restructure intensive livestock farming. Similarly, a 2011 publication by CDON, a coalition of 23 animal welfare organisations, and a CIWF's report in 2018, both advocated for a ban on all cages and the elimination of so-called 'mega stables' (CDON 2011; CIWF 2018). The above are but a few examples of the ongoing efforts by nongovernmental organisations to entice political action in favour of animal welfare, dating to the 1970s.

2.4. Concluding remarks and suggestions for future research

This chapter brought together research on the political economy of sustainability transitions with recent theorisations of the deliberate destabilisation of unsustainable socio-technical regimes. We proposed a set of analytical dimensions and guiding questions to study the politics of deliberate destabilisation. Mobilising these questions, which were derived from the literature on political economy of sustainability transitions, enabled us to understand such politics as inevitably tied to status quo economic structures and interests.

The contribution of our work to the sustainability transitions literature and theorisations of deliberate destabilisation is threefold. First, we provide concrete questions to examine the politics of deliberate destabilisation, including: what and whose framings of sustainability

problems and solutions count? What and whose interests are prioritised? Who participates in, and who influences the process? Who benefits and who experiences the burden? Whereas deliberate destabilisation has been posited to be a means to overcome regime resistance (e.g. Geels 2014; Normann 2019), this chapter illustrated that deliberate destabilisation may actually reproduce rather than overcome incumbency in the political economy. The example of hen battery cages in the Netherlands shows how incumbent political and economic interests steered destabilisation processes towards a prolonged technology phase-out with manageable outcomes. We interpret this as an expression of deep incumbencies and the ability of powerful and organised incumbents to translate their economic dominance into political influence (Stirling 2019; de Schutter 2019). In addition to strategies to marginalise or co-opt more radical innovations (e.g. Gaitan-Cremaschi et al. 2019) our empirical illustration shows how powerful incumbents in the food system were able to appropriate the political process of deliberate destabilisation to maintain the status quo. In sum, deliberate destabilisation is a highly political process, even when it ends up in a single technology phase-out.

The inherently political nature of deliberate destabilisation has practical governance implications. To design destabilisation processes that minimize the political hijacking by powerful actors requires better monitoring of the policy trajectory for phase-out or exnovation and consideration of measures that help avoid specific actor groups to appropriate the process for their interests, and policies being trumped by the power of incumbents (Scoones 2016). In practice, various actor groups evidently benefit from contrasting time horizons (short-term or long-term) and end date (flexible or fixed) of a phase-out strategy (Heyen et al. 2017). As we observed in our case, prolonging the phase-out of the hen battery cage was desirable to incumbent actors as it allowed them to maintain their advantageous position in a highly competitive and international market. In this regard, it remains pertinent to explore what roles governments can take to timely propose and accelerate the phase-out of harmful technologies, without allowing forms of co-optation that reinforce incumbents' advantage or introduce new forms of injustice (Davidson 2019).

The second contribution of this chapter consists in its showing the limitations imposed by a capitalist economy for fostering sustainability

transitions. For example, our empirical illustration elucidated how deliberate destabilisation in a capitalist economy is constrained and shaped by unquestioned principles of unlimited economic growth, consumerism, profit generation and international competitiveness. Hitherto, such discussions on the influence of capitalism on the governance of sustainability transitions have remained scarce (Feola 2020), but are clearly urgently needed as multidimensional crises related to unsustainability and injustice are integral to the functioning of capitalist systems (Liodakis 2010; Martin 2016; Werner et al. 2017).

Therefore, while this chapter was concerned with understanding the influence of political economic interests on the governance of destabilisation, a critical direction for future research is to consider how capitalism may itself become the object of deliberate destabilisation. Important research questions include, but are not limited to: to what extent and under which conditions can deliberate destabilisation unsettle capitalist structures and diversify sustainability transitions, to include different notions of sustainability, voices and discourses; to (re)align power relations; and to create more just and sustainable outcomes? (Lawhon and Murphy 2012; Stirling 2019; Feola 2020). For example, considering our empirical illustration, it is commonly accepted that the focus on modernisation and technological progress in agri-food systems has systematically favoured ***"large economic actors, the largest farms, and the big transnational agri-food corporations . . . which were best equipped to achieve the economics of scale made possible by the expansion and globalisation of markets"*** (de Schutter 2019:18). Thus, in order to make space for alternative and 'more-than-capitalist' configurations (Feola 2020; Feola et al. 2021), such deeply ingrained and intertwined social, cultural and economic logics that drive the unsustainability of agri-food systems need to be considered. While outside the scope of this chapter, broadening our understandings of deliberate destabilisation to include strategies that ***"challenge . . . and reform . . . capitalist institutions"*** (Feola 2020:6) and concurrently ***"unseat the ideas associated with maintaining those institutions"*** (Davidson 2019:225) is a relevant objective for transition theory. It is important that researchers explore what such strategies may look like, and which concepts can lead to novel insight for theorisations of deliberate destabilisation for sustainability transitions. For example, future research could take

inspiration from institutional work (e.g. Lawrence and Suddaby 2006; Leca et al. 2009; Fuenfschilling 2019) to consider how to deliberately challenge, undermine or disrupt formal and informal rules and the legitimacy of institutions (Hoogstraaten et al. 2020; Runhaar et al. 2020; Kivimaa et al. 2021) for a discussion of strategies for the destabilization of capitalist institutions in sustainability transitions, see Feola et al. (2021).

The third contribution of this chapter is the analytical framework to explore the politics of deliberate destabilisation by accounting for influence of the political economy. By employing this theoretical lens to one empirical illustration, we illuminated how incumbent actors and their associated interests substantially influenced the rationale, process and outcome of deliberate destabilisation. The example of the hen battery cage was useful because it was well-documented in both scientific and non-scientific publications, which referenced the actors involved, their actions and positions. However, the use of historical data inevitably made it more difficult to 'give voice' to those actors who were silenced and whose voices were therefore largely undocumented in the media, in minutes of official debates, or in policy proposals. Hence, the approach proposed in this chapter, when applied to historical or present cases alike, also has methodological implications. Researchers should employ methods that enable the elicitation of silenced, subaltern and marginalised voices, as well as the voices of those who deliberately refused to participate in the policy process that is, those voices that might have been overshadowed by the more prominent narrative that is immediately available to the researchers (Feola 2013; Hoop and Arora 2020).

INTERMEZZO

From phase-out to unlearning

INTERMEZZO From phase-out to unlearning

The main aim of **Chapter 2** was to illustrate the limits of a technology phase-out by revealing the politics of hen battery cage phase-outs in the Netherlands. This Intermezzo now explains how the conclusions of Chapter 2 prompted research questions about ***"unlearning"*** in sustainability transitions that serve as the basis for the remainder of this thesis.

In its concluding section that introduces future research avenues, **Chapter 2** urges the sustainability transitions community (a) to examine phase-out more diversely, beyond material lock-in associated with technologies and (b) propose the phase-out of capitalist institutions as a critical direction for future research. Regarding disruptive ***"institutional work"*** (Lawrence and Suddaby 2006; Smink et al. 2015; Hoogstraaten et al. 2020), it asks how to deliberately confront and unseat the *socio-cultural* practices, beliefs, and mindsets associated with maintaining capitalist institutions that perpetuate unsustainability (Davidson 2019).

To address this research gap in sustainability transition studies, the remainder of this thesis mobilises and focuses on the concept of unlearning, which discusses the phase-out of (i) socio-cultural dimensions (ii) at the individual and group levels.

In the following three chapters, I develop the concept of unlearning for sustainability transition studies, guided by the following research questions:

Chapters 3 and 5	**RQ. I**	**How can the concept of unlearning be operationalised for empirical studies?**
Chapters 3 and 4	**RQ. II**	**Whether and how do processes of unlearning unfold?**
Chapters 4 and 5	**RQ. III**	**How can processes of unlearning be facilitated?**

CHAPTER 3

Unlearning in sustainability transitions

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Abstract

The importance of double-loop learning and associated unlearning for sustainability transitions is increasingly recognised; however, a clear conceptualisation and empirical focus on unlearning is lacking. This chapter combines conceptualisations of unlearning in organisation, business and management theory ('organisational unlearning') with postcolonial and feminist approaches to teaching and education ('pedagogical unlearning') to provide a richer understanding of unlearning for sustainability transition studies. Empirical evidence was obtained through qualitative documentation of the conversion to solidarity payment in two Dutch community-supported agriculture (CSA) farms. Solidarity payment increases access to the CSA for low-income members and fosters solidarity with farmers to secure fairer income. Our results indicate the generative function of unlearning during processes of change as well as the strategic and pedagogical relevance of unlearning for this specific case. We conclude with the added value of an approach to sustainability transitions that is equipped for capturing the entangled processes of unlearning and learning.

CHAPTER 3 Unlearning in sustainability transitions

3.1. Introduction

Various scholars have contended that sustainability transitions entail processes of transformative learning (van Poeck and Östman 2021; van Mierlo and Beers 2020). In particular, double-loop learning aimed at confronting and modifying assumptions, values and beliefs that guide human action, is considered essential to transform unsustainable regime trends (Argyris and Schon 1978; Plummer and van Poeck 2020). Scholars have also increasingly asked if such learning processes also involve ***unlearning***—that is, discarding certain routines, practices and mental models to embrace and learn new ones. For example, van Mierlo and Beers (2020:266) proposed to ***"regard learning as a process that coincides with . . . unlearning, which is most relevant in the transition process of actors changing their everyday practices"***. However, whereas insightful theorisations of learning processes have been proposed in the transition scholarship, unlearning itself remains a fuzzy concept and a neglected dimension of double-loop learning.

Conceptions of learning in sustainability transitions remain predominantly associated with the emergence of novelty and the acquisition of new knowledge and skills (van Mierlo and Beers 2020; Vetter 2020). This is problematic because specific motivations (e.g. ethical and, broadly speaking, 'political') and actions associated with ***unlearning*** such as the deliberate stoppage from retrieval and reproduction of knowledge, routines and mental models in discourses and practice, are neglected. A more dialectic perspective on learning is needed to recognise sustainability transitions as entangled processes of learning and unlearning (van Mierlo and Beers 2020; Vetter 2020). Therefore, untapped opportunities remain for transition scholars to better articulate and conceptualise unlearning and its relevance to sustainability transitions. Furthermore, the few studies that mention unlearning in sustainability transitions are limited to recommendations regarding ***what*** to unlearn for transformative change rather than elucidations of how such unlearning occurs, for example: 'unlearning abundance' (Alexander and Gleeson 2018), 'unlearning dominant paradigms for urban governance' (Wolfram 2019)

and 'unlearning and debunking economics' (Røpke 2020). Hitherto, little scholarly attention has focused on ***how*** processes of unlearning initiate and unfold in sustainability transitions—with the notable exception of Nygren et al. (2017), who drew on organisational theory to explore unlearning in conservation management, and Feola et al. (2021), who documented the unlearning of marginalising discourses in a peasant movement.

To address this gap, this chapter sets out to conceptualise unlearning and its entanglement with learning in sustainability transitions. We integrate for the first time conceptualisations of organisational unlearning from organisation, business and management theories with Spivak's notion of unlearning that is at the core of feminist and postcolonial research and education (Spivak 1996; Kapoor 2004; Andreotti 2007). By and large, research on unlearning can be sorted in accordance with these fields' understanding of unlearning as either a ***strategy*** for environmental adaptation and flexibility (e.g. Tsang and Zahra 2008; Cegarra-Navarro and Cepeda Carrión 2013; Hislop et al. 2014) or as a ***pedagogy*** to uproot and reject long held assumptions or beliefs (e.g. Spivak 1996; Cochran-Smith 2000; Porter 2004).

We seek evidence for unlearning in two Dutch community-supported agriculture (CSA) farms that have converted to solidarity payment. CSA iniatives are considered important settings for learning as they offer space to explore 'real-world' sustainability problems and test grassroots socio-technical solutions (Kerton and Sinclair 2010; Seyfang and Haxeltine 2012). Solidarity payment requires members of the CSA farm to self-decide how much they want, or are able to contribute for their share of the harvest, thereby rethinking conventional payment schemes that commonly propose a single price for a product or service. Solidarity payment is predicated on the assumption that tailored membership fees improve the inclusivity of the farm beyond affluent members while simultaneously providing farmers with a fair wage (Forbes and Harmon 2008; Paul 2019; Hageraats 2021). ***"Solidarity"*** also implies altered relations between consumers and producers, who do not collaborate at a distance but as members of the same community who redistribute risk and rewards (Brunori et al. 2011). Thus, solidarity payment has the potential to encourage a reflection on collaboration at the farm, farm values and

the inclusivity and economic viability of agroecological farming. As a case study of a changing producer–consumer collaboration in agriculture, this chapter offers an in-depth empirical investigation into the entangled processes of learning and unlearning that manifested within the selected CSA farms as they converted to solidarity payment.

3.2. Sustainability transitions, double-loop learning and unlearning

In this section we elaborate on the important distinction in sustainability transitions research between single and double-loop learning stemming from Argyris and Schön's (1978) theory on organisational learning. According to this theory, learning starts with the detection of error that is defined as ***"the mismatch of outcomes to expectations, that triggers awareness of a problematic situation and sets in motion the enquiry aimed at correcting the error"*** (p. 31). Learning is qualified as double-loop when it encourages the learner to question and modify the frames of reference behind his or her actions and thinking—rather than the adaptation or 'error correction' of such frames (i.e. single-loop learning) (Argyris and Schön 1996; Kemp et al. 1998; Goyal and Howlett 2020).

Transition scholars consider double-loop learning to be of key importance to sustainability transitions as it opens up possibilities for challenging the unsustainable status quo (van de Kerkhof and Wieczorek 2005; Schot and Geels 2008; van Mierlo and Beers 2020; van Poeck et al. 2020). In the long term, single-loop learning alone is insufficient to bring about radical change and learning processes are held to be most effective when they ***"move beyond a superficial focus on realising existing goals which do not call into question the underlying assumptions and phenomena"*** (van Poeck and Östman 2021:157). Double-loop learning is considered a transformative learning strategy that brings about a change in sustainability issue framing and problem-solution definitions (van de Kerkhof and Wieczorek 2005).

The often implicit assumption in the sustainability transitions literature has been that double-loop learning may be perceived as an entangled process of 'learning' and 'unlearning'. For example, van Mierlo and Beers (2020) argued that a ***"learning process conducive to a transition includes developing new knowledge, routines and relations as much as doing away with***

the old (unlearning)" (p.267). Double-loop learning is performed according to doubts about the premises of human action (e.g. certain assumptions, values and beliefs) and motivates the learner to confront and modify such premises while exploring new possibilities. Therefore, learning to act beyond the habitual suggests a process of unlearning through which the learner deliberately disengages from previously held practices and beliefs that are in the way of more sustainable arrangements (Hedberg 1981; Akgün et al. 2007; Matsuo 2019; Burt and Nair 2020)

However, few scholars explicitly consider unlearning as a dimension of double-loop learning – with the exception of Visser (2017) and Stenvall et al. (2018) who situated unlearning in the interruption phase of double-loop learning, that involves ***"a breach in the continuity of experience, understanding and acting, a mismatch between actual and expected outcomes"*** (Visser 2017:35). Similarly, Matsuo (2019) concluded that unlearning inspired by critical reflection played a significant role in double-loop learning. Empirical studies of learning in sustainability transitions usually fail to examine unlearning and its function in transformative learning.

In the remainder of this section we review two distinct traditions of thinking about unlearning. First we review the concept 'organisational unlearning' that became established – like double-loop learning (Argyris and Schon 1996) in management, business and organisation studies and is occasionally mobilised in sustainability transitions research (Nygren et al. 2017; van Mierlo and Beers 2020; Feola et al. 2021). Organisational unlearning is considered a strategy aiming at increasing an organisation's capacity and flexibility to adapt to its environment. To survive in turbulent environments, organisations must be prepared to abandon obsolete or outdated practices and beliefs to accommodate ***"better and more appropriate ones"*** (Tsang and Zahra 2008:1438; Cegarra-Navarro and Cepeda Carrión 2013; Hislop et al. 2014). Suboptimal organisational results can create doubt about the efficacy of established routines and these doubts initiate their unlearning, with the caveat that vested interests and a confidence in prior success formulas hinder unlearning (Burt and Nair 2020).

Second, we examine Spivak's notion of unlearning that is established in postcolonial and feminist research and education (Spivak 1996;

Kapoor 2004; Andreotti 2007), but has not informed debates on sustainability transition to date We refer to this notion of unlearning as 'pedagogical unlearning'. The added value of a pedagogical perspective to unlearning is that it allows us to capture the more ethically charged and, broadly speaking, 'political' objectives of those involved in processes of unlearning and learning, for themselves and as part of collectives devoted to sustainability transition. In addition to (i) reporting types of motivations that are typically overlooked in studies of organisational unlearning and double-loop learning as referred to in the sustainability transitions literature, a pedagogical unlearning perspective (ii) better captures the various emotions that accompany unlearning processes, such as social and emotional discomfit and (iii) considers the unlearning of subjectivities and identities as an empowering and liberating process.

3.2.1. Organisational unlearning

With the rise in popularity of organisational change theory, organisations are increasingly advised to become 'unlearning organisations'. Many definitions of organisational unlearning have been proposed in the management, business and organisation literature (Hedberg 1981; Tsang and Zahra 2008; Zhao et al. 2013; Hislop et al. 2014; Fiol and O'Connor 2017; Klammer and Gueldenberg 2018). These definitions differ in some respects; however, most align in conceptualising organisational unlearning as an (a) intentional process that involves organisations (b) 'abandoning', 'eliminating', 'rejecting', 'discarding', 'giving up' or 'stop using' established knowledge and practice.

To effectively cope with and learn from unpredictable environments, organisations should be capable of unlearning old routines (Becker 2005; Akgün et al. 2007; Cegarra-Navarro and Cepeda Carrión 2013; Fiol and O'Connor 2017). Organisational routines are ***"repetitive, recognizable patterns of interdependent actions, carried out by multiple actors"*** (Feldman and Pentland 2003:95), which are recorded in the organisational memory and influence present and future actions (Tsang and Zahra 2008; Becker 2010). Organisational routines entail performative (i.e. skills and practices at the behavioural level) and ostensive (i.e. norms, values and beliefs at the cognitive level) aspects (Sinkula 2002; Tsang and Zahra 2008; Zhao et al. 2013; Fiol and O'Connor 2017). Organisational unlearning involves

reinforcing feedback between the unlearning of those performative and ostensive aspects. As deeper beliefs are discarded, it is likely that skills and practices are also eliminated. The process can nevertheless also start from the discarding of a habitual practice, which may in turn cast doubt on previously-held beliefs and lead to the rejection of the latter.

Organisational unlearning is promoted because it facilitates strategic flexibility and supports new learning and innovation processes. Most organisational scholars agree that unlearning is an antecedent to new learning (Akgün et al. 2007; Cegarra-Navarro and Cepeda Carrión 2013; Zhao et al. 2013; Mehrizi and Lashkarbolouki 2016; Fiol and O'Connor 2017). Organisational unlearning typically starts with noticing failures, mistakes or problems that encourage the learner to re-examine their habitual, comfortable state of being (Cegarra-Navarro and Wensley 2019). As such, unlearning opens up possibilities for challenging those habitual organisational routines that have become useless, dysfunctional or ineffective (Burt and Nair 2020; Becker and Bish 2021). What has been learned as best practice may suddenly become obsolete in dynamic and unpredictable environments (Cegarra-Navarro and Cepeda Carrión 2013). As a consequence, the inability to unlearn routines is often considered a weakness of many organisations (Hedberg 1981; Chandy and Tellis 2000; Akgün et al. 2007; Klammer and Gueldenberg 2018). Organisations tend to preserve consolidated beliefs and practices, as these are the result of large financial and emotional investments, and distrust the new (Akgün et al. 2007; Fiol and O'Connor 2017). Hence, organisations are usually not cognisant of the ripe time to start questioning and discarding past success formulas (Snihur 2018; Klammer 2021). In fact, organisations might go through a lengthy phase of denial, dismissing that there might be anything to unlearn.

Theories of unlearning suggest that organisational unlearning is triggered by some form of crisis, when 'how we do things around here' must change (Sinkula 2002; Fiol and O'Connor 2017; Klammer and Gueldenberg 2018; Cegarra-Navarro and Wensley 2019). These episodic (rather than continuous) changes are often caused by environmental turbulence, but may also result from internal turmoil (Moorman and Miner 1997; Fiol and O'Connor 2017). For example, Sinkula (2002) discussed three major external drivers for unlearning, namely changing customers'

preferences, competitive intensity and strategic partners' beliefs and routines. Similarly, Mehrizi and Lashkarbolouki (2016) observed how market value reduction signals activated organisations to unlearn their troubled business models. Cegarra-Navarro and Wensley (2019) studied internal triggers for unlearning such as changes in ownership due to mergers or acquisitions, joint ventures or the removal of top-managers.

Understood as an iterative process, unlearning involves mutually reinforcing feedbacks between discarding 'old' routines and experimenting with 'new' ones (Fiol and O'Connor 2017; Cegarra-Navarro and Wensley 2019). For example, Fiol and O'Connor (2017) evinced how attempts to displace deeply embedded routines of care delivery required many rounds of discarding dysfunctional routines before new ones became more salient. However, some organisational scholars argued for a conceptual decoupling of unlearning and learning processes to anticipate the possibility that the discarding of a routine, piece of knowledge or mental model may not be followed by their replacement (Tsang and Zahra 2008; Zahra et al. 2011; Tsang 2017).

3.2.2. Pedagogical unlearning

Unlearning in sustainability transitions may not always be a strategic endeavour to survive and compete in dynamic environments, but can also be a process to seek a different, more diverse and inclusive basis for decision making. It can reflect the contrast between an emergent vision of the world and an existing one, casting an uncomfortable light on current ways of being in the world, and suggesting ways to change them through empowerment and liberation.

To grasp the pedagogical relevance of unlearning for sustainability transitions we turn to Spivak's notion of 'unlearning one's privilege' that is elaborated in feminist and postcolonial research and education (Spivak 1996; Kapoor 2004). These theoretical fields consider unlearning as a process in which an individual ***"cast[s] a keen eye on the familiar and taken-for-granted"*** (Kapoor 2004:641) and accepts that they may pose an obstacle in recognising new possibilities and perspectives. Pedagogical unlearning is understood to facilitate learning beyond the restricted scope of historical experiences and stereotypical thinking (Spivak 1996; Brown 1998; Kapoor 2004; Krauss 2019). It helps learners to detach from

biased reasoning, defensive attitudes and taken-for-granted assumptions and beliefs that underpin our known and unknown behaviours (Cochran-Smith 2000; Mavin et al. 2004). Blinded by these assumptions, one may unknowingly be complicit in maintaining existing systems of oppression (Brown 1998; Cochran-Smith 2000). For example, unlearning appeared to be inevitable to release normative conceptualisations of societal constructions such as gender (e.g. Mavin et al. 2004; LeMaster and Johnson 2019) or race (e.g. Cochran-Smith 2000; Choi, J. 2008) in education.

Gayatri Spivak spoke of the necessity to 'unlearn one's privilege' or to 'unlearn one's learning', which is interpreted as evaluating one's beliefs, prejudices and assumptions and understanding how they arose and became naturalised (Spivak 1996; Porter 2004; Kapoor 2004). Unlearning is of particular importance to bypass previously acquired biases. When learners accept that their behaviours are driven by past experience, they can aim to reduce the influence of, and detach from past experiences to create new and less biased thinking patterns (Choi, J. 2008; Cirnu 2015; Krauss 2019). Processes of unlearning entail acknowledgement and recognition of how our past learnings have blinded us to so many other possibilities and worldviews (Spivak 1996; Porter 2004; Chazan and Baldwin, 2021). Unlearning can therefore help the learner to think, act and care differently (Spivak 1996; Mavin et al. 2004; Baldacchino 2013); to be able to ***"look at things from different perspectives . . . to see the unseen, and think the unthinkable"*** (Hsu 2021:7).

The pedagogical unlearning perspective has highlighted the centrality of uncomfortable reflexivity, which is neither an easy nor self-flattering exercise (Brown 1998; Cochran-Smith 2000; Pillow 2003). Examinations of the self are unlikely achieved without a certain amount of pain and resistance on behalf of the (un)learner (Burksiene 2016; Lawhon et al. 2016; Vetter 2020). For example, Burksiene (2016) described the unlearning process as 'deeply emotional and challenging', as it brings individuals' identities into question. Likewise, Vetter (2020) concluded that ***"breaking with previously held beliefs and practices is emotionally strenuous. It requires time and support to cope with the fears, uncertainties and vulnerabilities that are inherent to any change of practice or internal struggle over new and old knowledge."*** (p.20)

In the words of MacDonald (2002), ***"the pedagogical model of unlearning guides the learner through grief and mourning, while maintaining hope in the possibilities for a new vision"*** (p.172). Unlearning, she argued, is a critical process of weighing prior knowledge when confronted with new ones. Moments of doubt arise when a person begins to accept the possibility that there are perspectives and viewpoints that challenge their own (Macdonald 2002; Laininen 2019; Hsu 2021). In the ongoing mix of learning and unlearning the learner gradually comes closer to ***"the best version of the self"*** (Grisold and Kaiser 2017:48; also see McLeod et al. 2020).

Our chapter originally combines organisational and pedagogical unlearning to inform our empirical study aimed at revealing unlearning in sustainability transitions. In this effort, we consider unlearning as a dimension of learning in sustainability transitions. Unlearning is a process with strategic and pedagogical relevance that is activated by various triggers. It facilitates critical reflection and initial destabilisation of existing practices, values and beliefs and makes learners embark on an iterative process of releasing these existing practices, values and beliefs and embracing new ones.

Table 3.1. summarises both theoretical perspectives on unlearning. We focus on four aspects: relevance of unlearning, triggers for unlearning, awareness creation in unlearning, and the combination of unlearning and learning in changing routines or mindset.

Key concept	Organisational unlearning	Pedagogical unlearning
Theoretical field	Management, business and organisation	Feminist and postcolonial research and education
Relevance of unlearning	Strategic	Pedagogical
Triggers for unlearning	(Forms of) crises • Environmental turbulence and value reduction signs • Internal turmoil • Dysfunctional or unwanted results	(Forms of) confrontation • Discomfort / unease • Judgement or retaliation
Awareness	Initial destabilisation of routines • Noticing failures, problems and mistakes • Questioning the efficacy of existing routines	Critical (self-)reflection • Recognition of stereotypical thinking, biases, prejudices and privileges • Different ways of understanding a particular phenomenon are evaluated
Letting go and embracing alternatives	Changing routines • Discarding / forgetting / abandoning routines • Experimenting with new ones • Adoption of new ('better and more fitting') routines	Changing mindset • Detach from or reduce influence of prior learning • Rethink or relax rigidities in prior thinking • Think, act, care differently

Table 3.1. Synthesis of theoretical perspectives on unlearning.

3.3. Methodology

3.3.1. Research approach: event structure analysis

Our research objective was to conceptualise and study unlearning in sustainability transitions. With our empirical study of community supported agriculture (CSA) farms converting to solidarity payment we aim to create a better understanding of unlearning in agricultural transitions towards more sustainable and inclusive forms of collaboration in farming. This chapter uses a qualitative method that is apt for studying socio-historic processes, namely event structure analysis (ESA) (Griffin and Korstad 1998; Stevenson and Greenberg 1998; Heise 1988; Griffin 2007). ESA's basic purpose is ***"to aid the analyst in "unpacking an event"***—that is, in breaking it into constituent parts— ***"and analytically reconstituting it***

as a causal interpretation of what happened and why it happened as it did" (Griffin and Korstad 1998:145). Essentially, ESA is a 'heuristic aid' that helps the researchers to narrate the unfolding of complex and messy socio-historic processes (Heise 1988). Following Feola et al. (2021), we consider ESA well suited to study processes of change—specifically constructive (learning) and deconstructive (unlearning) processes encouraging the researcher to make them more tangible and traceable.

3.3.2. Case study: solidarity payment in community supported agriculture (CSA)

This chapter focuses on conversion to solidarity payment in two Dutch community supported agriculture (CSA) farms. The CSA model encourages direct relationships between one or more farmers and a community of members around local food. Members pay a yearly advance fee in return for a share of the harvest (Cone and Myhre 2000; Paul 2019). Such upfront provision of the operating budget provides farmers with a guaranteed market for their produce and a secure income stream, thereby providing an opportunity to reduce their reliance on financial institutions and external funding (Paul 2019). In practice, many CSA farmers are not earning sufficient income to ensure a living wage (Paul 2019; Hageraats 2021). For example, Flora and Bregendahl (2012) found that despite many farmers choosing to engage in CSA for reasons associated with financial capital, financial advantages actually ranked last amongst actual benefits received. Moreover, Paul (2019) concluded that CSA improved the reliability of earnings but failed to provide an adequate income to farmers: 81% of the CSA farmers were unable to secure a living wage from full-time farming, which ***"fuel concerns that the CSA model may fail to adequately compensate farmers"*** (p.166).

With solidarity payment, the amount that members contribute to compensate for work on the farm is based on solidarity with the farmer and amongst members. Rather than predetermining a fixed price, members of the CSA decide themselves how much they wish to contribute to compensate for the work. Solidarity payment is introduced to provide farmers with an adequate income to secure a living wage while also mitigating economic barriers for low-income households by allowing varied prices per share that match members' economic or social situation (Guthman 2008[a]; Galt et al. 2017; White et al. 2018)

The two studied CSA farms in the Netherlands are frontrunners in implementing solidarity payment. To preserve anonymity, we refer to these CSA farms as the ***"Orange farm"*** and the ***"Yellow farm"***. ***The Orange farm*** is a self-harvest CSA with approximately 100 members who use a 'price-scale' or 'sliding-scale' mechanism as a form of solidarity payment. Members are presented with a range of contribution fees (between €225 and €345 in 2021) that translate into farmers' gross hourly wage. ***The Yellow farm*** works with box-schemes and distributes 90 boxes of various sizes per week, which can either be collected on the farm or at the city centre. A simple formula—i.e. labour per box * gross hourly wage * 25 weeks (average duration of the harvest season in the Netherlands)—is used to inform members about the necessary work to prepare small (0.5 h), medium (1 h), large (1.5 h) or extra-large (2 h) boxes. Members subsequently decide on the farmers' gross hourly wage and thus their financial contribution to the farm for that year.

At the time of this study (Spring/Summer 2021), both farms had fully incorporated solidarity payment, thereby enabling us to trace the unfolding of the historical 'event' (Griffin 1993) (i.e. the conversion to solidarity payment) in retrospect. The beginning of the event was subsequently deduced to the first moment the farmers started to question traditional payment schemes and consider solidarity payment. The end of the event was the consolidation of the solidarity payment scheme within the CSA initiatives.

3.3.3. Data collection

To create a rich narrative account of the conversion to solidarity payment, we collected data per farm through farm visits, online and offline interviews, farm websites and sign-up sheets, public events and newspaper articles. A total of 33 semi-structured interviews were conducted with farmers (F1–F4) and members (M3–M31) of both farms. The first author continued interviewing until confident of (i) what actions were important in constituting the conversion per farm and (ii) how these actions link (Griffin 2007). She regularly visited the farms in June and July 2021 to directly approach members who came to collect their boxes or harvest their produce. To compensate the farmers and show support

for the CSA initiative, the lead author of this chapter regularly helped out on the farm.

The semi-structured interviews were used to elicit each respondent's narrative. Respondents were asked to describe their personal account of the farm converting from conventional to solidarity payment and subsequent changes in as much detail as possible. We embraced ESA's probing spirit to ***"evoke imaginative reconstruction of the actor's world and her/his motives, strategies and understandings"*** (Griffin and Korstad 1998:146). We asked respondents to share their experience with solidarity payment and recall moments of e.g. confrontation, conflict or surprise and whether any practices, assumptions or beliefs were challenged or abandoned. On average, the interviews lasted 40 min but ranged from short talks of 12 min to long discussions of almost 90 min. All interviews were transcribed verbatim in Dutch, which was the participants' native language.

3.3.4. Data analysis

To analyse the farms' conversion to solidarity payment, we first prepared a chronology of the actions that the first author determined had defined the event. This chronology was based on the combined data from our interviews, in which the respondents were asked about key moments in the conversion to solidarity payment. Following Griffin (1993, 2007), we formulated short, tightly-sequenced descriptive statements focusing on the actor(s) and the social action, e.g. 'farmer sends out letter', maintaining an active voice throughout the chronology. The chronology was then entered as input into ETHNO,[1] an online software programme that presented us with a series of yes/no questions about the causal connections between the various actions constituting the event (Stevenson et al. 2003; Griffin 2007). For each action, the analyst is asked if a temporal antecedent is ***required*** for the occurrence of the subsequent action. If 'yes', then ETHNO links the actions indicating a logical relation. If the relation between two events was not directly clear, then counterfactual questions were asked (Griffin, 1993). Subsequently, ETHNO used our responses to create the event sequence charts representing the analyst's interpretation of the causal—rather than temporal—connections amongst the actions

1 Link to ETHNO https://cs.uwaterloo.ca/~jhoey/research/ACTBackup/ESA/ESA.html

constituting the farms' conversion to solidarity payment. Finally, the research team checked the charts for logical inconsistencies. Both charts begin with farmers questioning the old payment scheme (beginning of the 'event') and end with the consolidation of solidarity payment (end point the 'event'). We studied the actions and the logical relations between causally related actions in the charts through our unlearning perspective. **Table 3.1.** helped to reveal unlearning in particular moments and actions in the conversion to solidarity payment. **Fig. 3.1** gives a schematic overview of the subsequent steps in our research approach.

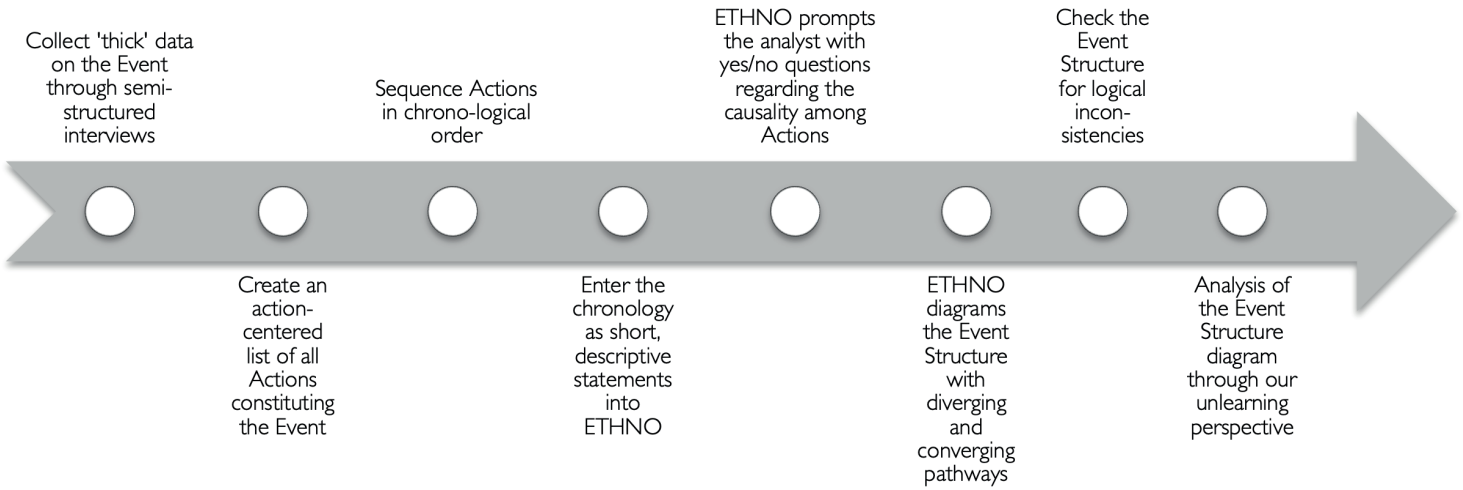

Figure 3.1. Schematic overview of event structure analysis using ETHNO

3.4 Findings

This section presents the analysis of the two selected CSA farms converting to solidarity payment, highlighting unlearning therein.

3.4.1. Findings "Yellow farm"

Implementation of the solidarity payment scheme

The Yellow farm is owned by a female farmer, who employs another female farmer. Together with a contracted host/shop-assistant and a fluctuating group of volunteers and interns, they run the CSA and on-farm shop. The Yellow farm operates via box-schemes. During the harvest season, a total of 90 boxes of various sizes are distributed to the members of the farm. The prices of the boxes varied according to their size and were determined by the farmer based on benchmarking of organic supermarket prices and other CSA farms in the area. In 2020, the farmers of the Yellow farm implemented a form of solidarity payment: the hour-per-box solution (F1).

The narrative of the Yellow farm and the farm's conversion to solidarity payment highlights income deficiencies. Both farmers of the Yellow farm (F1, F2) cited self-exploitation at the farm as a common drawback of agroecological farming.[2] The injustice of working long days for little financial compensation and the fact that no one voiced this problem particularly frustrated the contracted farmer:

> *"I saw the owner of the farm working 60 h per week, completely exhausted. She is also a mother and runs a household. There are no funds to hire another farmer. This is when I realised, we cannot go on like this. It is absurd. It is not about getting rich, but about not having the money to share the work on the farm, to build up a pension, to pay for insurance etc." (F1)*

Feelings of discomfort were additionally fuelled when both farmers began comparing their incomes to those of their friends, family and colleagues (F1, F2).

2 Many researchers use the term 'self-exploitation' to describe this phenomenon and to illustrate the fact that CSAs rely to a large extent on the work that farmers perform to sustain them (e.g. Hinrichs 2000; Galt et al. 2017; Bruce and Som Castellano 2017; Mundler and Jean-Gagnon 2020).

> *"It just didn't feel right anymore. I am producing food, working long hours—physically hard work [...] for our members who definitely earn a minimum wage. Whereas, at that time, we [the farmers at the Yellow farm] earned half the minimum wage."* (F1)

These realisations led the contracted farmer to develop the 'hour-per-box' solution. The farmers had considered self-harvest as a solution to minimise labour and thus increase their income; however, they promptly abandoned this option for multiple reasons, including the need to reorganise the farm design and the loss of farmers' joy of harvesting that this solution would have caused (F2).

The hour-per-box solution, wherein members determine the gross hourly wage to compensate for the work that goes into preparing a small, medium, large or extra-large box, was first rejected by the farm's owner. What drove the owner's reluctance to institute this form of solidarity payment was a general fear to raise prices and uncertainty as to how members would respond to the increase and its implied message (F1, F2).

> *"I was nervous to implement [the solidarity payment scheme]. Over the years, I built a good relationship with my members, and I was quite afraid they would not accept our proposal. Or that they would feel bad if I showed them how little I earned. [...] I was reluctant to tell them."* (F2)

Nevertheless, the owner of the farm agreed to a pilot phase for the hour-per-box solution. This meant that all members received a form and sign-up sheet for solidarity payment in their box but were not obliged to join (F1, F2). In addition, the issue of fair wages and the proposed solution was more intensively communicated to community members on the website, the newsletter and social media, and during on-farm discussions.

> *"So I do tell them regularly about fair income. And I ask: it would be nice if the gross hourly wage you give us is based on your own gross hourly wage. Solidarity with the farmer, but also with each other. To make organic food accessible to everyone. Suppose you are a single mother and you earn very little. It is fine if she contributes 5 euro per hour, because that is then hopefully balanced by others who give me 30 euro per hour – so to say."* (F1)

"I think it is generally considered 'not done' to discuss how much you earn, especially if you not earning a lot." (F1)

During the pilot year, only a handful of members joined the initiative, and the majority did not return the form (F1, F2). Although members' willingness to support solidarity payment in the pilot phase was unsatisfyingly low, both farmers were set on continuing the experiment, as they had grown to accept communal responsibility in assuring fair wages (F1, F2).

The next year, all members again received an instructive letter and sign-up sheet; however, this time, they were obliged to join the solidarity payment scheme. The owner of the farm provided the following reason for the decision:

"If we really want to work with the new payment scheme, we have to take a stand and push it through. I do not want to lose the people that I work with, but if I want to offer them a proper wage, more money needs to come in." (F2)

The overall response to the new payment scheme was positive, and only a few members left the farm (F2). The majority of the members (about 80%) completed the form and decided on a gross hourly wage for the farmers (F2). The farmers provided supporting information with an explanation of the financial situation of the Yellow farm and instructions on how to decide on a righteous financial contribution. For example, they advised to take into account their own gross hourly wage and the national minimum wage of €16 per hour. One member shared the following thought:

"We decided immediately that we would pay the minimum wage. I think that is only reasonable, to receive a decent salary for your work." (M15)

Different reasons were cited for not responding to the letter. Some did not respond to indicate that they agreed with the national standard of €16 per hour (M7, M8, M16), as the farmers had explained in the letter that if they did not receive any reaction to the form, then members would automatically end up at that payment level. Other members simply forgot (F2, M4, M8):

"I did not respond to the letter, waiting to see how it would turn out. I was a bit sceptical. I thought I just see what comes out, and I am happy to pay whatever they need. I mean you can't get involved in everything of course. I just decided to watch it unfold from a distance." (M7)

Solidarity payment was fully in place in 2021, and members were invited to reconsider their contribution for the upcoming harvest year.

Revealing unlearning and learning

The initial destabilisation of payment routines at the Yellow farm started at the level of the farmers. Both farmers voiced their feelings of frustration and disappointment regarding their financial position. The realisation that most of the CSA farmers in the Netherlands are positioned in a frugal economic position provoked the farm's owner to act on these feelings (F1). She began to openly discuss her financial position and call out the CSA model for failing to provide farmers with an adequate living wage. The farmer critically reflected on why CSA farmers are afraid to increase prices and value their products to ensure a living wage. This critical reflection on habitual practices and informal rules in the larger CSA farming community led her to develop the hour-per-box solution, wherein members of the Yellow farm compensate farmers for their labour rather than pay for the food.

Initially, the farm's owner was reluctant to implement solidarity payment at the farm. She had reservations about members' ability to comprehend the problematic situation of the farm's payment structures. The farmer mostly feared that her members would be confused by the news that their previous behaviour was unsatisfactory, which might provoke feelings of guilt and frustration. Her assessment that most members were actually unaware of the limitations of prevailing payment routines seemed to hold true: during conversations with the farm's members, most said they were surprised to hear about farmers' precarious financial position (M3 – M6, M8, M13–M16). As one of the farmers mentioned:

"Often, members react shocked and they say: good that you are doing something about it, and that you are working towards a better future. Of course we want to support you, we just didn't know. We had no idea." (F1)

Similarly, one of the members commented:

> *"Of course you see them work hard and working long hours. And I saw the love and care that [the farmers] put in the garden. A bit of an elephant in the room I guess [...] But as long as they do not mention it. I figured they must really enjoyed their work, or perhaps they received subsidies?" (M8)*

The members' ignorance stems from reliance on the CSA model and assumptions related to direct marketing, which implies that members' contributions cover farms' operation costs. Bringing habitual practices and knowledge regarding CSA and associated payment schemes into the realm of enquiry was an important step to provoke changes on the farm. The farmers decided to be more transparent about their marginal financial position, information that they had previously withheld from their members (F1). In addition, the letter that was sent to the members not only explained how the current price insufficiently compensated for the work on the farm, it also underlined the shortcomings of a payment scheme that prices the product rather than the labour that goes into producing the boxes. The farmer explained that the hour-per-box solution was designed to provoke discussions around value and labour. The form posed the question: *"What is the gross hourly wage you would like to pay us?"*

In the farmer's words:

> *"What is interesting is that they have to fill it in themselves. Some people might have little to spend and will say: I don't have much so I can only pay a small fee. Members want us to decide for them. But if I ask them: what should be our hourly wage? What do you want to pay— and really anything is fine. Then they have to actively think about us. We want people to reflect on what does it mean to have little income, and how does that compare to our income [the farmers]?" (F1)*

Most of the reflections on their membership were observed after the members received the letter. As shown in the narrative, the majority of the members answered the question posed by the farmers; however, the extent to which they interacted with the question differed. We recognised unlearning in the stories of members who used the request for solidarity payment to, for example, re-consider priorities in their expenditures (M8, M10, M18), contemplate the different types of values provided by the farm (M4), or compare their own financial position against that of the farmers

(M3, M13, M17) and other community members (M6, M9). Overall, these members perceived the question as difficult or challenging but appreciated the invitation to join the discussion. They also appreciated that the open question allowed low-income families to join the scheme (M4, M6, M8, M9, M13):

> *"As I understand it, it is a completely different approach to compensation, it is about how you value the farm."* (M4)

> *"What I appreciate, or what I consider one of the strong points [of this initiative] is that members can decide. They give us a sense of 'you can really contribute in this way'. In that way, my contribution becomes more than only paying for farm produce."* (M8)

In contrast, other members explained that they adhered to the farmers' instructions to consider the national minimum wage of €16 per hour (M5, M6, M12, M15). They came to understand that the average price of the box needs to increase for the farmers to earn a fair wage. In deciding, these members less frequently considered their role as community members. Rather, they seemed to automatically agree with the new, recommended price. In these cases, when confronted with a problematic situation, members were actually very willing to accept a new payment scheme, but did not express that it changed their perception of prevailing farm routines. They suggested that the farmers should have simply increased the price per share (M5, M12, M15).

Not all members appreciated the farmers' attempt to have them take communal responsibility for fair wages (M3, M7). Some members shared their discomfort with deciding someone else's salary (e.g. *"Imagine going to the hairdressers and being asked what do you earn?" [laughs]*–M3) or their lack of knowledge to make a proper decision (M7). In addition, some members suggested that farmers should be more entrepreneurial (M5, M7, M16):

> *"What reference do you have as consumer to determine what [the farm] is worth? In my opinion, it is too difficult to really determine value. I just pay the new price for the box—I do not have enough information to make another decision, so I'll just leave it like this."* (M7)

For these members, the issue at hand might be understood; however, the solution of solidarity payment was not appreciated. Rather, they believed that the financial situation could be solved with the help of existing habits and within prevailing responsibilities—that is, the farmer should have simply increased the price per box. In these cases, there is no evidence of enquiry or deliberate rejection of previous practices.

After deciding, some members continued to tinker with the idea of solidarity payment: for example, we noticed a readiness to embrace more diverse community roles (M3, M4, M8, M9, M12). However, discomfort with solidarity payment remained. The lack of feedback on the decided gross hourly wage gave members a sense of unease (M4, M5, M15, M16). For example, when expressing his worries, one member shared: ***"I do not want to take advantage of the farm"*** (M5). Finally, members also critically reflected on the willingness of others to engage in solidarity payment (M4, M8). The decision on the financial contribution was made at the individual or household level. At the community level, these considerations were not discussed, and they did not play a role in shaping the process. As one member shared:

> *"Imagine: what if everyone is only prepared to give 100 euro? It is a risky move—especially if you want to earn a living wage." (M4)*

3.4.2. Findings "Orange farm"

Implementation of the solidarity payment scheme

The Orange farm is a young, self-harvest CSA farm run by two female farmers. They recently relocated the farm to another plot in close vicinity to their previous plot. The farmers decided to move from their original plot after two years due to their discontent with the relationship with the owner of that land and their longing for more autonomy (F3, F4). The farmers formed a land working group with some members of the Orange farm to support their venture for new land. Concurrently, the farmers were approached by another farmer who welcomed the Orange farm on his property (F3, F4). As a result, several volunteers left the land working group because they assumed that it had served its purpose (F3, F4, M31). A slimmed down version of the land working group continued to discuss commons and shared ownership of the land, topics that were always at

the group's heart (F4). In the new situation, the land is still owned by an external actor, albeit with more freedom for both farmers. The farmers expressed a strong conviction that such dependency is unsustainable and unjust in the long-term. They envisaged a future in which the land would be repurposed as a commons (F3, M31). This philosophy of ***community shared agriculture*** (F3) seeped through respondents' accounts of the farm's conversion to solidarity payment.

The first harvest season on the recently acquired plot coincided with the beginning of solidarity payment at the Orange farm. From the onset of the move in 2019, the farmers had discussions about a fair wage but acknowledged the complexities of operating in a conservative region as well as raising prices without excluding low-income households (F3, F4). The farmers were further inspired by the experiences of the Yellow farm (see Section 3.4.1) to actively address the issue of low wages at their own farm (F3).

The Orange farm holds annual meetings at the end of each harvest season. During the first annual meeting, the farmers presented their budget and annual reports (F3, F4, M20, M21, M24) to show that they were far from able to earn a living wage (F3, F4). Subsequently, farmers encouraged members to contribute more, although no formal scheme for solidarity payment was introduced during this meeting (F3, M24, M26). However, spurred by these initial group dialogues on income, the farmers determined that their financial position should become a communal responsibility (F3, F4) and drafted a proposal for compulsory solidarity payment (F4). Ahead of the second annual meeting in 2020, the farmers informed all members about the solidarity payment via their newsletter. In doing so, they stressed the importance of finding a solution that fitted their community. For example, an excerpt of the information letter stated:

> *"As you can see in the budget, [the Orange farm] is not yet financially healthy, which is why we are looking for ways to improve the balance sheet for next year. Importantly, we do not want to make any concessions to the way we work and approach agriculture. We learn a lot from other farmers, but there is no fixed guideline for the reimbursement of costs yet, which is why we want to look for possibilities together with you. [..] How can we organise CSA in such a way that the costs are covered but remain accessible*

> *to those with a smaller budget? We want solidarity and therefore invite you to join us in looking for a form that suits us all". [Orange farm information sheet]*

In addition to the solidarity payment, the farmers also initiated a working group to attract new members, which would further improve the financial position of the Orange farm (F3, F4, M25, M30). During the meeting, ideas for recruitment were discussed, and a target number was set (F3, M30).

During the second annual meeting, the topic of solidarity payment was heavily discussed (F3, M22 – M27, M31). The farmers' initial proposal was ***"to start an online bidding round [bieterunde] for members that continues until total costs of farming operations are covered"*** *[Orange farm information sheet].* Amongst the reasons that the members rejected the ***bieterunde*** was that they feared competition and a lack of anonymity amongst themselves (F4, M22, M24, M31). In addition, most members deemed freely deciding on an amount without any guidance too complex (F3).

After processing the responses from the second annual meeting, the farmers decided to implement a sliding scale for solidarity payment (F3, F4, M25, M27). This approach was considered the best solution to balance members' request for the farmers' guidance with the farmers' vision for shared financial responsibility: the sliding scale was regarded as ***"a compromise"*** (F3). About 10 percent of the members left the farm in response to these allegedly complex discussions on income (F4, M25). All remaining members had to renew their membership for the next harvest season by filling out a subscription form, including the sliding scale (F3, F4, M30). The sliding scale is a tool that helped members consider an appropriate contribution for the harvest season ranging from €225–€345 per adult share (numbers from 2021). The sliding scale and subsequent information on its interpretation were updated throughout the year (F4, M22). Amongst other things, a separate webpage was developed to inform old and new members about the payment scheme.

Revealing unlearning and learning

Similarly to the Yellow farm, the farmers from the Orange farm were also set on confronting unjust farm structures that financially marginalised them. Their transparent and honest communication about farm finances via newsletters and annual meetings was part of that strategy (F3, F4).

Their annual reports included extensive Excel spreadsheets with detailed information on financial flows and subsequent hourly wages for both farmers (F3, F4, M20, M21, M24, M27). Open communication brought forth feelings of discomfort and unease not only for members, but also for the farmers themselves:

> *"People were really shocked to see [...] 'Why are you showing this?! You are the entrepreneur, why do I need to look at this?!' They were actually quite upset [laughs] [...] but all we just wanted was to show our inputs and outputs. We did not even ask any confronting questions back then." (F3)*

> *"After the first year, we drafted a budget. And then we noticed that the price had to increase to three or actually four hundred euros. I remember thinking: that's crazy! And impossible because not everyone can afford that." (F4)*

The latter excerpt exposes the farmer's internal struggle between what is necessary for a sustainable continuation of the CSA farm and the prices deemed appropriate through the eyes of community members. One of the farmers described members' incomprehension as an ***"incredibly painful experience"*** (F3). It took time and supportive dialogue for them to acknowledge this pain (F3, F4). Indeed, although this source of both members' and farmers' discomfort was not easily uprooted, it seemed essential to understand adverse reactions to develop workable solutions.

After the second harvest year, the farmers returned to the community with another annual report (F3, F4). In addition to presenting the latest financial overview, the report also included a detailed plan for solidarity payment at the Orange farm, which included several tools to aid members in considering their financial contribution of the farm. First, the farmers listed a set of questions to be considered when deciding on an appropriate membership fee. For example, they proposed that members consider: What you would like to contribute per week? What is your own gross hourly wage? What do you pay in the organic supermarket? Secondly, the farmers articulated for ***what*** members were paying the Orange farm. Here, the farmers directly confronted the members with questions about societal value and worth. These questions helped members to accept that they were no longer paying for a product through a direct market relation; rather, they needed to consider how much they valued the overall CSA initiative (M23, M26, M27, M31):

> *"So rather than asking: how much should our vegetables costs? We ask: what is this the worth of this total package of services? How much is it worth to you? And the big question: who reimburses the costs?" [Orange Farm annual report]*

As described in our narrative of the Orange farm, the farmers initially proposed to work via an online, anonymous bidding round or ***bieterunde,*** a form of solidarity payment that has gained traction in German CSAs (F3,F4). The idea was that members would individually or within their households decide on an appropriate contribution. The farmers would repeat the bidding round until the costs of farming operations were covered (F3, F4). This suggestion caused resistance during the second annual meeting, and there was a general desire for more guidance (F3, F4, M22, M24, M27, M28). Loyal to the vision of solidarity payment, a sliding scale was proposed as an alternative to the ***bieterunde***. What endured was the farmers' motivation for members to start recognising communal responsibility, and to transform centralised decision-making within CSAs:

> *"We wanted to create awareness about the importance of solidarity payment. It was really important to us that members decide for themselves. […] It is based on trust; we did not verify the choices they made." (F4)*

Most members reported that the meeting and/or the prepared documents for that meeting made them more mindful of the farmers' precarious financial position and the true price of agroecological farming (M20, M22–M27, M31):

> *"We were confronted with the actual costs of not wanting to cause certain environmental problems. The question of compensation had become a moral issue." (M23)*

> *"I remember sharing my concerns with [the farmer]. Each time I came to harvest my produce […] she was always there! And by then I was paying 180 euro per year. That couldn't make sense. So the meeting, I guess it was more of a confirmation: I was right, it does not make sense." (M26)*

Whilst some members found the farmers too vulnerable (M21, M29), most started to question and critically reflect on internalised ideas about their

membership. For example one member shared that he started to recognise new responsibilities:

> *"Most importantly, I realised that the farmers' income directly depended on what we paid. We compensate labour, and do not just pay for the vegetables. That idea really appealed to me. If I want the farmers to have a reasonable income, I can decide that." (M23)*

All members of the Orange farm needed to complete the sign-up form, thereby indicating how much they were willing to contribute for the next harvest season. Members interacted differently with the sliding scale: some opted for the average, whereas others actively considered farmers' guidelines (M28, M30). Some members shared their reluctance to consider their own hourly wage (M23, M27) or reflect on questions of worth (M24, M26):

> *"I just considered an appropriate position for myself within the provided range. I do think I felt discouraged to consider: what is the farm worth to me? So maybe I went for the easy option [laughs]. It is interesting that I still feel uncomfortable to answer that question." (M24)*

> *"Suppose we do not reach a certain number of necessary members to cover the costs, but you strongly believe [the farmers] should earn a reasonable salary. What will you do? At what point do you decide: this is getting to much for me? That seems like a terrible decision. [..] I already noticed a resistance to calculate what I actually earn. I don't want to know that at all." (M23)*

Based on the analysis of the Yellow and Orange farm we conclude our results section with a schematic overview of the conversion to solidarity payment. **Fig. 2.2.** organises the defined actions, as identified via ESA, in accordance with the aspects of unlearning (**Table 3.1**). **Fig. 3.2** shows that we recognise the conversion to solidarity payment as an entangled and ongoing process of learning and unlearning, in which farmers were able to reframe responsibility for farm financial health and members were able to redefine their membership and community engagement.

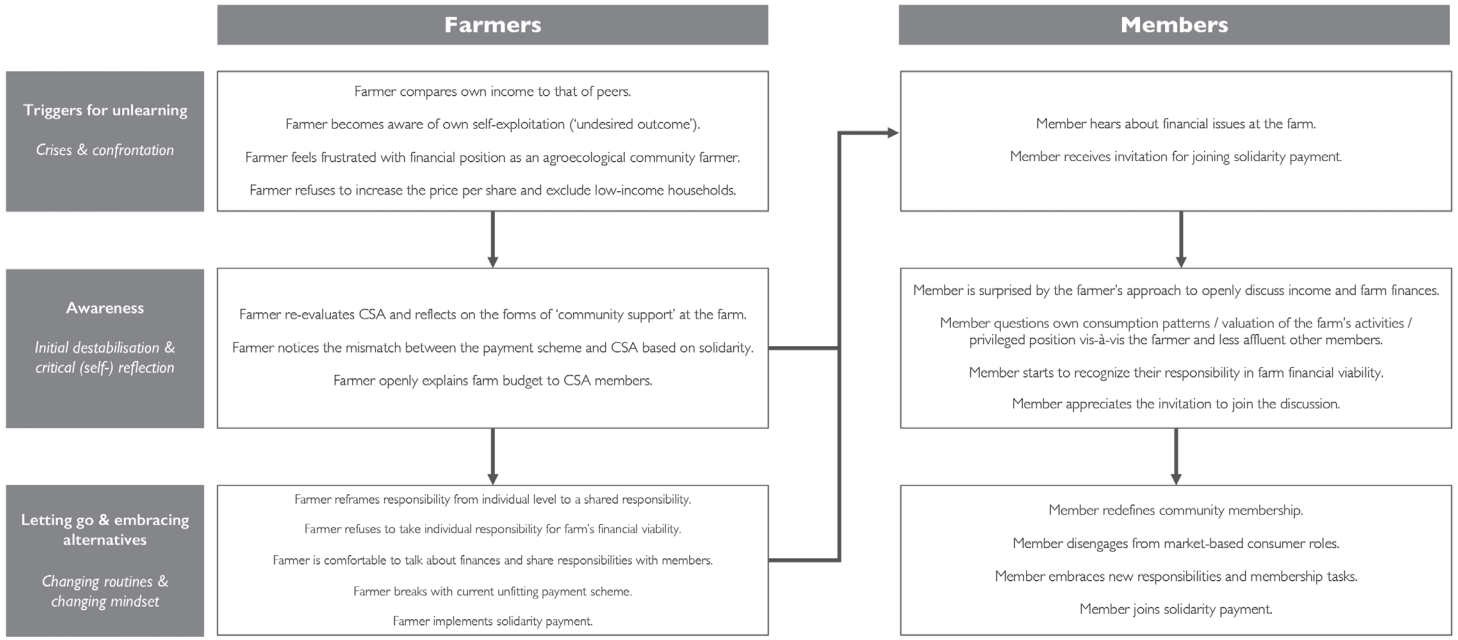

Figure. 3.2. Schematic overview of selected actions from ESA analysis which contribute to revealing the conversion to solidarity payment as an entangled process of learning and unlearning for both farmers and members.

3.5 Discussion

This section summarises and discusses the main results, with reference to our synthesis table that served as the basis for empirical enquiry (see **Table 2.1**). First, we present a discussion on the observed relevance of unlearning in our case studies and secondly, we reflect on our processual understanding of unlearning and learning.

3.5.1. The relevance of unlearning in the two case studies

As elucidated in **Section 3.2.**, unlearning in sustainability transitions can be understood as a process with both strategic and pedagogical relevance for double-loop learning. Here, we reflect on our conceptualisation of unlearning in sustainability transitions that builds on business and management theory (organisational unlearning) along with postcolonial and feminist approaches to teaching and education (pedagogical unlearning).

Inspired by research on organisational unlearning, we found that unlearning had a ***strategic*** function in embracing solidarity payment. In both cases, the farmers proposed solidarity payment with the assumption that present routines had put them in a precarious position, and changes were required to sustain the farm without compromising on their agroecological approach to farming. Communal acceptance of solidarity payment through a planned detachment from the unfitting market-based payment scheme ensured a better income for farmers and improved the farm's inclusivity. In this sense, our results confirm propositions from organisational theory on the importance of unlearning in producing change and transforming organisational routines to confront dysfunctional or undesired outcomes (Sinkula 2002; Becker 2005).

Bringing in theories of pedagogical unlearning, we also observed the ***pedagogical relevance*** of unlearning in our cases. Our findings demonstrate unlearning as a process in which both farmers and members scrutinised and rejected taken-for-granted assumptions regarding CSA and farm structures, which helped to embrace new forms of collaboration. For example, we documented farmers' liberation from their internalised oppressions in pursuing a fair income and illuminated how they abstained from a discursive emphasis on the non-monetary benefits of farming to justify low income and self-exploitation. As depicted in **Fig. 3.2**, the

farmers were able to reframe responsibility from the individual level to a shared responsibility. Additionally, our findings demonstrate how community members were provoked to suspend their beliefs on consumer roles and responsibilities within the CSA initiative and encouraged to 'think, act and care differently' (Spivak 1996) as they learned about farm finances and considered solidarity payment. Both observations on unlearning are in line with Spivak's prescription to trace the history of one's learnings and understand how they became naturalised and create a bias towards accustomed practices and believes (Spivak 1996; Choi, J. 2008; Kapoor 2004). Had this study been informed by organisational unlearning alone, the ethical basis for unlearning producer–consumer relations via solidarity payment would have been less visible. Subsequently, the pedagogical perspective to unlearning helped recognise how certain market biases and privileges such as passive consumer roles, and farmers' internalised oppressions (unknowingly) persist in CSA, that are worth exposing through an unlearning perspective. Our account of these cases would have misread unlearning as having merely a strategic function (economic viability) in the conversion to solidarity payment, while for the farmers and other members of the CSA the unlearning process was pedagogical, involving a reflection on e.g. fairness, dignity and inclusivity, as well as strategic.

To conclude, the integration of theorisations on unlearning by both organisational and business scholars, as well as feminist and postcolonial scholars allowed us to grasp unlearning in its strategic and pedagogical relevance for this specific case, and thereby reached a more comprehensive understanding of changing producer–consumer relations in agriculture.

3.5.2. The processual character of unlearning in sustainability transitions

This chapter conceptualised unlearning in sustainability transitions as a dimension of learning in sustainability transition, with strategic and pedagogical relevance. Unlearning is activated by various triggers, facilitates critical reflection and initial destabilisation of existing practices, values and beliefs and makes learners embark on an iterative process of releasing these practices, values and beliefs and embracing new ones. Focussing on different aspects of unlearning, as deduced from

abovementioned literatures, enabled us to recognise unlearning in the selected case studies.

Triggers of unlearning and awareness creation

Our results reveal that farmers first unlearned and subsequently guided their members' unlearning (**Fig. 3.2** arrow from farmers to members). Whereas the farmers were initially triggered by suboptimal annual results and growing discomfort with the CSA model's inability to provide them with a living wage, members' unlearning was mostly facilitated by farmers' activation. At both farms, the implementation of solidarity payment was designed in such a way to initiate critical reflections about community membership and producer–consumer relations in CSA. This is in line with theorisations on unlearning that consider managers and teachers as important instigators of the unlearning process (Choi, J. 2008; Le Master and Johnson 2019; Klammer 2021). By openly sharing and explaining the farm budget, farmers were determined to make their rationale for changing payment structures – and with that the rationale to break with current payment routines – understood and felt by all members, and the mission for a fair income while safeguarding inclusivity of the farm was repeatedly explained to community members.

In both cases, the farmers evidently guided their members' learning and unlearning. Most members were hesitant to reconsider payment structures on their own accord. For example, hardly any members joined the pilot phase for solidarity payment at the ***Yellow farm***, and members of the ***Orange farm*** were unpleasantly surprised when the farmers proposed to work via a bidding round and appeared hesitant to join such activity. We observe how members were initially unaware or in denial about the outdatedness and inappropriateness of the old payment scheme. Although some members already had suspicions about the old prices being too low, no objections to existing routines were raised. Not until members were confronted with the task to decide on a fair compensation themselves did they begin to rethink the farms' payment schemes. This finding aligns with earlier work positing that individuals might not be aware of the right time to unlearn or even go through a lengthy phase of denial—which further suggests the importance of having 'unlearning facilitators' (Snihur 2018; Klammer 2021).

With solidarity payment, members were confronted with delicate questions such as: ***"What is your own wage, and what do you think a farmer should earn per hour?"*** Most members who fiddled with these question agreed that the invitation for solidarity payment definitely helped to create awareness about the outdatedness of the old payment scheme and encouraged a more engaged membership. Although at first surprised, most members actually enjoyed the invitation to decide on their financial compensation. In these initial moments of surprise, we registered diverse emotional responses, including frustration, irritation, discomfort, embarrassment and empowerment.

Examining these early phases of the conversion to solidarity payment, we propose that one should not expect unlearning in sustainability transitions to spontaneously emerge. Our results show that unlearning takes deliberate effort and time and is dependent on 'unlearning facilitators'. Initial unlearning by farmers is largely in line with organisational theory that proposed unlearning is triggered by some form of crises and a mismatch between outcomes and expectations (Fiol and O'Connor 2017). In turn, most members commenced unlearning at farmers' instructions, through a confrontation that was deliberately staged by the farmers The way that members became aware of new perspectives on membership is in line with pedagogical views on unlearning. For example, and besides familiarising members with farm finances and disappointing turn overs, members were alerted to their privileged position as consumers in a communal farm.

Letting go and embracing alternatives

This study additionally documented unlearning and learning in the actions of farmers and members, who were rethinking and discarding practices and beliefs as well as adopting new routines and changing their mindsets. In rethinking payment structures at the farm, the farmers of both cases felt increasingly more comfortable to demand a fair income. Convinced that the CSA model necessitates shared responsibility, with farmers no longer taking on all risks, the poor financial health of the farm was no longer understood as an entrepreneurial failure at the individual level but rather as a challenge in need of a community response.

We witnessed most of the members' unlearning in terms of 'letting go' after receiving the instructions for solidarity payment and being asked to decide on a fair compensation that suited their social and economic situations. Increased awareness of the shortcomings of old payment schemes encouraged these members to reconsider their accountability within the CSA. As they let go of accustomed ideas on producer–consumer relations —such as predefined and uniform prices per share—and began to interrogate their prior thinking regarding the roles and responsibilities of different actors at the farm, the way was paved for embracing solidarity payment. These members were able to embrace solidarity payment not merely as a new payment scheme, but also as a considerably different view to collaboration at the farm. It is indeed true that an increase in price by means of farmers' decision would have both excluded low-income households and merited less opportunities for inviting more egalitarian structures.

In the later stages of the conversion to solidarity payment, we observed a significant role for unlearning in double-loop learning, embracing novelties and transforming membership. But this is not to say that unlearning was an obligatory passage point or a necessary intervention for the institutionalisation of solidarity payment within the CSA farms. Whereas most members were happy to accept a higher price for their share in the harvest and thus conform to new payment routines, not all actively started to rethink farm categories and question the deeper ethical base of what it means to be a member in a communal farm. While accepting solidarity payment, these members did not recognise the outdatedness of the old scheme or the added value of more egalitarian structures. Moreover, some CSA members may have simply not felt like reflecting on their membership—most obviously those who ignored invitations for solidarity payment or left the farm. In conclusion, unlearning was certainly relevant but not always essential for the implementation of solidarity payment in both cases.

3.6 Conclusion

This chapter demonstrated the added value of an approach to sustainability transitions that is equipped for capturing the entangled processes of unlearning and learning. While double-loop learning is understood to involve aspects of unsettling established routines, knowledge and mental models, learning remains predominantly associated with the emergence of novelty and the acquisition of new knowledge and skills. An explicit focus on unlearning can foreground motivations, aspects and actions that are involved in collective action towards sustainability, but which are often obscured or overlooked by theories of learning commonly adopted in sustainability transitions research.

The added value of an unlearning perspective is multiple. Firstly, it underlines the deliberate character in the act of discarding and releasing established routines, knowledge and mental models. Secondly, a sustained focus on unlearning draws the researcher's attention to specific actions of confrontation, disengagement, rejection, and non-retrieval of information, vocabulary, mindsets, routines, etc. which have not been central to studies of learning in sustainability transition.

Furthermore, by proposing that examinations of unlearning in sustainability transitions can be fruitfully informed by research on pedagogical unlearning in addition to organisational unlearning, we were able to (i) identify specific motivations (ethical and 'political' ones) and objects of unlearning and (ii) consider unlearning as an empowerment and liberation practice, which would also be missed from a solely organisational unlearning perspective. As a result, our account of the conversion to solidarity payment in the two studied CSA farms more accurately captures the experience of the farmers and members involved; those for whom the rejection of an element (the payment system) of an exploitative, productivist agricultural system was a primary concern, not a side effect of the conversion towards more viable, but also more inclusive, fairer and more dignified farming communities.

We close this chapter with suggestions for future research. First, we invite more explicit recognition of unlearning, and specifically of its pedagogical relevance for sustainability transitions. Sustainability transition scholars who have introduced the concept of unlearning to this research field

(e.g. Nygren et al. 2017) have predominantly drawn from organisational unlearning theories and connections to postcolonial and feminist approaches on unlearning have remained absent. In view of the recognised need to diversify and decolonise sustainability transition research (Preuß et al. 2021; Truffer et al. 2022), we encourage sustainability transition scholars to recognise how prejudice, privilege and bias hamper moving socio-technical systems beyond dominant capitalist political economies (Feola 2019; Feola et al. 2021). Previous studies on unlearning normative conceptualisations of societal construction such as race and gender can provide valuable insight and inspiration on how unlearning informs processes of transformative social change.

Second, how to facilitate and design processes of unlearning for sustainability remains an important question for future research and practice (Grisold and Kaiser 2017; Klammer and Gueldenberg 2018; Klammer 2021). Building on our results on the role of farmers in members' unlearning, we see value in further exploring (i) the role of facilitators in unlearning processes, (ii) what mechanisms or interventions may inspire unlearning and (iii) what supporting cultures and environments for unlearning look like. With this we seek to reinforce van Poeck and Östman's (2021) recent call for ***"identifying effective strategies to try to influence learning processes and gaining insight in enabling conditions for fruitful learning processes and ways to overcome obstacles to it"*** (p.168). Strategies to influence unlearning are expected to be culture and context-specific, and need to accommodate the inevitable discomfit when being disrupted from habitual ways of knowing and being (McLeod et al. 2020). The unlearning of deeply seated privileges and political economic models is likely to remain an uncomfortable personal experience marked by unease, setbacks, compromises and frustration (Cochran-Smith 2000; Pillow 2003; also see Feola 2019).

Thirdly, our study leaves open a question about collective unlearning when groups of learners collectively shape and make meaning of moments of crises or confrontation. Although this research focused on CSA farms with a strong collective dimension and community base, we found little evidence of collective unlearning in which the community appropriated and designed the unlearning process themselves. This result contrasts with evidence provided by Krauss (2019), who discussed unlearning as an

intentional process designed from the bottom-up, with groups indicating ***"what specifically we want to unlearn and how we try to unlearn"*** (p. 492). To consider unlearning as a deliberate and shared process aiming at a collectively desired outcome is an empowering possibility for grassroots initiatives pursuing sustainability transitions, and thus represents an interesting third avenue for future research.

CHAPTER 4

Exploring social processes of transformation in a Dutch grassroots agrifood initiative

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Abstract

This chapter brings new empirical evidence and nuanced reflections on the social processes of transformation within grassroots agrifood initiatives that propose relocalised, decentralised and autonomous ways of organising around food systems. We facilitated and analysed a fieldlab on the design of a participatory guarantee system (PGS) with a Dutch consumer–buying group (CBG) who explored ways to define, measure and assess sustainable production and consumption in collaboration with its producers. Our analysis focuses on three social processes that emerged from this fieldlab: (a) deepening of community relations around and through agrifood; (b) learning in agrifood initiatives and (c) politicisation of agrifood systems. We analyse the manifestations of, and limitations to these three processes concerning the CBG's attempt to become a local food community. We conclude that our findings on the social processes of transformation within grassroots agrifood initiatives bring about practical, theoretical and strategic implications to understanding the transformative potential of grassroots agrifood initiatives within and beyond capitalist agrifood systems.

CHAPTER 4 Exploring social processes of transformation in a Dutch grassroots agrifood initiative

4.1. Introduction

In the summer of 2021, we were approached by the Dutch CSA network[1] with a request to organise and facilitate discussions of a consumer buying group (CBG) in the East of the Netherlands looking to set up a participatory guarantee system (PGS). The CBG had been initiated by a group of citizens of a rural village earlier that year. At the time of study, the CBG organised around 20 households and linked to eight regional producers of vegetables, dairy products and bread. In a CBG, consumers join their buying power and organise their shopping via direct and stable arrangements with local producers (Kallio 2018). These groups are increasingly recognised as important grassroots agrifood initiatives that go beyond mere food provisioning, offering greater room for consumers' voice and a proactive citizen–consumer role (Little et al. 2010; Renting et al. 2012; Poças Ribeiro et al. 2021). Initiators of the CBG recognised PGS's potential to help them further ***"shift away from the material exchange between producers and consumers to new forms of agency within the food chain"*** (Schermer 2015:122).

PGS were originally defined as quality assurance systems that provide recognition of sustainable production methods in local markets without the compliance requirements, high investments and transaction costs associated with third-party certification (IFOAM 2019). They propose a flexible and context-specific approach to sustainability governance to institute practices for defining, measuring and assessing sustainability and empower local actors (Bellante 2017; Loconto and Hatanaka 2018; de Lima et al. 2021). As such, PGS allow local food communities to formulate and work towards locally based and culturally adequate definitions of sustainable farming (Nelson et al. 2010; Cuéllar-Padilla and Ganuza-Fernandez 2018). Created by the communities that they serve, PGS can thus be more responsive to local challenges, priorities and conditions and more sensitive to diverse perspectives, practices and values (Cifuentes et al. 2018; Loconto and Hatanaka 2018; Montefrio and Johnson 2019).

1 The Dutch network for community-supported agriculture (CSA) aims to foster "conscious and direct collaboration and solidarity between farmers and citizens" (see https://csanetwerk.nl/).

Motivated to get involved in the messy politics of grassroots agrifood initiatives, and enthusiastic about the fact that this CBG explicitly attempted to 'go beyond' merely buying food collectively, we designed a fieldlab to explore the potential of PGS as a flexible and context-specific democratic governance approach. The fieldlab consisted of five group sessions with the CBG and interested producers to lay the groundwork for and explore the conditions of a PGS to collectively define, measure and assess sustainability (Loconto and Hatanaka 2018). By closely examining how a CBG attempts to 'take the next steps' to employ its collective agency for food system transformation, in negotiation with local producers, we gained valuable insights in the conditions for, and obstacles becoming a local food community, that is a democratic community of producers and consumers committed to food system transformation.

In this chapter, we describe and analyse the fieldlab's dynamics concerning the CBG's attempted transformation towards a local food community, by focusing on three social processes: (a) deepening of community relations around and through agrifood; (b) learning in agrifood initiatives and (c) politicisation of agrifood systems. These three social processes emerged, during the fieldlab, as fundamental for understanding the CBG's attempt to become a local food community ***for*** food system transformation.

First, our conceptualisation of deepening community relations around and through agrifood contains two dimensions. On the one hand, it is concerned with the active participation of different agrifood system actors as members of the agrifood initiative (Holloway et al. 2007; Candel 2022). On the other hand, it refers to the emergence of a shared responsibility, distributed among all members in the initiative (Morrow 2019; Arnold et al. 2022). We understand 'community' as a sense of connection with people, place and food that is established through democratic participation of different agrifood actors (Kneafsey et al. 2013; Kaufmann and Vogl 2018; Poças Ribeiro et al. 2021). We thus examine how the CBG promotes participation of different actors and actor groups; how reflexivity on community membership is encouraged and how responsibilities are shared and distributed among actors and different actor groups.

Second, opportunities for learning are frequently mentioned as a key motivation for producers, consumers and other stakeholders to participate in grassroots agrifood initiatives (Kerton and Sinclair 2010; Lamine et al.

2012; Nikolaidou et al. 2022). Such learning processes are collective, in terms of learning ***from others in a collective setting*** and learning ***collectively***; as well as continuous, in the designed objective of these initiative to create spaces for sustained knowledge creation and capacity building. Analysing learning implies a combined attention to ***what is learned***, such as farmers' learning about new organic practices or consumers learning about the origins of their produce, and ***how learning unfolds*** as an ongoing dynamic and is embedded in the initiative (Plummer and van Poeck 2020; van Oers et al. 2023).

Finally, our conceptualisation of politicisation comprises two dimensions. First, politicisation of agrifood systems is concerned with the (re) emergence of certain topics as contestable and potentially contested, beyond 'depoliticised consensus frames' (Coulson and Milbourne 2022, see also Swyngedouw 2011; Moragues-Faus 2017). As such, it consists of the transgression of borders between different concepts or spheres (like organic vs non-organic or local vs global) and to reconfigurations of these spheres that question earlier partitions (Lagroye 2003). Second, politicisation refers to instances in which a grassroots agrifood initiative becomes aware of, and reflexive about, its potential for exerting collective agency and thus for becoming an actor in transformation (Rossi 2017).

These three social processes are widely recognised foundations of the urgently needed transformations towards post-capitalist, post-extractivist, post-growth and decolonial agrifood systems (IPES-Food 2018; McGreevy et al. 2022; Guerrero Lara et al. 2023). Indeed, in such transformations, relocalised, decentralised and autonomous agrifood initiatives are often regarded as crucial alternatives and sites of resistance to global capitalist agrifood systems (Hendrickson and Heffernan 2002; Wald and Hill 2016; Kass 2022; Zollet 2023) due to their ambitions and practices of democratisation, improved community control, new forms of collaboration, reconnection with nature and increased sustainability (Lockie 2009; Godek 2021). However, various scholars have dispelled binary thinking and problematized the relational and time- and place-dependent nature of 'alternativeness' (Vincent and Feola 2020): binary conventional vs. alternative analyses of agri-food systems are unproductive and analytically misleading (Jonas 2010), and ***"alternative and local food systems interact with the conventional food system in complex***

and multiple ways" (O'Neill 2014:112). This complicates readings of agrifood system transformation, as neither the conventional nor alternative food systems are monolithic or hegemonic (Holloway et al. 2007; DiVito Wilson 2013) but rather involve diverse assemblages of actors, relations, values, practices and belongings (Lamine et al. 2019; Rosol 2020). Furthermore, the relations between alternative and conventional systems, within which the former are ultimately situated, are often fluid over time (Sonnino and Marsden 2006; Feagan and Henderson 2009). Therefore, capitalist, alternative-capitalist or non-capitalist characteristics can coexist in practice in agri-food systems, and even within supposedly 'conventional' and 'alternative' actors, in ways that can create friction, contradictions, but also possibilities and openings for change (Vincent and Feola 2020). These inherently shape and influence both the transformative potential ***of*** grassroots agrifood initiatives, as well as the transformations that occur ***within*** these initiatives as spaces of transformation. This empirical chapter focuses on the latter, in its analysis of internal social processes that may unfold in grassroots initiatives that propose relocalised, decentralised and autonomous ways of organising around food. For this, it takes as a central focus the CBG's quest to shift from joint buying power to becoming a democratic food community in which farmers and consumers actively take part.

4.2. Methods

4.2.1. Research design and practice

The design process that we describe and analyse in this article constituted an attempt to set up a PGS with the CBG and regional producers in a temporary fieldlab setting. While the PGS was not implemented at the end of the fieldlab, the facilitated group process revealed important insights in the social dynamics that are at play in local food system transformation.

The fieldlab took place at the beginning of 2022 and consisted of five sessions of approximately four hours each, including a shared dinner for social bonding. Every other week, fieldlab participants met at the farm of one of the CBG producers. The participants included CBG members and producers, other regional producers, a delegate from the CSA network and the joint first authors (to whom we refer hereafter as the facilitators).

Each session was designed, organised, facilitated and observed by the facilitators (Laura van Oers and Jacob Smessaert). The fieldlab was intended to stimulate critical reflection on local agrifood systems and revolved around issues of defining, measuring and assessing sustainability (Loconto and Hatanaka 2018). It deliberately embraced working through the early design stages of setting up a PGS and brought together CBG members, local producers for the CBG, other regional producers with an interest in farmer–citizen dialogues and other stakeholders with an interest in food system transformation.

The first session, in which the participants were brough together and introduced to PGS, was planned and prepared by the facilitators. An outline for the overall field lab was drafted by the facilitator based on initial intentions of the CBG. However, the specific content of each of the fieldlab sessions was the result of the previous sessions' outcomes and based on emerging requests from the group. As such, the session's design emerged progressively: it was designed by the facilitators but catered to the changing needs and expectations of the fieldlab participants as well as to the progress made in each session. Specific evaluation moments were organised during the process to discuss progress and desired direction. **Appendix B** gives a detailed overview of the different sessions, their target audience, working methods and the conclusions drawn from the sessions.

Both first authors adopted a participatory action research approach (Wittmayer and Schäpke 2014; Raynor 2019). As such, they alternated during each session between facilitation, participation and observation roles. As much as possible, they encouraged the participants to decide on the speed and direction of progress in the fieldlab. Furthermore, as designers and facilitators of the process, they have taken decisions and made proposals in ways they considered to benefit or stimulate the fieldlab process. Thus, they refrain from claiming any neutrality in this process. Evidently, the proposed outline, methods and formats, as well as their interventions and guidance, were performative and contributed to selecting certain pathways over others. While this influenced the structure and design of their PGS system, we believe that it did not excessively impact the social processes at play, nor our analysis of them.

4.2.2. Data collection and analysis

We used mixed qualitative approaches for data collection and analysis. First, we recorded and transcribed the fieldlab sessions, including plenary and small-group discussions. Second, we provided individual journaling exercises and evaluation forms, in which participants were asked to reflect individually on previous sessions or share their expectations for the upcoming sessions. We complemented these forms with fieldnotes that the facilitators recorded throughout the data collection period. Finally, we conducted interviews, which were recorded and transcribed, with producers and a selection of CBG members after the fieldlab.

Based on these different data sources, we created a chronology for each fieldlab session and, subsequently, for the entire fieldlab. We formulated tightly sequenced and short descriptive statements that focus on the social action and on the specific actors that performed each action (Griffin 1992). The combined list of actions present: (a) the evolution of various activities and discussions; (b) the decisions that were made; and (c) the actors involved – including the facilitators. Subsequently, we thematically coded and reorganised our data set according to three social processes and their dimensions that had emerged as relevant during our analysis of the fieldlab. To enhance reliability, both first authors were involved in the coding, the verification of codes, and the analysis of all data sources. The third author, who was not involved in the coding, contributed by validating the overall consistency of the coding and their analysis. The following sections describe, in turn, the fieldlab process and the results of the data analysis with respect to community building, learning and politicisation.

4.3. Overview of fieldlab sessions

The fieldlab set out to consolidate the participants' shared vision and goal of the PGS. The aim of Sessions 1 and 2 was to open a group discussion about individual and collective sustainability values from the perspective of producers and consumers. Discussions on the vision ascribed importance to various facets of sustainability, including ecology, local economy, collaboration, education, community and identity. In the process of agreeing on a shared vision, a tension around the definition of sustainability emerged concerning the presence of diverging (and

sometimes conflicting) views about what qualifies as sustainable. While some participants interpreted the sustainability of the CBG in terms of locality and seasonality, others understood it in terms of ecologically sound production methods and specifically organic farming practices. As a result, the concepts of 'local' and 'ecological', as well as their connections and potential trade-offs, were continuously problematised and revealed conflicting intentions for the CBG.

The fieldlab participants deemed it essential to draw clearer boundaries for collaboration and work towards collective, rather than personal, interpretations of suitable suppliers. The CBG had already been working with regional producers before the start of the fieldlab. For this reason, the initial focus lay on clarifying existing terms and procedures for collaboration. Conversations with initial members of the CBG, including the board, revealed that this had been an informal process, with producers being contacted through personal networks. In Session 2, tensions became manifest between existing informal agreements and desired formal guidelines for collaboration with the CBG. Current procedures were perceived as being unclear and ambiguous by both members and producers and it was felt that they relied too much on subjective interpretations from the individuals involved. This lack of clarity was not only felt by producers from both within and outside the CBG, but also by CBG members themselves. They did not know, for example, on what basis the initial CBG producers had been selected, and some of them were not even aware that not all the proposed products were organic. As a result, participants underlined the importance of identifying ***"no-go's"*** and they collectively agreed that it was the responsibility of CBG members to settle on a guiding vision and formulate criteria for operationalising such a vision. Subsequently, the decision was made to uninvite producers to Sessions 3 and 4.

Session 3, which aimed to obtain consumer agreement around key sustainability criteria, mostly revolved around the tension between sustainability understood as 'local' and that understood as 'ecologically sound production'. CBG members managed to agree on a partial vision for their operations, in which the precise definitions of 'sustainability' and 'sustainable producers' were to be further specified. The collective vision reads as follows:

"Our CBG works with sustainable producers within a radius of 30 km. If something is not locally available (and we still think it is important to offer this product), we purchase from the organic wholesale. Sustainability is about products of organic quality and requires a sustainable production method from the producer".

Session 4 subsequently focused on entry requirements and included discussions about what criteria should be met. To encourage this conversation, some members had expressed the desire to look at examples of lists and modes of operation of PGS from other agrifood initiatives. In response, different proposals were presented: one person proposed basing the list on the broad defining principles of agroecology; another elaborated on a PGS in Belgium and proposed organic standards (per product type) as requirement criteria; and finally, the CBG board put forward a list of entry requirements they had drafted in preparation for the session.

In contemplating measurable indicators for action and entry requirements, CBG members simultaneously voiced a need for concrete criteria as well as a desire to remain flexible. On the one hand, members shared their concern that vague terms would leave too much room for interpretation. On the other hand, there was a collective reluctance to make the PGS initiative too complicated and a general objection to exhaustive lists. What unfolded was a debate around agrifood system transformation, and the types of producers with whom the CBG should collaborate.

CBG members decided not to settle on criteria for the moment and agreed that this would become a topic for the medium term – focusing, in the short term, on more transparent communication regarding producers and their production methods on the website. In doing this, the group highlighted the importance of individual choice, where everyone should be able to express their personal attitude towards sustainability through their consumption patterns. We additionally noticed how discussions on sustainability criteria were shaped by a collective reluctance to end ongoing collaborations with non-organic farmers. Conversations about suitable producers often mirrored the current situation. Difficulties arose each time the group was asked to consider the implications of the proposed criteria for collaboration strategies. In particular, the example

of a non-organic dairy farmer was repeatedly used by CBG members to highlight the undesirability of 'hard' guidelines, with the group agreeing on the difficulties of excluding local and familiar producers.

In addition, Session 4 initiated a discussion about PGS as a participatory form of sustainability assessment. The proposal, which included CBG members visiting farms and evaluating farm performance based on criteria or lists, was briefly discussed but rejected without further ado. Discomfort was clearly observed in the room when members reflected on their potential role as 'auditors' who verify producer compliance, which raised concerns about the practicalities of a PGS as a locally adapted certification scheme. Discussions on assessing gradually evolved from procedures for quality evaluation towards a vision of PGS facilitating social dialogue between consumers and producers in the region. Finally, in Session 5 we practised these farmer–consumer dialogues through different role plays and collectively looked back at the fieldlab process.

4.4. The social processes of local community transformation

4.4.1. Findings on deepening community relations around and through agrifood

Participation of different local agrifood system actors

During the fieldlab, we observed a great willingness on the part of a variety of actors to collaborate on the different types of work that come with the development and design of a PGS. People brought in a diversity of experiences, perspectives and backgrounds, and tried transcending established dichotomies among actor groups such as 'consumers' and 'producers' (which was aided by the fact that different consumer members were also involved in farming activities). We observed several instances of collective action and collective appropriation of both the terms of the discussion and the shape of the process.

However, at different instances disengagement occurred, which restricted the building of a local food community that recognises itself as such. We witnessed how specific actor groups deliberately disengaged from certain discussions that could also have been collectivised. For example,

during Session 2 it became clear that the CBG producers and other regional producers considered it the CBG's responsibility to develop a clear vision and act accordingly, with one farmer writing that ***"everyone has their own value set, but it is the responsibility of the CBG to set clear BOUNDARIES [sic]"***.

As such, while the initial aim of the fieldlab consisted in collectively exploring a PGS with producers and consumers, the former ended up asking the latter to decide on their requirements first and, once decided, to let the producers know what these requirements were. Then, following their disengagement, CBG members held two sessions on their own to decide on the matter – a decision that was supported by the CSA delegate.

> ***"I think it's good for consumers to explore together, 'what are our values and ambitions?' and from thereon seek contact with producers, based on these values. You need to take time for that as a consumer group."*** *(Alice, delegate CSA network)*

Here we observe how consumers engaged as active partners in the shaping of the PGS design and carried the responsibility of dealing with open questions and taking decisions relating to them. Yet, while opening discussions and decision-making to all CBG members (and not only those that were initially interested in the fieldlab on PGSs), this decision actively excluded participation from CBG producers and other regional producers that were not supplying the CBG, thereby going against the tendency of engaging these different actors in new spaces of collaboration.

In addition, the decision to uninvite producers for Sessions 3 and 4 revealed consumers' insecurities regarding changing producer–consumer relationships in PGSs. Different CBG members expressed their belief that they had insufficient expertise to engage with farmers on an equal footing about their production practice. At various moments, external expertise (farmers, existing criteria, other labels) was called for to obtain at least a basis for discussion, and consumers expressed their concerns not only about developing criteria but also about going to farms to 'evaluate' the farmers.

Sharing of responsibilities among actors

In a few instances we observed how fieldlab participants associated becoming a local food community with shifting responsibilities. For example, one producer explained how the fieldlab allowed her to be vulnerable and to share the difficulties of being a small-scale organic farmer directly with consumers. Furthermore, Rita's example below demonstrates how the fieldlab made her reflect on her responsibility as a consumer. During Session 2, in conversation with farmer Tim, who exclaimed that consumers have no accountability in the current agrifood system, she noted:

> *"You made a beautiful comment. You are saying that consumers should be more aware of their own responsibility in paying a fair price for good products."* *(Rita, CBG member)*

The presence and participation in the fieldlab of individuals who were not part of the CBG led to the emergence of tensions, ambiguities and contradictions in the latter, as well as power asymmetries related to information concentration, affinity and experience. In this context, it appeared to be impossible for different actor groups (notably producers for the CBG and regional producers) to participate as equals in developing a local PGS, to take up part of the responsibility for this process, let alone for a feeling of shared, communal responsibility to emerge.

An example of explicit deresponsibilisation was observed during a conflict after the formal closure of Session 2, when people stayed around for a drink and informal chats. One local producer (Yvonne), who is not producing for the CBG, shared her frustration with the founder and central figure of the CBG (Gerrit) about the opacity surrounding those producers who ***can*** be part of the CBG and those who cannot. This revealed the manifold implicit decisions and informal organisation on which the functioning of the CBG is based. While Yvonne clearly wanted to participate in discussions on the set-up of the PGS, she had also come to the fieldlab to find out how she could become a producer for the CBG, or at least understand why she could not. The discussion that this event provoked showed that there was a distinct lack of clarity about what exactly the CBG does, who is involved, in what modality, who is responsible for what and how things have worked so far. Yvonne shared her disappointment with Gerrit,

explaining that she felt her farm was kept at a distance because the CBG refused to accept her produce but would not give her a reason for doing so. Yet, instead of taking responsibility for this lack of clarity and thinking structurally together about how Yvonne and other regional producers could meaningfully contribute to the CBG and to the set-up of the PGS, the problems she raised were individualised and reduced to a specific problem of an abundant potato offer for which buyers had to be found.

Thus, we observed how responsibilities remained associated with specific actor roles and were distributed in accordance with these roles, rather than shared collectively. This resulted in little collective responsibility: at no point did finding a solution to situations like these become a collective priority for the food community. The fieldlab participants appeared unable to constructively navigate the tensions between the perceived and actual responsibilities of the different actors involved, and no discussions took place about how to collectively feel responsible for the process and its outcomes.

Reflections on deepening community relations

The CBG had decided to explore PGS in their quest to reconsider their relations to producers beyond mere suppliers. The intention of the CBG consisted of deepening community relations between farmers and consumers by fostering collective discussions on, and practices around local sustainable food.. While we observed clear instances of engagement in the attempted deepening of community relations, we also observed manifold disengaging and deresponsibilising tendencies. This has limited the potential for building a multi-actor local food community that recognises itself as such and develops a collective, or at least distributed feeling of responsibility for its vision and operations. Indeed, responsibilities and agency have repeatedly been reduced to existing actor categories and roles rather than being cared for collectively. These observations corroborate earlier research that pointed to the difficulty in achieving equal participation and shared responsibilities in consumer-producer collaborations (Holloway et al. 2007; Nelson et al. 2010). This directs the attention towards important questions of community membership, its negotiation, and the performance of shared responsibilities (Morrow 2019).

The deeper involvement of producers happened at the initiative, and under the impulse of a CBG, yet necessarily occurred against the historical legacy of cooperation, affinity, responsibility and role divisions within this very CBG. Our observations point to the complexity of rethinking membership roles and responsibilities, with producers persistently disregarded as real or potential members of a community instead of being considered as mere suppliers. In addition, loyalty and solidarity between some producers and some consumers in the region conditioned the possibilities of negotiating community membership. This was especially true because of the presence of a non-organic farmer – who is well known in the region and produces for the CBG – in the fieldlab. In this context, Margot, a member of the CBG, stated:

> *"There is an elephant in the room: what implications are we willing to accept? Because, if we agree on hard lines about certain subjects, that means that quite a few of our current suppliers would no longer be able to supply to the CBG."* *(Margot, CBG member).*

The discomfort in explicitly rejecting non-organic producers in the region revealed both the importance and the difficulty of finding commonality and dealing with disagreement in the messy process of deepening community relations.

These observations point to a broader discussion on the logics of collaboration that underlie agrifood systems and community development around local food. Cuéllar-Padilla and Ganuza-Fernandez (2018) perceive PGSs as a potential answer to the ***"individualist and undemocratic agri-food logic"*** (p. 13) of conventional systems, where responsibility, accountability and compliance are individualised (see also Morrow 2019). Collectivising these questions of responsibility, accountability and compliance in a local food community calls for accepting disagreement and conflict and developing tools and mechanisms for navigating these conflicts or finding temporary resolutions in constructive manners. The absence of any development in this direction raises the question of the relations between community, collaboration and conflict – recognising that relationships of responsibility are marked with tensions and disagreements and need to be constantly (re)performed in and against an agrifood system and underlying capitalist political economy, which persists in separating

consumer–producer roles and responsibilities (Montefrio and Johnson 2019; Pachoud et al. 2019; McGreevy et al. 2022).

4.4.2 Findings on learning in agrifood initiatives

Collective learning

Our analysis of the fieldlab highlights various instances of collective learning. First, the fieldlab created space for consumers and producers to learn about each other's positions and practices. Consumers shared the relevance of meeting producers face-to-face for better understanding their motivations, actions and practices. In turn, most of the farmers were interested in knowing more about the CBG's consumption demands (e.g. the types of products that the members like or would like) as well as its past decisions (e.g. its original reasons for working with specific local producers). In different sessions, farmer–consumer dialogues were deliberately staged to support their collective learning on diverse topics such as sustainable farming practices and fair wages. Second, learning among consumers also took place – most notably in Sessions 3 and 4 in which the CBG members decided to uninvite farmers and learn about each other's interpretation of sustainability and expectations on how the CBG should operate.

Despite these examples, collective learning among producers and consumers was asymmetrical, as it was greatly influenced by perceived expertise and the difficulty of abandoning conventional consumer and producer roles in a market setting. We believe this is a direct consequence of the logics of collaboration that were mentioned in the previous section. For example, during discussions on sustainability criteria, most consumers claimed that they lacked the required expertise, explaining that they did not possess the knowledge to formulate guidelines or propose entry requirements for producers. In addition, they voiced how uncomfortable they would feel about asking farmers about 'technical stuff' during farm visits. In addition, some people voiced that they would feel more comfortable speaking about how they experience the farm at a more intuitive level, but this was not perceived as useful or legitimate knowledge.

> *"I don't know anything about it. I can sit in [the working group], but what can I add? How can I approve or disapprove things that I don't understand? [...] What am I to say about chickens if I don't know what they eat?"* (*Ronald, CBG member*)

Consumers not only claimed that they lacked the necessary expertise and knowledge, but often turned to more experienced individuals for guidance: to farmers for input on sustainable production methods and to the delegate from the CSA network for her experience with PGS.

> *"You see us struggling [...] to give words to it. So, all input is welcome at this stage. And you already have years of experience, so you know what is helpful and what will be less helpful."* (*Rita, CBG member in conversation with the CSA delegate*)

Instead of navigating this collective learning process to overcome such barriers, the CBG members proposed 'copying' procedures from other PGS initiatives or working with existing criteria for organic certification as guiding principles in their shared vision. In their designated member sessions, we observed little motivation to build collective capacity and knowledge. For example, there was no collective desire to become more 'knowledgeable', such as by working together with a view to better understanding the 'technical stuff'. Also, more experience-based or intuitive forms of knowledge were repeatedly delegitimised, rather than collectively empowered. The recurring appeal for external expertise and the limited empowerment of consumers' learning limited their potential for learning as a collective.

Continuous learning

Our field observations demonstrate the learning that can occur when diverse local agrifood actors are involved in the development of their food communities. Indeed, in their collective designing of the PGS, consumers and producers needed to constantly work through different opinions, develop and refine collective propositions, and find both nuanced and practical ways to operationalise them.

In addition, we observed how participants desired to embed learning ambitions in the shared vision, as a way to inscribing continuous learning in the design and operation of their food community. It shows that the

CBG considered the PGS design process as an invitation for a variety of regional actors to learn and build capacities in local food communities. Rather than solely focusing on, and speaking to, actors that meet the CBG's entry requirements, participants agreed to leave space for those producers and consumers that were willing to evolve towards more sustainable practices. As Gerrit stated, ***"there has to be an incentive for people who are nearly there to make an extra effort for sustainability."***

However, the ways in which the fieldlab evolved cast doubt on the extent to which the community would be able to concretise its ambitions for continuous learning. In fact, proposals about embedding learning in the shared vision and continuing to work through disagreement remained hypothetical, and both the shared vision and sustainability criteria were considered an end point rather than something that should evolve or be up for revision. The collective ambition to help farmers meet set requirements was interpreted as a desire for flexible guidelines and did not come with clear ambitions for learning nor a commitment to setting up a learning trajectory.

Reflections on learning

Based on these findings, we conclude that the learning interactions that occurred within the fieldlab were mostly about sharing rather than collectively creating knowledge. Consumers seemingly understood the PGS as a vehicle to learn ***from*** each other and from producers, as well as to learn ***about*** agrifood systems. For example, most CBG members mentioned in their reflection that the PGS design process was informative in terms of learning about the nuances of sustainable food and food production. To their understanding, the local food community should thus become an informative place for individuals to learn about producers and production methods. The latter was underlined by a collective desire for more transparency about production methods on the website. Indeed, the actual collective learning processes that took place in this fieldlab seemed rather limited and remained bound to traditional roles of expertise and knowledge. In particular, collective learning of consumers was restricted due to a claimed lack of expertise, discomfort and insecurity, which confirms other empirical observations (e.g. Cuéllar-Padilla and Ganuza-Fernandez 2018). Thus, it is relevant to examine under which conditions CBGs may decide to work with their own, localised approaches to

understanding sustainability, in ways that broaden ***"the kinds of knowledge considered legitimate to include positions supported by other epistemologies"*** (Konefal and Hatanaka 2011:131).

While the group saw learning about sustainable food as a motivation to participate for both consumers and farmers, it remained unclear how they linked collective learning to continuous learning. For example, the ***de facto*** openness of the CBG in terms of flexible guidelines for producer participation was not linked to learning ambitions, thereby rendering it difficult to foster continuous learning. In the absence of concrete mechanisms for continuous learning, we see the risk of the shared vision, once agreed upon, becoming the end point of the collective learning process, after which it is not questioned any more. The broader question that this relates to is how collective learning can, in practice, feed back into the shared vision and operational principles of the food community, so that learning can become not only collective but also continuous (Mezirow 2003; Kerton and Sinclair 2010).

4.4.3. Findings on politicisation

Scope and depth of agrifood system politicisation

Bringing people together to take preliminary steps to design their PGS enabled certain topics to be problematised in new ways, that is, beyond pre-existing assumptions and beliefs that are usually taken for granted, as well as beyond depoliticised consensus frames (Coulson and Milbourne 2022). For example, the participation of both producers and consumers in the fieldlab triggered discussions on what a fair wage and fair price means in practice (how can this be defined collectively? what does it depend on?) and what the responsibility of consumers is (or should be) in both conventional and alternative agrifood systems.

At the same time, we observed clear limitations both in the scope of topics that became contested and the extent to which they were problematised. During the fieldlab, discussions took place about the role of supermarkets and whether the CBG should contest their power or not. Most participants saw the CBG as existing as a complement to supermarkets. They did not see the CBG's developments as a movement towards making supermarkets obsolete or dismantling them altogether. Rather, they targeted people buying 20–25 % of their food through short supply chains, and it remained

unclear what this percentage was based on and what its implications for (more) sustainable agrifood systems were. One participant explained that this proportion would enable short supply chain producers to gain a stronger negotiation position with respect to supermarkets. While this shows that the topic of supermarkets was collectively problematised, no concrete implications were drawn on what to do with them, and there was no in-depth exploration of the political impact of organising alternative local food networks besides-beyond-against supermarkets.

Another issue that was politicised through collective discussions was the negotiation of collective preferences around locally versus organically produced food. During the first two sessions, participants voiced that it was not clear why or how the current producers for the CBG had been selected. It became clear that the CBG members had historically selected suppliers without addressing the tensions between their different production methods (organic or not) and between different ideas concerning local and sustainable food. Finally, issues of correct pricing, fair wages, consumer responsibility, diverse values and the costs of economic growth were variously touched upon, either in breakout groups or in assembly discussions, and we observed that it was the specific constellation of the group – comprised of producers and consumers – that made an embodied politicisation possible through empathy.

Collective agency for agrifood system transformation

Since the facilitators were invited by the CBG to initiate discussions on setting up a PGS with the aim of strengthening their local food community, discussions took place from the very outset about the role of the CBG in such transformations. The fact that a series of collective work sessions was proposed, combined with discussions about shared visions, triggered an emerging reflexivity on the CBG and its producers as a food community that holds collective agency regarding specific (newly) politicised dimensions of the agrifood system. Two questions that arose via this emerging reflexivity were: (i) how, and to what end, should the community exert this collective agency?; and (ii) what type of political impact can, or should the community have? In navigating these questions, two main tendencies were observed.

While proposed in the main assembly where producers were present (Session 1 and 2), these emerging discussions were further developed by the CBG members in Session 3 and 4 to which the producers had been uninvited. In these discussions, some understood the food community as an initiative that supports ongoing agrifood system transformations by selecting producers that display 'good practices' in terms of locally and sustainably produced food and providing them with a direct and stable (albeit small) complementary market. For others, the food community's political ambition should go further, in that the CBG could be an instrument for agrifood system transformation in trying to make regional actors evolve, transition and become more sustainable by agreeing together on intentions for, and concrete steps towards, sustainability. Fundamentally, these two tendencies speak to different views of transformation, the role of the CBG in this transformation and the extent to which such a small initiative can be ***impactful*** (that is, exert its collective agency to reach specific outcomes). Yet, we observed that these different political visions were often mixed, which created tensions and contradictions that were difficult for the group to navigate.

Indeed, arguments on the transformation strategy would either focus heavily on what the food community should be in an abstract and idealised sense, or they would insist on the practicalities of dealing with the current on-the-ground situation. The first type of argument evoked the need for the CBG to be a pioneering food community; to make clear statements about the type of farming it supports, to show what it stands for and make clear exclusions. The second type of argument focused on the pragmatic dimension of the current situation: since the CBG already works with non-organic producers, any list of criteria that is developed should accommodate their production processes. What underpins this pragmatic argument is the standpoint that excluding non-organic regional actors hinders regional sustainability transformations, because (according to some) transformation is precisely about transforming those farmers that are not yet deemed sustainable enough.

Sensing the tensions and the different registers that were mobilised in arguments, the facilitators suggested that the CGB members should reflect on the concrete implications of their proposals. This paved the way for a

more explicit understanding of the tensions underlying arguments and for more open position statements.

> *"But are we now converting [conventional] farmers, or trying to find farmers who are already doing things differently? I have the feeling that we are trying to convert farmers, but in that case, we need to address another group. I think we should find farmers who are already going in [our] direction. It is very nice to have conversations with farmers that need to change, but they have their own plans. We must find producers who are already doing this. That's the idea behind the CBG, right?" (Pieter, CBG member)*

Finally, while in theory most members agreed with the fact that collectively defining criteria for producers logically leads to excluding certain farmers and including others, our findings show that this became difficult and uncomfortable when specific questions about loyalty, friendship and personal relations came into play.

Reflections on politicisation

Our findings revealed how certain topics became contestable and contested in the fieldlab. In line with discussions on relocalised food systems and short supply chains (Renting et al. 2012), we observed instances of politicisation around the role and power of supermarkets. Similarly, tensions between notions of organic and locally produced food became manifest and were collectively navigated, leading to a compromise that appears to reflect and sustain the existing actor constellation of the social-ecological environment in which the CBG operates. However, we witnessed clear limitations to the scope and extent of this politicisation. For example, the CBG's proposal that the community should exist alongside supermarkets without contesting their influence is in line with empirical insights from other contexts that see alternative food networks as add-ons to current capitalist agrifood systems rather than challenges to their hegemony (Guthman 2007; Johnston 2008; Bellante 2017; Moragues-Faus 2017).

During the fieldlab, awareness and reflexivity emerged about the CBG's potential to exert collective agency and thus steer agrifood system transformation in desired directions. Yet, this reflexivity has neither led to clear collective stances nor to specific actions that reflect this capacity for collective agency. In fact, at the end of the fieldlab, no concrete standpoint

was reached on suitable producers or production methods for the CBG, and there was no settlement nor communication on the CBG's desired food system transformation strategy. The only collective stance that was agreed upon revolved around the need for transparency concerning producers and their production methods. This focus on transparency for consumers plays into the dominant narrative of consumer choice and individual responsibility, which, under the cover of neutrality, consists of all-but neutral political stance by neoliberal default (Guthman 2008[b]; Moragues-Faus 2017; Coulson and Milbourne 2022).

Our findings suggest that politicisation processes of food communities are heavily conditioned by the history and the social trajectory of the community and the people involved. In particular, it is essential to recognise the history of active depoliticisation of agrifood systems by the prevalence and systematic promotion of neoliberal ideas about individualism and political change (Bellante 2017; Montefrio and Johnson 2019). While politicisation is intrinsically linked to the CBG's ambition to become a local food community for food system transformation, we noticed that fundamental operational principles of conventional agrifood systems (such as efficiency, control and extraction [McGreevy et al. 2022]) remained outside the scope of what can be politicised. This points to broader questions about what is needed to (re)politicise agrifood systems and break down depoliticised consensus frames: which tools and social processes allow not only for broadening the scope and depth of politicisation, but also for questioning and problematising the very neoliberal mindsets that often underpin standpoints and arguments?

4.5. Conclusion

This chapter studied a CBG that had the explicit ambition to become a local food community for food system transformation, in negotiation-collaboration with local producers. The social processes that empirically emerged in support of this ambition, and which were analysed accordingly, are (a) deepening community relations around and through agrifood; (b) learning in agrifood initiatives; and (c) politicisation of agrifood systems.

We analysed different manifestations of, and limitations to, the transformation of the CBG through these three social processes.

Cutting across our findings, we observed great difficulties in fostering emancipatory collective action in a political economy that remains centred on capitalist forms of exchange and political organisation (Bellante 2017). Our empirics remind us how neoliberal subjectivities participate in shaping and conditioning how learning takes place, amongst whom and for what purposes, what the terms of collaboration are, and how roles, responsibilities and expertise are distributed and shared. These subjectivities have clear implications on what is considered to be ***transformable*** by actors working for and within food system transformation (Guthman 2007; Guthman 2008[b]; Moragues-Faus 2017).

Together with the participants of the fieldlab, we gradually understood that the initial ambition to needed to be downscaled to a more pragmatic aim of (re)building social ties in the region and connecting local citizens and farmers, who have become disconnected through the expansion of capitalist agriculture and neoliberalism. The participants insisted on separating consumers and producers and their respective spheres of action, thereby limiting the range of legitimate actions and responsibilities in the food community to individual decisions on either consumption practices or production methods. This observation coincides with well-established critiques in the literature on alternative food networks that have observed how new governance arrangements in local food communities act as an add-on to current capitalist agrifood systems rather than a challenge to their foundations or premises (Hinrichs 2003; Lockie 2009; Moragues-Faus 2017).

The findings of this chapter are based on a single case study and an associated participatory process that spanned a relatively short time. Additionally, participatory processes like our fieldlab are inevitably shaped and steered by the participating actors, including the facilitators, and their different personalities, as well as organisational characteristics of the fieldlab and social-ecological context factors. While this limits possibilities for generalisation, we do contend that the dynamics of this case have broader relevance for food system transformation from the grassroots. This article provided an extensive qualitative account of a fieldlab in which consumers and producers collectively negotiated a shared vision for a sustainable local food system and explored ways to enact this vision. Empirical analyses of such social processes are few in number, yet they allow for gaining important insights into the internal tensions that grassroots initiatives must navigate to become more influential actors for local food system transformation.

Understanding these transformation processes ***within*** initiatives, then, is a prerequisite for exploring the types of broader food system transformation that grassroots initiatives can foster or contribute to.

Our findings demonstrate how capitalist, alternative-capitalist and non-capitalist characteristics coexist in practice within the grassroots initiative (Vincent and Feola 2020). For example, the influence of kinship relations and loyalty towards regional, non-organic farmers reflects the way in which the food community is neither strictly, nor only, governed by neoliberal subjectivities of individualism and utilitarianism. The persistence of these kinship and solidarity relations and the prioritisation of collaboration over competition may very well contribute to a process of transformation that includes not-yet-agroecological farmers. In fact, the social processes that make up collective action for agrifood system transformation can be 'filled' with distinct ideologies, motivations and objectives. Subsequently, the types of transformation that grassroots agrifood initiatives foster depend on how explicit people are in negotiating these very ideologies, motivations and objectives. Here, even though we are sympathetic to optimistic readings of grassroots initiatives' transformative potential (Rossi 2017; Rosol 2020), our analysis does suggest that we should be wary of exaggerating or uncritically assuming grassroots potential for food system transformation beyond capitalism (McGreevy et al. 2022; Guerrero Lara et al. 2023). In this sense, how and under what conditions grassroots agrifood initiatives could unmake specific structures, practices and subjectivities of capitalist agrifood systems thus remains open for future empirical scrutiny (Feola et al. 2021).

Explicitly considering 'postcapitalist possibility' (Schmid and Smith, T. 2021) in grassroots initiatives, as well as making post-capitalism into a strategy for transformation could happen by collectively taking the time to understand the political economy and operational logics of contemporary capitalist agrifood systems and then concretely inscribing these understandings in the vision, mission and operational principles of grassroots food initiatives. When critical dimensions of neoliberalism and capitalist agrifood systems are both ***actively considered*** and ***collectively problematised***, these communities might be able to strengthen and spread postcapitalist ideas and practices in the way they deepen community relations, in the way they promote collective and continuous learning and in the types of politicisation that are fostered – and as such, ***"take the next steps"*** towards postcapitalist futures.

CHAPTER 5

Facilitating unlearning in agricultural education

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Abstract

Agricultural educators are increasingly being tasked with helping future food professionals to manage the complexity of food systems. Our chapter seeks to explore the manner in which secondary vocational education (MBO) in agriculture can facilitate unlearning among young farmers. In this context, 'unlearning' means deliberately letting go of mindsets, practices, and routines that are no longer fit for purpose. We use a course on sustainable family–farm succession as a case study in order to illustrate how unlearning may feature in agricultural education. Our findings demonstrate how the teachers who participated in said initiative came to understand unlearning and how the course may support unlearning through the subprocesses of (i) initial destabilisation, (ii) ongoing discarding and experimentation, and (iii) developing and relinquishing. We explain how the course can help students to navigate intergenerational tensions in unlearning and show how expressions of solidarity and loyalty may undermine strategic unlearning. This chapter concludes that unlearning is a layered concept: it involves adaptation as much as emancipation. Our analysis points to means by which teachers who are seeking to reshape agricultural education may adopt unlearning as an innovative pedagogy for farmer's training in view of food system transformation.

CHAPTER 5 Facilitating unlearning in agricultural education

5.1. Introduction

Concerns about the ability of modern industrial agriculture to meet 21st–century expectations about sustainable food systems are mounting (Campbell et al. 2017; IPES–food and ETC Group 2021). Food systems are being challenged by persistent and complex issues, including interconnected ecological, health, social, economic, and cultural changes. Agricultural education, if it is to anticipate food system transformation, needs to equip students with new skills, attitudes, values, and types of knowledge so that they can predict and adapt to shifting societal and governmental demands by adopting new business models in a timely manner (Dooley and Grady Roberts 2020; Hartmann and Martin 2021).

Secondary vocational education and training in the Netherlands, to which we will refer as 'MBO'[1] hereafter, ***"prepares people for work and develops citizens"*** skills to remain employable and respond to the need of the economy' (EU 2021, np). MBO must align teaching with systemic changes and increased demand for skilled labour (Mitchell et al. 2003). However, the effort to surmount these challenges also requires a transformation of vocational agricultural education ***itself*** – it must provide training that not only increases subject knowledge among farmers but also prepares next generations for a changing industry that is full of ***"uncertainties, tensions, barriers and ambiguities."*** (Loorbach and Wittmayer 2023:3; Sterling 2011).

This chapter aims to contribute to understanding and shaping transformative agricultural education at MBOs. In particular, we propose ***unlearning*** as an innovative pedagogy for farmers' training in view of food system transformation. Unlike forgetting, which can be unconscious, unlearning entails a conscious decision to detach from and actively reject a previous position in order to welcome alternative or subaltern perspectives (Burt and Nair 2014; Brook et al. 2016; van Oers et al. 2023).

1 Middelbaar beroepsonderwijs (MBO). After secondary education, MBO prepares students for a wide range of occupations and professions. The levels of training range from assistant training (Level 1) to middle-management training (Level 4). MBO combines practical training with classroom learning (Rijksoverheid 2023).

'Old' mindsets, perspectives, practices, or routines that are considered unsuccessful or inappropriate are discarded in a process of unlearning (Fiol and O'Connor 2017). Most definitions of unlearning suggest that there is a tension between past learning and the adoption of new perspectives, which is encouraged by critical reflection and active inquiry (Cochran-Smith 2003; Matsuo 2019). However, it remains unclear how agricultural education can facilitate unlearning among students.

We explored this question by engaging with MBO teaching in the Netherlands and by using an extracurricular course on sustainable family-farm succession as a case study. We adopted a co-production approach, and we inquired how agricultural education may support three subprocesses of unlearning, namely (i) initial destabilisation, (ii) ongoing discarding and experimentation, (iii) and developing and relinquishing (Fiol and O'Connor 2017; Becker and Bish 2021).

The course on sustainable family-farm succession that we selected provided us with an especially interesting focus. Farm succession is a crucial moment of possibility for change, but it is also a process in which the capacity of path dependencies to block such change is at its most pronounced. Studies on family-farm succession have revealed the reluctance of older generations to step aside, and to transfer managerial duties and ownership to the next generation, which generates frictions (Miller et al. 2003; Conway et al. 2017). The complex nature of family-farm succession can only be understood if one learns how the appointed successor navigates and potentially discards familial expectations, rights, and types of knowledge (Gill 2013). Practical involvement in the affairs of the farm and the identification of potential successors at an early age contribute to path dependencies, which are enforced by powerful genealogical analogies, such as, ***"you're the offspring of what has been produced for generations"*** (quoted in Fischer and Burton 2014:425).

That young farmers are growing up in a changing and tumultuous 'present' (Gill 2013; Friedrich et al. 2023) further complicates farm succession. For this reason, applying an unlearning perspective to a course on farm succession for Dutch livestock farmers is both timely and relevant. Many elements of the Dutch agricultural sector are being expected to adjust rapidly, and farmers are under immense pressure to make radical changes. The ongoing nitrogen crisis and the looming water-quality crisis (Stokstad

2019; Wuijts et al. 2023) have led scientists and government officials to call for the transformation of the Dutch food system repeatedly (e.g., Vermunt, Wojtynia et al., 2022). Those calls tend to focus on the livestock sector. Efforts to curb the environmental impact of Dutch agriculture and to reduce nitrogen emissions, such as buy-out schemes in high-emissions areas, have been met with strong resistance and several mass demonstrations by farmers (van der Ploeg 2020). One sees the relevance of unlearning when one tries to understand what it means to be a farmer in an increasingly complex and uncertain world that requires mindsets, practices, and routines that no longer serve their purpose to be abandoned.

The remainder of this chapter is organised as follows: Section 2 conceptualises unlearning and its subprocesses. Section 3 describes the research design and the methods for data collection and analysis, as well as providing a more detailed introduction to the course that serves as the setting of our case study. Section 4 presents the findings from our focus-group conversations with the teachers on the course. The concluding Section 5 provides an outlook for agricultural educators who wish to consider incorporating unlearning into their teaching.

5.2. Conceptualising unlearning

This section introduces the term 'unlearning', which has been developed extensively in the literature on organisation, business, and management (e.g., Tsang and Zahra 2008) and in that on and feminist literature (e.g., Spivak 1996). In addition, we draw insights from 'transformative learning', a well-established concept in the educational sciences (Mezirow 1991), which partly overlaps with unlearning as we understand it.

5.2.1. Defining unlearning

Unlearning has been defined in many ways in the literature. Most of those definitions proceed from the premise that it is an intentional process that involves individuals and/or organisations 'abandoning', 'eliminating', 'rejecting', 'discarding', 'giving up' or 'stopping to use' established practices and beliefs (e.g. Akgün et al. 2007; Brook et al. 2016).

In organisational theory, unlearning is perceived as key to increase an organisation's capacity and flexibility to adapt to its environment

(e.g. Tsang and Zahra 2008; Hislop et al 2014; Cegarra-Navarro et al. 2010). If they are to survive and navigate turbulent environments, organisations must be prepared to abandon obsolete or outdated routines and to accommodate ***"better and more appropriate ones"*** (Tsang and Zahra 2008:1438; Akgün et al. 2007). Suboptimal organisational results can create doubts about the efficacy of established routines, and these doubts may initiate unlearning (Burt and Nair 2020).

It has also been suggested that unlearning entails the uprooting and rejection of deeply held assumptions or beliefs (e.g. Spivak 1996; Cochran-Smith 2000; Choi, J. 2008). It encourages individuals to detach from biased reasoning, defensive attitudes, and taken-for-granted assumptions that underpin their conscious and unconscious behaviours; those individuals then form new and less biased patterns of thought (Choi, J. 2008; Cirnu 2015; Krauss 2019). Conner (2010) concluded that ***"a key piece of unlearning is becoming keenly aware of some common understanding or way of acting that had previously gone unquestioned"*** (p. 117). The more ethically charged and, broadly speaking, political objectives of those who are involved in processes of unlearning have mainly been captured by feminist and postcolonial scholars. The scholars in question tend to consider the unlearning of subjectivities and identities to be an empowering and liberating process, ***"allowing meanings to be made and understandings to be found that would not otherwise be possible"*** (Brook et al. 2016:383; Davies 2014).

Originally, unlearning scholars tended to speak of the 'discarding' of a practice, habit, or routine (Fiol and O'Connor 2017; Tsang and Zahra 2008). At present, it is increasingly being suggested that learners might not be able to completely discard or eliminate previous knowledge, which would imply that unlearning is neither about forgetting nor about fully discarding old experiences. It would be more accurate, therefore, to define unlearning as a conscious decision to refrain from the continued use of particular values, knowledge, and/or behaviours (Mavin et al. 2004; Hislop et al. 2014; van Oers et al. 2023). In a similar vein, Grisold and colleagues (2017) defined unlearning as ***"a process to reduce the influence of old knowledge"*** (p. 4,616) and to ***"free ourselves from our past"*** (p. 4,617). Burt and Nair (2020) proposed that ***"unlearning requires letting go or relaxing the rigidities of previously held assumptions and beliefs, rather than forgetting them"***

(p. 12). In their discussions on unlearning racism, both Choi, J. (2008) and Cochran-Smith (2000) considered unlearning to be a re-examination of past learning. In unlearning, the goal ***"is not to help people forget, but . . . to recognise that a current or old way of thinking is no longer effective or is incomplete"***, or even harmful (Griffith and Semlow 2020:377).

5.2.2. The process of unlearning

Unlearning should not be reduced to a single event or an end state in which an individual stops using a learned behaviour or rejects a long-held belief (Krauss 2019; van Oers et al. 2023). Instead, unlearning is an iterative process which is entangled with learning and involves mutually reinforcing feedback between the 'old' routines that are being discarded and the 'new' routines with which the individual is experimenting (Fiol and O'Connor 2017; Cegarra-Navarro and Wensley 2019; McLeod et al. 2020).

There have been numerous attempts to conceptualise the process of unlearning. For example, the process model of unlearning that Fiol and O'Connor (2017) developed depicts unlearning by reference to three subprocesses: (i) the initial destabilisation of obsolete practices or beliefs, (ii) the displacement of old patterns of behaviour through experimentation and the discarding of old patterns; and (iii) the eventual release from old understandings and the development of new ones. It has been suggested that these three interactive subprocesses must occur before one can unlearn a deeply ingrained routine (Becker and Bish 2022). Along similar lines, Cegarra-Navarro et al. (2010, 2019) cast unlearning as a process that begins with awareness, which is followed by relinquishing and (re)learning. In their study, unlearning transpired to begin with an ***"examination of the lens fitting"***, which ***"refers to an interruption of the employees' habitual, comfortable state of being"*** (Cegarra-Navarro et al. 2010:252). This process enables the individuals to access new perceptions. It is followed by changes to individual habits, when ***"an individual has not only understood the new idea but [is] motivated to make the change"***. The final stage entails the ***"consolidation of emergent understandings"*** (Cegarra-Navarro et al. 2010:252).

Griffith and Semlow (2020) proposed a three-step process of unlearning. The three steps are deconstruction, reconstruction, and construction.

In the deconstruction phase, the learner confronts the their social world. The ***"key goal is to help people "read the world"*** in such a way that they can recognise and ***"problematize"*** accepted explanations for the existence and persistence of [social phenomena]."[2] (p.377). Strategies for addressing the limitations and errors that have been identified in this deconstruction exercise are proposed in the reconstruction phase, when different ways of understanding a particular phenomenon are evaluated. Finally, the goal of the construction phase is ***"praxis, or the creation of ways of thinking for the purpose of action and the expectation that insights from action will help to refine how we think about the problem and potential solutions"*** (Griffith and Semlow 2020:387).

Most scholars agree that unlearning is a process that responds to both external and internal triggers (Fiol and O'Connor 2017; Burt and Nair 2020). A distinction must be drawn between the 'forms of crises' and the 'forms of confrontation' which may cause learners to embark on unlearning processes (van Oers et al. 2023). The main focus of this chapter is on the unlearning subprocesses that are presented in the three columns of **Figure 5.1**. We made this decision in order to highlight the active involvement of teachers in facilitating and supporting unlearning by helping students to recognise, strategise, and act on the limits of their past learning. The triggers (**Figure 5.1**) can be activated by the student, in virtue of the professional and personal experience that they bring to the classroom, or elicited by the teacher during a course.

2 Griffith and Semlow (2020) studied health disparities and health equity.

Triggers for unlearning	
(Forms of) crises Ecological and environmental changes Value-reduction signs Organisational changes Dysfunctional or undesired outcomes (New) rules and regulations Changing demand	Outside
(Forms of) confrontation Discontent or unease Judgement or retaliation Doubt Helplessness	Inside

Initial destabilisation	**Ongoing discarding and experimentation**	**Developing and relinquishing**
"Recognise"	**"Strategise"**	**"Act"**
Need for unlearning becomes clear	**Motivated to make the change**	**Making the change**
Noticing problems and/or mistakes	Defining and acknowledging limitations and errors	Discarding / abandoning a routine
Questioning the efficacy of existing routines	Experimenting with new practices	Detaching from or reducing the influence of prior learning
Recognising stereotypical thinking, biases, prejudices, and privileges	Considering alternative perspectives	Doing things differently
Examining lens fitting	Confronting biases and stereotypical thinking	Consolidating emergent understandings

Figure. 5.1 – The process of unlearning

5.3. Method

5.3.1. Case description

We used the extracurricular course Sustainable Family Farm Succession, which was organised at a Dutch MBO, as a case study in order to explore the manner in which agricultural education can facilitate unlearning. This course is designed for next-generation farmers and other agrarian professionals, and it is mostly attended by livestock farmers who are involved in the family business and intend to continue it. Inset 5.1. defines family-farm succession.

Inset 5.1 Defining family-farm succession

Family-farm succession is a long-term, multi-dimensional, and multi-stakeholder process that comprises actions and events that may result in the gradual transfer of farm management and/or ownership from one family-business generation to another (Mazzola et al. 2008; Bloemen-Bekx et al. 2021). Effective planning is an integral part of the succession process. However, the incumbents might be reluctant to let go and to give space to the next generation (Conway et al. 2017). Intergenerational succession is generally depicted as a staged three-step process: an individual is recognised as a potential successor, that individual forms a desire to take over the farm, and they then take over it effectively (Fisher and Burton 2014; Bertolozzi-Caredio et al. 2020). Fischer and Burton (2014) contended that *"farm succession is not predominantly a matter of "rational" choices made by individuals when reaching a critical point in the farm family life cycle, but rather a long-term process of developing a successor and farm simultaneously in such a way that their expectation of being a farmer matches their farm."* (p. 433)

The entanglement of business and family relationships at the farm makes family-farm succession emotionally fraught and complex, with significant personal and commercial consequences (Daspit et al. 2016; Bloemen-Bekx et al. 2021). It is for this reason that Gill (2013) framed family-farm succession as a ***"complicated temporal process involving, as it does, the simultaneous consideration of past, present and future"*** (p.77). Similarly, Miller et al. (2003) proposed that successful succession means

finding an appropriate relationship between the past and the present of an organisation. They suggested that it is problematic if ***"there is too strong an attachment to the past on the part of the successor, too wholesale a rejection of it, or an incongruous blending of past and present"*** (p. 514).

The goal of the course is ***"to offer a programme in which future farm successors and their parents acquire knowledge and skills to start thinking about ownership transfer of the farm"*** (PowerPoint slides, C.). The importance of parents and children ***"doing this together"*** (ibid) and understanding and sympathising with each other is stressed. In addition, the course deliberately positions family-farm succession within the challenging agrifood sector, which is strongly affected by fluctuations in demand, technology, policy, and the climate. The course offers a variety of interventions that can enable the participants to meet the financial, social, and communicative challenges that attend on farm succession.

The course is optional, and students and their parents join it on their own volition. They commit to six half-day sessions that are convened over a period of six months. The sessions are prepared by the teachers and do not take place at a school but at various external locations, such as farms in the region. Teachers often invite expert guest speakers from the agrifood sector to introduce each session. The topics range from the economic to the societal, and the activities include field trips and parent-student exercises. In the final session, the students present a plan for farm succession with their parent(s), if possible. Table 1 contains an overview of the sessions that were held during the 2019-2020 edition of the course. The course has not been held in the last two years, but the teachers are aiming to reinstate it for the 2023-2024 academic year.

The course ran for the first time in 2017–2018. It is advertised in regular educational programmes, and it targets students in the final year of their MBO (age: 18–22), who must pass on the invitation to one or both of their parents and/or to other relatives. The students are expected to join all sessions, and they receive a certificate of participation at the end of the course. The five programmed sessions are designed to inspire the students to present their first visions and ideas for their takeover of the farm during the final session. There are neither graded assignments nor strict guidelines on the form and structure of the presentation.

	Session	Parents present
1	Welcome and kick-off Challenges in the agrifood sector	x
2	Finances and farm succession	
3	Vision, mission, and strategy, including farm visits	
4	Visits to farms and other links in the supply chain (full day)	
5	Communication, succession, and entrepreneurship styles ('matrix exercise')	x
6	Final presentations	x

Table 5.1. Overview of sessions, Sustainable Family Farm Succession (2019–2020)

5.3.2. Data collection and analysis

The qualitative study that this chapter describes and analyses is an attempt to explore the means by which the course on family-farm succession can support unlearning. In designing this research, we built on constructivist pedagogy and assumed that teaching entails the facilitation of (un)learning and the creation of (un)learning opportunities, with students being active participants in the learning processes who shape what is learned, how it is learned, and when it is learned (Smith, P. J. and Blake 2005). We analysed the teachers' responses about the subjects that are taught, rather than learned, during the course because, according to Biesta (2013) ***"that what makes the school a school is the fact that it is a place for teaching"*** (p. 460). Therefore, we can discuss the techniques that teachers use to facilitate unlearning in a manner that does not reduce them to ***"guides-on-the-side"*** but acknowledge their roles as ***"classroom designers, editors, and assemblers"*** (McWilliam 2008:256).

Preparation phase

We held several exploratory meetings with the designers of the original course and the teachers (V. and C.) in preparation for the focus-group sessions. Those meetings enabled us to familiarise ourselves with the course and to arrive at a collective understanding of the aim of the project. These meetings lasted about an hour and were held either in person or online.

In order to organise and guide the main focus-group sessions, the first author conducted a study of other unlearning workshops and courses, and they interviewed the organisers of those courses about their experiences

with unlearning. They conducted five semi-structured interviews that lasted 55 minutes on average. Two of the interviewees were involved in the organisation and design of unlearning experiments. The other interviewees included an alumnus of the 2018–2019 edition of the Sustainable Farm Succession course and two higher-education teachers whose teaching is based on transformative learning. The interview questions concerned the interviewees' understanding of the concept of unlearning, the activities that can induce unlearning and/or transformative learning, and general experiences with the design of and/or participation in a course that is premised on unlearning or transformative learning. Finally, we reviewed publicly available training materials and reports from the 'Racial Justice Network'[3] and 'School of Unlearning',[4] and studied the 'Unlearning Exercises' from Casco Art Institute (Choi, B. et al. 2018). The data was collected continuously and iteratively throughout the focus-group sessions, with each session informing new search directions.

Focus-group sessions

Our primary sources of data for this chapter are the three focus-group sessions that were attended by the original course initiators (V. and C.), a teacher and teaching consultant (G.), and the principal researcher of this chapter (L.). The sessions took place in April, May, and June of 2023. They were held in person. Each lasted between 2 and 3 hours. All three sessions contributed to our understanding of the teachers' recognition of unlearning in the course on farm succession. Each focus-group session unpacked different elements of the course. In Session 1, the participants explored the objectives of the course. In Session 2, the focus was on course activities. Session 3 covered the setting of the course, including the role(s) of teachers. The aim of each session was to enable the participants to discuss whether and in what ways the course contributed to unlearning and in what ways it could contribute to it in the future.

The sessions were recorded and transcribed verbatim by a research assistant. The transcripts were analysed through an iterative coding process. First, the relevant data on unlearning were selected from the transcripts and categorised in accordance with the subprocesses that are depicted in **Fig. 5.1.** In an iterative process of reflection, the findings that

3 Accessible online : https://racialjusticenetwork.co.uk/causes/unlearning-racism/

4 Accessible online: https://www.ahk.nl/onderzoek/artist-in-residence-air/2021-2022/school-of-unlearning-2022/

emerged from each session were discussed with the teachers, and the co-authors discussed the analysis of the data among themselves.

5.4. Findings

We present the findings from the study in the three subsections that follow. In **Subsection 5.4.1**, we briefly describe how the teachers came to understand unlearning in the context of farm succession. In **Subsection 5.4.2**, we explain how the course may be tailored to different unlearning subprocesses.[5] In **Subsection 5.4.3**, we inquire how the course may help students to navigate intergenerational tensions by facilitating unlearning.

5.4.1. How the teachers came to understand unlearning

The teachers were introduced to the concept of unlearning during this project. They interpreted unlearning as a generative process in which letting go becomes a catalyst for transformative change. For example, V. suggested that *"unlearning can help students to widen their scope of possibilities… to make space for novelty, previously unknown or disregarded"* (V.). In addition, the teachers recognised that unlearning can help young farmers to manage the turbulence that presently typifies the sector. To C., this meant that students should be asked questions such as: *"What do you, as a young farmer in the Netherlands, need in order to prepare for the future? What needs to be picked up differently, thus unlearned, so that you can put what you have learned into practice?"*.

In order to visualise unlearning, and specifically its liberating properties, one of the teachers introduced the metaphor of being *"wrapped up in a cocoon"* (G.). This metaphor, which the other two teachers endorsed, recurred frequently during the group sessions. It builds on the twofold meaning of the Dutch word *"ontwikkelen"* ('to develop' and 'to untangle'). The metaphor casts unlearning a process by which one breaks the 'wraps' or 'tangles' that surround one, that is, one's accumulated learning, in order to reclaim space for further development. According to the teachers, an unlearning perspective on farm succession would help their students to (a) recognise how they are shaped, defined, encouraged, and restricted by these wraps as well as (b) find the *"courage"* (C.) to leave those wraps

5 All quotations were translated from Dutch to English by the authors of this chapter.

behind in a process of liberation and emancipation. This process includes abandoning farm routines as much as it entails ***"breaking free"*** (V.) from sociocultural expectations, demands, and identities.

As we were seeking an appropriate Dutch translation of the English term 'unlearning', we discovered that its direct Dutch analogue ("***afleren***") carries a ***"paternalistic connotation"*** (V.) and ***"a judgemental tone"***(C. and G.) Therefore, we came to prefer the English word. In this regard, the teachers indicated that unlearning should not be about telling students 'what' they should cease to think or do but rather about creating conditions that encourage students to unlearn The teachers insisted that they ***"cannot and will not tell their students what to unlearn"*** because they wished to ***"grant students agency in their own unlearning"*** (G.). They preferred to avoid the ***"counterproductive reactions"*** (V.) that they thought would result from non–self–motivated unlearning. Instead, our conversations about unlearning revolved around the teachers' roles in emphasising the importance of letting go during farm succession or other agricultural transitions.

The teachers agreed that, in family–farm succession processes, unlearning occurs against the backdrop of a familial legacy of decisions, priorities, and expectations, which, of course, also has to do with the history of Dutch agriculture. The teachers agreed that, from the point of view of the heir to the farm, unlearning is likely to be uncomfortable and conflict ridden. Even when they want to eliminate some element of their heritage, such heirs might encounter difficulties in enacting their plans because certain farming practices are ***"in their DNA"*** (G.).

5.4.2. Identifying unlearning in the course on farm succession

This section discusses the means by which the course on sustainable farm succession facilitates unlearning. The findings are presented by reference to the unlearning subprocesses that are depicted in **Fig. 5.1**.

Initial destabilisation ('Recognise')

We discussed the way in which the course on family–farm succession may help students to recognise the need for unlearning. In particular, we focused on the ways in which course activities could encourage reflection on established farm practices, routines, and beliefs, thus enabling recognition of the potential limits of their past learning.

The course would usually start with a presentation that would cast succession as a process in which ***"flexibility"*** is necessary to ***"make space for the next generation"***. The course materials make this argument explicit by presenting farm succession as an x-shaped curve in which the downward curve represents the disempowerment of the incumbent farmers and the upward curve represents the empowerment of the students, with a ***"friction period"*** at the intersection of the two curves. One of the teachers framed that potential friction as follows: ***"When are parents ready to let go and initiate change, and when will their son or daughter be given the space and confidence to join in?"*** (C.).

In this way, the teachers cast succession as a process of letting go that should involve preliminary discussions about the transfer of the management of the farm. The course mostly revolved around the promise of unlearning as a ***"liberating exercise for students"*** (V.), who may have felt encouraged to reflect upon, challenge, and deviate from settled trajectories. Indeed, for students, the acknowledgement that ***"they have a choice and it is okay to do things differently"*** (G.) implies the possibility of deviating from deeply internalised ideas about farm inheritance and family farming.

After five sessions, the students would be expected to present their initial vision for their takeover of the family farm. The teachers suggested means by which the different activities that formed part of the course could help students in their quest to become heirs to the farm. The course would begin with the proposition that ***"being a farmer today requires a different kind of entrepreneurship than in the past. Developments such as climate change, the changing environment, governmental decisions, public-health issues, and declining meat consumption are to be included in farm visions."*** (PowerPoint Slides, C.). One of the teachers celebrated the course as an initial step towards overcoming path dependency in farm succession. Students would tend to perpetuate genealogical analogies: ***"[my parents] have always done it that way, so why would I do it differently?"*** Those students could subsequently realise that they possess the agency to deviate from set paths that are no longer productive. V. explained how the course is unique in its ambition to challenge what students take for granted in farming and farm succession. C. added: ***"The course helps students to navigate new agricultural relations, in***

which process they may have come to realise that present-day society might not want them to do what their parents did".

The teachers demonstrated how the course may help students to recognise the need for unlearning in farm succession and how the course activities were designed to introduce students to new perspectives and alternative farming methods and business models. To the teachers' understanding, farm visits and encounters with novelty would contribute to the deconstruction of stereotypical thinking and biases against farming models that differ from the ones to which the students were accustomed. During the course, the students would visit regional farmers whom the teachers would select due to the novelty of their business models. Those farmers were often young and had disrupted family models in their farm succession. According to V., it *"has always been a deliberate choice to visit places and farmers of whom the students may hold biased and/or stereotypical interpretations: organic, vegan, small scale, etc."*.

G. suggested that, in future editions of the course, the teachers should ask the farmers whom they invite to participate to be explicit about their unlearning experiences so as to inspire the students to recognise and normalise that process in farm succession. She saw the benefits of *"asking entrepreneurs to be transparent about choices and experiences that shaped them to be the persons that they are today: what have they learned, but also what did they have to unlearn to get there"* (G.).

In order to help the students to notice failures in the prevalent farming models and to become aware of their agency in food system transformation through unlearning, the teachers would develop activities that can be interpreted as triggers for unlearning. In the first session of the course, students and their parents are invited to a lecture on the changing agricultural sector in the Netherlands. That lecture covers the most important trends that have been observed over the past decade. In addition, the teachers saw the mere fact that the course would remove students and their parents from their day-to-day farming routines as an important trigger for unlearning: *"If you are working on autopilot, it is actually a gift … those six evenings when you can think and say to each other: Why are we doing this?"* (V.)

Ongoing discarding and experimentation ('Strategise')

We now turn to the ways in which the course may encourage students to propose strategies for overcoming the limitations of established farm routines and to experiment with new ones. We also demonstrate how the course may prompt the students to confront their biases and their stereotypical thinking and to consider alternative perspectives as legitimate.

The teachers explained that the students are asked to incorporate the knowledge that they had acquired during the course into their final presentation on their visions for farm succession. This future-vision exercise can help students to think strategically about the practices that they need to abandon as well as the steps that they need to take in order to initiate that transition. G. proposed that, in the next editions of the course, the students should be asked explicitly to reflect on unlearning in this process.

Much of the conversations about ongoing discarding and experimentation gravitated towards making the course a safe spaces in which the students can consider alternatives to their parents' farm routines. The teachers observed their role in nurturing ongoing unlearning, which is additional to the aforementioned roles in probing and facilitating initial destabilisation. The teachers believed that their role would require them to be attentive and to prepare, as much as possible, for the potential frictions and the emotional resistance that course activities which are directed at unlearning may engender.

Furthermore, the teachers argued that the students' decision to participate in an extracurricular course with their parents might be interpreted as an act of care and as a sign of ongoing unlearning: ***"by doing this together, they have overcome an important first emotional barrier"*** (G.). C. shared: ***"Yes, I always find it so beautiful that they come together and that they get into that car and go home together, so that is already an important moment... when they drive together to [the session] and back together, or ... it is quiet in the car"*** (C.)

Developing and relinquishing ('Act')

We also discussed how the course does or may support students in discarding old routines and in adopting new ones, in purposefully

detaching from past behaviours and beliefs, and in consolidating emerging understandings.

Due to the duration of the course, the teachers concluded that it would not be feasible for it to be designed to support the 'act' of unlearning, that is, the deliberate rejection of certain practices or beliefs. However, they did mention that the presence of certain emotions and tensions hinted at relinquishment, sometimes during the course but usually during the final presentations. For example, V. shared, ***"during those presentations, I often found it very moving… some students, who were very resistant… and then come up with very beautiful things, which make me think that they are really breaking free from something"*** (V.). Similarly, C. added: ***"It is nice to see when [students and parents] have been here, and you see that something has been broken open – that is our first objective".***

5.4.3. Navigating intergenerational tensions by facilitating unlearning

The discussion on facilitating unlearning that follows draws on Fiona Gill's (2013) seminal work. She introduced temporal elements to the literature on farm succession. We use it to demonstrate how the course has to strike a balance between unlearning as confronting the discord between current farming practices and contemporary agricultural realities and unlearning as liberation from parental expectations and farming identities. That balance, moreover, has to be struck in a manner that recognises solidarity and loyalty between generations of farmers and different farming communities.

The course on farm succession revolved around the following question: ***"in what way do you think you can take over the farm in the future, and how can you get there together with your parents?"*** (C.). For this reason, the course is unique in involving both students and parents, whose realities are linked by common familial and commercial experiences, memories, and routines, in an extracurricular setting.

As an heir prepares to take over a farm, they are caught between their responsibilities to the past and the future generations, which, according to the teachers, has implications for unlearning. Our conversations with the teachers turned our attention to the question of how teachers may respond to students' resistance and reluctance to engage in critical reflection and

discard established routines. For example, V. shared that what students often tell her is: *"How am I going to do things differently without insulting my parents, without giving my mom and dad the feeling that they haven't done it well?"* (V.). These students, in particular, V. added: *"are very likely to revolt against the idea of unlearning if they feel it means being disloyal to their parents – how we have always done it, how I have learned to do it"* (V).

Facilitating unlearning, then, may help students to manage the discomfort and the emotional pain that accompany the re-evaluation of past learning. Past learning that is shared between generations of farmers and rooted in a historical and sociocultural assemblage of family, farm, and community relations (depicted in **Fig. 5.2**). Indeed, the teachers acknowledged the *"difficulties of radically deviating from parents to take the opposite turn"* (G.), and suggested that *"students can only break away from the current models, from the current business models, if they no longer have to feel like they are losing their parents"* (V.).

Thus, attempts to unlearn in order to prepare for the future and to adapt to a changing agricultural sector are likely to be obstructed by the students' reluctance to reject parental decisions and expectations and to distance themselves from them, *"not out of ignorance but out of solidarity and respect"* (G.). V. shared, *"I have also dried tears from students, who say: I don't dare to talk to my mom and dad because I am afraid. That conflict, that feeling of, it's like I'm criticising them; I don't mean that at all, that's already where the blockage is. We encourage them to actually talk to each other, which, in my opinion, is the great thing about this course"* (V.).

Our conversations revealed how the course may encourage unlearning through emotional pain and how teachers may account for conflict and discomfort when unlearning requires the students to emancipate themselves from their parents and to embark on new paths. In different ways, the course already accounts for intergenerational differences and for students' competing responsibilities for unlearning. For example, the teachers organised a *matrix exercise* that required both students and parents to move around a room in accordance with the sentiments that certain statements induce in them in order to make it clear that parents and students might hold opposite or similar views on farming and entrepreneurship. According to one teacher, this activity helped to reveal a certain taken-for-grantedness in farm management, which paved the

way for conversations about differences in understanding (C.) The teachers also spoke of the importance of purposefully excluding parents from certain activities. For example, they explained that farm visits take place without parents ***"to reduce their influence on the students' experience"*** (C.) This decision shows that the teachers are aware that the students, in their roles as farm successors, may need to liberate themselves from their parents' biases.

The teachers suggested that, beyond excluding parents from certain activities, they would mediate intergenerational differences by contextualising the choices that were made in farming in the past and which are being made at present instead of discrediting either. In this context, the teachers acknowledged that appeals to unlearn familial farm routines may appear judgemental if the circumstances of the learning processes of the past are overlooked. V. shared the following example of good practice: ***"I admire how you do that C. You always say: I taught your parents. But the reality is, the world has changed, so we have to adjust, we have to change, that is just the way it is"*** (V.).

The teachers agreed on the important role of the course in helping students recognise that they can make choices in farm succession and ***"that it is okay to do things differently"***. The students thus ***"realise that their parents also had to make a choice"*** (G.) To that end, the teachers suggested adding a new student–parent activity to the course, in which they would draw a timeline of the farm, focusing on the choices that were made in the past: ***"If we can facilitate that conversation, about how mom and dad also had to make difficult choices, and why they made those specific choices, then a son or daughter hopefully feels confident to say: I too can make different choices"*** (V.). Such an activity may help the students to understand how farm routines that are widespread and seldom challenged came into being and why they can be manufactured anew. Parent–student dialogue may help students to free themselves from the feeling of overstepping in ways that are supportive of their unlearning.

The teachers suggested that the parents of the students are likely to have had have similar conversations with their parents, and they thought that sharing such intergenerational experiences of emancipatory unlearning may be a welcome addition to the course: ***"As long as we teach, there has always been something, and choices have always been made. Parents had to***

change and wanted to change. Making these choices transparent will help students and parents understand each other better" (C.). The idea is that students ought to understand that *"if my dad has made that decision, regardless of whether that turns out to be a good decision or not, it means that I can do that too – that is, kind of, a liberating feeling in itself"* (G.). Indeed, such conversations may initiate the unlearning of certain family conventions, including *"unlearning a deeply rooted culture of not talking about emotions or voicing difficulties and doubts"* (V.).

5.4.4. Summary of findings

Our findings demonstrate how the course on family–farm succession may facilitate unlearning. They also show how the course is attuned to the initial deconstruction phase in which students become aware of the need to unlearn. Farm visits were mentioned as an important activity that can trigger the rejection of acquired biases. In addition, we explained how the course can alleviate the intergenerational tensions that farm succession brings about by facilitating unlearning. The teachers mentioned that students may perceive the unlearning of farm routines and practices as highly uncomfortable due to their reluctance to criticise their parents' ways of farming and living.

In line with Gill (2013), we emphasise that young farmers are caught between their responsibilities to different generations, which has obvious implications for the manner in which unlearning can and should be taught. If unlearning is about *"letting go or relaxing the rigidities of previously held assumptions and beliefs"* (Burt and Nair 2020:2), then our study stresses the manner in which these assumptions and beliefs are shared between and institutionalised within generations of farmers. Accordingly, to unmake a farm routine is to challenge the deep sociocultural foundations of farming and rural life – practicing farming in a certain way is grounded in social capital, farming identities, and family legacies. A firm commitment to old ways is therefore an expression of loyalty and social solidarity, which have a deeper meaning for young farmers than routines or practices *per se*. This finding casts doubt on the utilitarian and rationalistic perspectives on unlearning, whose proponents define that process as the abandonment of everything that no longer works. Teaching unlearning, when approached from this vantage point, entails balancing between adaptation and

preparation; and unlearning as emancipation and liberation (Fig. 5.2). It is teachers who may facilitate the constant negotiation for which these processes call.

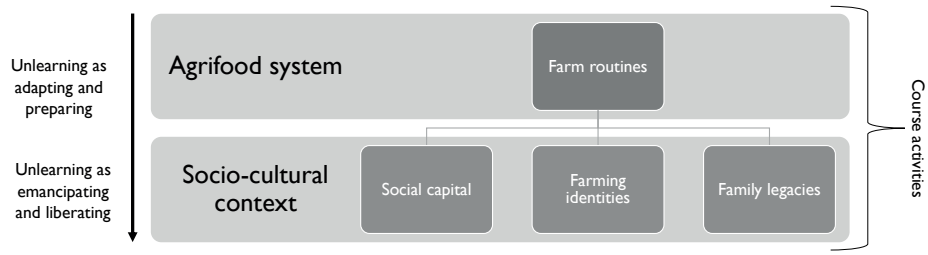

Figure 5.2. Facilitating unlearning in preparations for family-farm succession

5.5. Concluding remarks

One of the objectives of secondary vocational education is to prepare young food professionals, including farmers, to work in current and future societies (OECD 2018; EU 2021). This paper considered unlearning as an innovative pedagogy for farmers' training in the context of the transformation of Dutch food systems. We used a course on farm succession as an illustration of the means by which agricultural education may facilitate unlearning. Rather than providing a blueprint for unlearning, our findings should serve as an inspiration for teachers who wish to facilitate unlearning processes in agricultural education and who are mindful of the tendency of acquired farm routines to be rooted in social capital, farming identities, and family legacies. With this consideration in mind, we propose to conclude by explaining how teachers can support unlearning. We consider teachers to be important 'unlearning facilitators' because students might be unaware of the need to unlearn or reluctant to do so because they dread the idea of confronting their past learning and challenging their peers and parents.

First, teachers may initiate and support unlearning in the context of the ecological, social, and economic pressures that have gripped food systems. Our findings confirm that unlearning is relevant to preparations for farm succession in a changing world. Course activities can be designed to help students to see the limits of their past learning and to become aware of the need to unlearn promptly. Since students might be unaware that they

are unconsciously perpetuating taken-for-granted ways of being and doing (Stokke 2023), we argue that agricultural education can play a key role in the initial phases of destabilisation. In this regard, our findings confirm that ***"a bedrock for critical unlearning is the provision of encounters – with those of different (identity groups or ideological) backgrounds . . . which at the same time expose participants to alternative versions of the truth"*** (Davies 2014:465). At the same time, our findings show that unlearning cannot be taught through pleas that 'convince' young farmers to reject certain practices and beliefs and that, as Davies (2014) wrote aptly, unlearning is not ***"about teachers "channelling" students into what they see as suitable activism, but about taking the risk to foster young people's own initiatives"*** (p.459). The questions that were posed at the start of each subsection, which are summarised below (**Table 5.2**) may inspire other teachers to design courses with unlearning in mind and to set up classrooms as unlearning spaces in which unlearning is pursued but not guaranteed.

Initial destabilisation	**Ongoing discarding and experimentation**	**Developing and relinquishing**
"Recognise"	**"Strategise"**	**"Act"**
Need for unlearning becomes clear	**Motivated to make a change**	**Making a change**
How may the course help students to recognise the need for unlearning?	How may the course help students propose strategies for addressing the limitations of established farm practices, routines, and beliefs, and how can it help them to experiment with new ones?	How may the course support students to make a change, in terms of discarding old routines and adopting new ones?
In what ways may the course encourage reflection on established farm practices, routines, and beliefs and help students to recognise the potential limits of their learning?	How may the course encourage students to confront their biases and stereotypical thinking and to consider alternatives perspectives as legitimate?	How may the course support students in detaching from prior behaviours and perspectives and in consolidating emerging understandings?

Table 5.2. Suggested prompts to consider when incorporating unlearning into course design

Second, our study revealed the importance of agricultural education as a ***"safe space"***[6] that accounts for sociocultural demands and expectations and helps students to break free from them through unlearning. Given the food system transformations that are expected to occur in the future, the unlearning of formulas for success that have proven useful in the past might be essential. At the same time, this unlearning is emotionally painful, and it can induce feelings of guilt and betrayal. We demonstrated how teachers can design course activities and settings so as to help students to navigate intergenerational tensions and to emancipate themselves from the past of their family farm. Their beliefs about the legitimate behaviour of farm heirs may be internalised rather than articulated fully (Spivak 1996). Previously, unlearning scholars have underestimated the role of loyalty and solidarity and tended to overemphasise goal–performance mismatches, leading to a rather rationalistic and functional treatment of the concept (van Oers et al. 2023). Farming is widely considered to be 'a way of life' rather than a job, and it is associated with certain cultural and emotional values, family traditions, norms, ideologies, and behaviours (Conway et al. 2017). As we observed in the context of farm succession, unlearning may prompt students to deviate from the past learning that is rooted in forms of social capital of this kind, as well as in farming identities and family legacies. Beyond jeopardising certain routines, unlearning puts pressure on general social relations. That pressure may transpire to be a major deterrent to unlearning. Consequently, agricultural transitions are shaped and influenced by the conflicting and potentially irreconcilable implications of unlearning that may, in practice, favour the resumption of business as usual. This finding is important for the burgeoning scholarship on the drivers and obstacles that determine the utility of unlearning for the creation of a more sustainable and just future. Thus far, that scholarship has neglected solidarity, loyalty, and sociocultural legacy as explananda (Choi, J. 2008; Brook et al. 2016; Cegarra-Navarro and Wensley 2019).

Third, we added to the studies that depict unlearning as a process that is ***"deeply emotional and challenging as it brings individuals' values, knowledges***

6 Conversely, Arao and Clemens (2013) proposed to create *brave spaces,* 'shifting away from the concept of safety and emphasizing the importance of bravery instead, to help students better understand—and rise to—the challenges of genuine dialogue on diversity and social justice issues' (p. 136).

and practices into question" (Burksiene 2016:31) by positing that ***"transition pain"***[7] is not an undesirable side effect of unlearning in agricultural transitions but part and parcel of it. The ability of teachers to foster the processes by which students navigate between maintenance work, through which they pass on what they have inherited and what performs well, and deconstruction work as part of their unlearning is of paramount importance in transformative agricultural education. As a concluding recommendation for future practice and research, we invite agricultural educators to teach for unlearning in line with the particularities of their students and courses and to analyse their experiences for comparative purposes. We investigated an extracurricular course, which may have given the teachers a wider discretion to experiment with innovative pedagogies. In the future, researchers and practitioners may find it fruitful to reflect on the possibility of introducing unlearning into mandatory secondary vocational training and education. This development may require a shift from teaching for the job market and in line with existing contextual conditions to teaching for transformation in order to address the root causes of global and local challenges.

7 The concept was coined by Kristina Bogner et al. (2024).

CHAPTER 6

Discussion and Conclusion

CHAPTER 6 Discussion and conclusion

This thesis aimed to develop the concept of unlearning to diversify accounts of destabilisation and phase-out for sustainability transition studies. This final chapter answers the thesis' main research questions, synthesises findings from the empirical chapters, and proposes how transition scholars may mobilise this thesis' conclusions to study sustainability transitions within and beyond food systems.

6.1.1. Why transition theory must diversify phase-out research

As its first objective, this thesis aimed to demonstrate the limits of technology phase-out to motivate transition scholars to diversify their research on phase-out and regime destabilisation in a manner that includes the phase-out of (i) socio-cultural dimensions (ii) at the individual and group levels.

Using a process-tracing approach, **Chapter 2** examined the historical phase-out of hen battery cages in the Netherlands and revealed the politics that shaped and influenced the phase-out rationale, process, and outcome. In summary, I showed that agricultural-poultry regime ***incumbents*** and ***incumbencies*** (a) remained unchallenged amidst the phase-out of hen battery cages and (b) steered towards a prolonged technology phase-out with manageable outcomes. On the one hand, the findings of my study revealed how powerful actors could appropriate the directionality and speed of hen battery cage phase-out to retain relevance in an undisputed political economy. On the other hand, I discussed the limitations imposed by capitalist institutions as expressed in the political economy of Dutch food systems that shaped the governance of hen battery cage phase-out, such as a shared and taken-for-granted belief in global competitiveness and technological efficiency.

These findings contribute to scholarly debates on the governance of regime destabilisation and phase-out in sustainability transition studies in two ways. First, **Chapter 2** suggested that increased (political) attention to the various constraints and opportunities imposed by incumbent actors and incumbencies reduces the risk of failure, delays, and unintended side effects of phase-out. The political economy approach developed and

applied in this thesis may aid transition scholars in better capturing the role and effects of phase-out in and for sustainability transitions. Second, **Chapter 2** established that technology phase-out can be compatible – not necessarily in conflict with – incumbent socio-technical regimes to a degree that reproduces the status quo instead of diversifying sustainability transitions. Hence, this thesis raised doubts about the transformative potential of phase-out policies that do not oppose the deeply rooted symbolic, cultural, social, and power structures of incumbent socio-technical regimes.

Exploring the rationale, process, and outcome of hen battery cage phase-outs in the Netherlands made explicit the politics that shape and define sustainability transitions. Therefore, **Chapter 2** and the following **Intermezzo** suggested working towards a broader understanding of phase-out as a relevant objective for sustainability transition studies. In its observation that phase-out efforts may coincide with maintaining regime stability – when the undergirding socio-cultural dimensions of unsustainability are unattended – the **Intermezzo** directed phase-out scholars to the notion of *unlearning*. In this way, this thesis aimed to capture phase-out in more diverse ways than as a strategy to exit from unsustainable technologies, substances, or processes.

The findings and conclusions of **Chapter 2** additionally inspired two other publications not included in this thesis. First, I wrote a non-academic book chapter in Dutch, translated as ***"When Innovation is Not Enough. The Case for an Exnovation Strategy for Sustainable Food Policy"***.[1] In this publication, I explored how the Dutch government can meaningfully engage with ***"exnovation"*** to accelerate much-needed food system transformations. The decision was made to discuss exnovation rather than phase-out since it proved more appealing to the audience of politicians and civil servants. The book chapter argued that innovation policy should be complemented with an exnovation policy strategy and suggested what such policies could entail. Second, the approach to explore the politics of phase-out in terms of its (i) rationale, (ii) process, and (iii) outcome was recently expanded in another academic paper on ***"just destabilisation"*** that I contributed to as a

1 When innovation is not enough. The case for an exnovation strategy for sustainable food policy. By Laura van Oers in: Lanjouw, J. (Ed.), 2020. Dino nuggets, pink LEDs, and fed-up farmers. van Gennep Publishing, pp. 115-124.

co-author (Lonkila et al. forthcoming). This paper proposes an analytical framework to identify and consider different aspects of justice in phase-out and henceforth applies the just destabilisation framework to the case of peat phase-out in energy and agriculture in Finland.

6.1.2. Unlearning in sustainability transitions

The main aim of this thesis was to develop the concept of unlearning for sustainability transition studies. In this section, I demonstrate how the findings of **Chapters 3–5** contributed to answering the research questions about unlearning:

I. **How can the concept of unlearning be operationalised for empirical studies?**

II. **Whether and how do processes of unlearning unfold?**

III. **How can processes of unlearning be facilitated?**

I close this section with nine propositions about unlearning in sustainability transitions.

RQ1. Operationalising unlearning for empirical studies in sustainability transition studies.

First, this thesis explored how unlearning could be operationalised for empirical studies in sustainability transitions. **Chapters 1** and **3** concluded on the limited engagement of transition theory with unlearning, despite its possibility to contribute to sustainability transitions. I noticed how unlearning remains a fuzzy concept in sustainability transition studies. Nevertheless, a review of the broader literature on unlearning clarified that unlearning has been well-developed and more frequently studied empirically in other theoretical fields, which provided a solid basis for developing and fine-tuning unlearning in sustainability transitions.

I first mobilised scholarly work on unlearning from management, organisational, and business studies – a strand of literature that often inspires transition theory. Its notion of organisational or *strategic unlearning* appeared helpful in addressing more rationalistic and utilitarian motives behind unlearning. **Chapter 3** elaborated on how unlearning is essential for (commercial) organisations to adapt and survive in dynamic

environments. It described how an organisation should be prepared to question and abandon established routines that are likely treasured and defended based on historical successes and achievements but less relevant in light of changing circumstances. **Chapter 3** concluded the relevance of such a strategic perspective on unlearning for sustainability transitions. The ability to adapt to, for example, changing (consumer) demand, climate-change-induced severe weather events, and/or political turmoil suggested flexibility and adaptability in sustainability transitions and, thus, on the importance of unlearning routinised behaviours. **Chapter 5** made this argument specifically for agricultural transitions, in which changing agricultural realities and undesirable farm results can incentivise farmers to unlearn established farming routines.

However, as **Chapter 2** alluded, sustainability transitions include timely adapting to a changing environment while confronting deeply socio-cultural institutions of socio-technical regimes. Hence, the review in **Chapter 3** also included studies on unlearning from postcolonial and feminist scholars. These studies made a case for unlearning driven by internal desire and emancipatory motivations in contrast with unlearning in response to goal-performance mismatches and emerging possibilities. In this regard, I argued that important lessons could be drawn from postcolonial and feminist work and activism (e.g. on unlearning racism and unlearning gender biases) that aim to unravel conscious and subconscious values and beliefs that hinder change. Bringing in this specific scholarship helped to consider unlearning in terms of actively confronting the roots of unsustainability in socio-technical regimes and the pedagogical value of unlearning, which challenges those more utilitarian and rationalistic readings of unlearning as letting go of all that no longer works. Furthermore, **Chapters 3 and 5** proposed how unlearning in sustainability transitions can equally depart from ***"forms of confrontation"*** versus ***"forms of crises"*** in organisational studies. Such confrontations can originate from "the self" regarding discomfort and unease but may also be revealed by others via retaliation and judgement.

Combining organisational theory and postcolonial and feminist studies on unlearning, I operationalised unlearning for sustainability transition studies in **Chapter 3**. **Table 3.1.** discerned four key differences in how these scholarships described (a) the relevance of unlearning, (b) triggers

for unlearning, (c) awareness creation in unlearning, and (d) unlearning outcomes. In **Chapter 5,** I combined insights from both fields of study. Instead of presenting their differences, **Figure 5.2** depicts the variety of expressions and actions associated with three sub-processes of unlearning: (i) initial destabilisation, (ii) ongoing discarding and experimentation, and (iii) developing and relinquishing.

Chapters 3 and **5** found that integrating both scholarships provided a more comprehensive understanding of unlearning in change processes. In addition, the findings confirmed the added value and novelty of bringing in a pedagogical perspective to unlearning in sustainability transition studies because when unlearning has been reviewed in this field of study (if at all), the tendency has been to merely focus on the strategic aspects of unlearning. Turning to postcolonial and feminist work on unlearning enabled me to identify (a) the more ethical and *"political"* motivations of unlearning while considering (b) unlearning as an emancipation and liberation practice and (c) an act of care, which would be missed from a solely strategic unlearning perspective.

Conceptually, this thesis developed the notion of unlearning for sustainability transition studies. Based on a literature review and my empirical findings, I cast unlearning in sustainability transitions as a personal, multi-level process with strategic and pedagogical relevance that involves discarding skills and practices; norms, values, and beliefs; and mindsets and worldviews. Moreover, I found that unlearning can create space for new learning. Finally, I explained the varied expressions of unlearning along the sub-processes of (i) initial destabilisation, (ii) ongoing discarding and experimentation, and (iii) developing and relinquishing.

RQ2. Whether and how processes of unlearning unfold in sustainability transitions

The second research question concerned whether and how unlearning unfolds in sustainability transitions. Per the methodology, I studied unlearning in three cases in the Dutch food system that I identified as unlearning spaces. I focused on transition processes within such spaces that happened in the *past* (**Chapter 3**, on the historical conversion to solidarity payment), were observed in the *present* in a fieldlab setting (**Chapter 4**), and anticipated in the *future* by facilitating unlearning in agricultural education (**Chapter 5, see RQ 3**).

First, I investigated how members of two Dutch CSA initiatives experienced the conversion to solidarity payment and accompanying new member responsibilities and (financial) commitment from an unlearning perspective. Via semi-structured interviews that aimed to elicit unlearning, I understood how farmers and members of both initiatives started to question and reject taken-for-granted ideas about community and consumerism, farm entrepreneurship, individualised responsibilities, and overall farm values. The conversations in response to my questions about unlearning were meant to unravel confrontations between past and new learning. For example, instead of asking members what they learned from the conversion to solidarity payment, I asked them to recall moments of discomfort, unease, and/or surprise while elaborating on the feelings and emotions experienced in experimenting with solidarity payment and discarding traditional payment methods (**see Chapter 3**). With the help of event-structure analysis (ESA), I created a narrative of the transition process to elicit when and how unlearning occurred. **Chapter 3** revealed how farm-level transition processes were riddled with expressions of unlearning as farmers and members changed their routines and mindsets about producer-consumer relations. Based on insight from both farms, **Figure 3.2** visually summarised the conversion to solidarity payment on CSA farms as an entangled and ongoing process of learning and unlearning that enabled (a) farmers to reframe responsibility for farm financial health and (b) members to redefine their membership and community engagement. Thus, by forcing members to reflect on their ability and willingness to pay for local food and farm membership, the introduction of solidarity payment schemes can prompt unlearning and yield opportunities for food communities to ***"break free"*** from market

pressures, including those that confine CSAs to self-exploitation and privileged communities.

Whereas **Chapter 3** aimed to elicit unlearning in a realised transition, **Chapter 4** focused on the social dynamics within the unfolding transition of a CBG experimenting with a PGS in a fieldlab setting. By closely examining how a CBG attempted to ***"take the next steps"*** in employing its collective agency for food system transformation by negotiating with local producers, **Chapter 4** discussed the dynamics of becoming a local food community. The analysis focused on three social processes: **(a)** the deepening of community relations around and through agrifood, **(b)** learning via and within agrifood initiatives, and **(c)** the politicisation of agrifood systems. During the fieldlab, these processes emerged as fundamental for understanding the CBG's attempt to become a local food community ***for*** food system transformation.

The findings demonstrated how producers and consumers of the CBG struggled to learn, act, and politicise ***as a collective***. Rather, they persisted in established and conventional consumer and producer roles, responsibilities, and action repertoires. **Chapter 4** suggested that this entrenchment shaped and conditioned how learning occurred – amongst whom and for what purposes, what the terms of collaboration were, and how roles, responsibilities, and expertise were distributed – with clear implications for what was considered ***"transformable"*** by actors working for and within food system transformation. In this regard, the findings may be interpreted as an inability or reluctance to unlearn, or at least a tendency to stick to established ways of knowing, being, and acting. For example, even though the fieldlab was designed to explore local interpretations of sustainability, CBG consumers refused to redefine their role in the CBG due to a claimed lack of expertise, discomfort, and insecurity. Whereas such unsettling feelings were considered generative to most CSA members in reconsidering community membership (**Chapter 3**), they were not actively engaged with during the fieldlab. Moreover, these findings from the studied fieldlab may confirm my observation that unlearning is not always essential for implementing new routines and practices (for elaboration, see **Chapter 3**). While CBG members were interested in exploring PGS as a new governance mechanism, most did not recognise the outdatedness or irrelevance of more conventional ways

of defining, measuring, and analysing sustainability, nor did they feel the fieldlab was the place to reflect on them. Nevertheless, since the PGS was not implemented, it remains an open question to what extent lessons can be drawn about the necessity of unlearning for the studied transition process.

Empirically, this thesis examined whether and how unlearning manifests in sustainability transitions in the Dutch food system. I observed different expressions of unlearning in the studied transition processes. Additionally, I noticed that not everyone who is part of a transition process necessarily unlearns or needs to unlearn for a transition process to unfold. Finally, I concluded that a sustained focus on unlearning made it more evident that emotions such as discomfort, frustration, unease, and surprise are at the heart of change processes and sustainability transitions. Unlearning captured well the actual experiences of food system actors when they uprooted and confronted assumptions about food systems.

RQ3. Facilitating unlearning and unlearning spaces

Third, this thesis explored how to facilitate processes of unlearning. For this purpose, I explicitly engaged with stages of design in **Chapters 4** and **5**. In particular, I focused on the ability of *unlearning facilitators* to trigger an awareness of unlearning and to nurture and support ongoing unlearning.

First, I examined how individuals or a group of individuals, started to reflect on and discard assumed practices, routines, beliefs, and mindsets in their attempt to *"take the next steps"* in becoming a local community for food system transformation. For this purpose, the fieldlab in Chapter 4 explicitly aimed to facilitate and support collaboration and negotiation between farmers and consumers in setting up a PGS to strengthen their community. Jacob Smessaert and I, the facilitators of the fieldlab, organised five sessions to provoke discussions about ways to *"measure"*, *"define"*, and *"assess"* local sustainability. We documented the final set-up of the fieldlab in a Dutch advisory report entitled *"Participatory Guarantee Systems (PGS) for Consumer Buying Groups – A Tool for Farmer-Citizen Dialogues"*. As stated in the report, the fieldlab in early 2022 in the

east of the Netherlands was loosely based on ***"Theory U"***[2] (cf. Scharmer 2018) and consisted of five separate sessions.

Theory U is a process model for the transformation of people and organisations that insists on the importance of taking time to reflect before taking action. It proposes that transformative action requires ***"re-framing"*** and moving from old to new thinking. For this reason, we considered it a useful approach to structuring and planning the fieldlab sessions and supporting the CBG in uncovering a new direction for local action. Per the process of Theory U, the first three sessions were designed to help participants of the fieldlab uncover what drove them and the CBG to reveal deeper motivations behind individual and collective thinking (i.e. the downward slope of the U). The final two sessions involved designing procedures and experimenting with farmer–citizen dialogues in practice (i.e. the upward slope of the U). The full report, including a detailed overview of the sessions organised, is available in Dutch and English.[3]

As facilitators of the fieldlab, Jacob Smessaert and I encouraged participants to unravel individual and collective ideas about the CBG and negotiate potential conflicts and misunderstandings. This focus on critical reflection, awareness creation, and active confrontation with previously held practices, routines, beliefs, and mindsets can be understood as facilitating unlearning. However, as discussed before, the CBG appeared reluctant to challenge the socio-historical foundations of the CBG, and I found only a few signs of unlearning. However, what I learned about facilitating unlearning from this research project is that while facilitators can raise specific topics, reflections, and challenges, unlearning will not spontaneously emerge if the limitations of past (collective) learning are not actively considered and collectively problematised.

Second, and subsequently, I decided to examine how unlearning may be facilitated more explicitly. For this purpose, I collaborated with three MBO teachers, with whom I explored unlearning as an innovative pedagogy for farmers' training concerning food system transformation (**Chapter 5**). In summary, the findings revealed how the course could facilitate unlearning by probing different sub-processes of unlearning.

2 This refers to the shape of the U that is a parabola going down before going up.

3 PGS report is accessible online in Dutch and English via: https://unmaking.sites.uu.nl/resources/

For example, the teachers explained that course guest lectures and farm visits could contribute to deconstructing stereotypical thinking and biases against farming models that differed from those the students are used to. Practically, **Chapter 5** suggested ways for other (agricultural) teachers to consider unlearning in their courses, as I introduced various questions to prompt how teaching could help students recognise, strategise, and act on unlearning (see **Table 5.2**).

From the conversations with the teachers, I also discovered that in the process of unlearning, students might feel discouraged to question family practices, routines, beliefs, and mindsets, thereby posing a substantial obstacle to recognising alternatives. In this regard, I found that teachers can have a key role as ***"unlearning facilitators"*** to nurture ongoing unlearning and help navigate unlearning for farm succession regarding adaptation and emancipation. Their potential role as unlearning facilitators was similar to the farmers' influence on members' unlearning in **Chapter 3**. In that specific case, most members commenced unlearning through a confrontation deliberately staged by the farmers who posed questions about finances and farm membership responsibilities. In a Dutch publication based on **Chapter 3**, *"Solidarity Payment and CSA Farms"*, I summarised the questions posed by these farmers to trigger their members' unlearning. As a reflection assignment, I invited members from other CSA or grassroots initiatives to consider the questions to better understand their responsibilities as community members.

Based on the findings from the empirical chapters, I conclude that unlearning facilitators are important in creating and nurturing ***unlearning spaces***. As argued in **Chapters 3** and **4**, one should not expect unlearning in sustainability transitions to spontaneously emerge for two reasons. First, individuals may not be cognisant of the ***"right time"*** to unlearn or ignorant about the ineffectiveness or inappropriateness of old ways of being and doing. As visualised in **Figure 3.2**, this unawareness was initially the case for most CSA members who were unaware (or in denial) of the shortcomings of the old payment scheme and its incompatibility with fundamental CSA principles like communal care and risk-sharing. Similarly, **Chapter 5** cast the choice of farm successors to reproduce family-farm practices as rather automatic and unconscious, in which socio-cultural ***"truths"*** developed over time remain unquestioned.

Based on these findings, I suggest that unlearning facilitators have an important task in bringing to light how learners ***unknowingly*** perpetuate unsustainable behaviours, practices, and beliefs, thereby triggering awareness of unlearning.

Nevertheless, unlearning facilitators are not required to direct or prescribe unlearning. The sustainable family-farm succession course teachers wanted to refrain from telling students ***what*** they could no longer do (see **Chapter 5**). Instead, they acknowledged the transformative potential of unlearning when emancipating from the students themselves instead of manipulative forms that would unconsciously nudge students towards ***"better"*** behaviours.

Second, this thesis found that individuals may not only be unaware, but also ***reluctant*** to unlearn by intent. For example, some members of the CSAs studied in **Chapter 3** refused to engage in the process of unlearning led by farmers. Moreover, resistance to unlearning was also predicted in **Chapter 5**. The teachers explained how farm successors might have felt uneasy about putting the family farm's past into perspective. Essentially, they might have hesitated to challenge their peers and parents as part of the unlearning process. Similar observations were made in **Chapter 4**, noticing how the CBG appeared reluctant to confront their community's history, social foundations, and the people involved. Based on these findings, I conclude that solidarity, loyalty and heritage may pose barriers to unlearning in ways that have hitherto received little attention in sustainability transition studies. In sum, I propose that unlearning facilitators are not only tasked to trigger an awareness of unlearning but also needed to support ongoing unlearning in a manner that teases out where resistance to unlearning comes from, thereby pre-empting learners' emotional pain and conflict.

This thesis suggested that facilitating unlearning requires deliberate effort and time and involves certain conditions and/or interventions with a sustained commitment from unlearning facilitators throughout the process. Nonetheless, unlearning cannot be guaranteed even if the ***"right"*** circumstances and factors are met. For this reason, I continually discussed how unlearning ***may*** be facilitated. For example, **Chapter 3** found that even though farmers provoked their community members with reflexive questions about membership and financial contribution,

not everyone unlearned. Likewise, **Chapter 5** reported little unlearning despite the interventions from the fieldlab facilitators.

Practically, this thesis explored how to facilitate unlearning and unlearning spaces. I suggest that facilitating unlearning requires deliberate effort and time. It is relevant when individuals are not cognisant of the *"right"* time to unlearn or consciously reluctant to unlearn. In this view, I perceived key roles for *"unlearning facilitators"* (a) to encourage participants to actively consider and (collectively) problematise past learning, (b) to trigger unlearning by way of making an individual aware of latent unlearning needs, (c) to support ongoing unlearning by way of strategising unlearning and uprooting any resistance to unlearning, and (d) to help navigate the potential emotional pain and conflict that may arise. This thesis further concludes that while unlearning can be facilitated, it should not be forced nor expected to emerge, thereby casting unlearning as an active process that needs to emancipate from the learner(s). For this reason, I continually discussed how the unlearning *may* be facilitated.

Propositions on unlearning for sustainability transition studies

This thesis aimed to develop the concept of unlearning to diversify accounts of destabilisation and phase-out for sustainability transition studies. I explained how the findings of **Chapters 3–5** contributed to developing the concept of unlearning for sustainability transition studies. Based on the aforementioned conclusions, I end this section with nine main propositions about unlearning in sustainability transitions:

	Unlearning in sustainability transitions . . .
1.	. . . involves distancing from and discarding skills and practices; norms, values and beliefs; and mindsets and worldviews.
2.	. . . is intentional, not accidental.
3.	. . . can be triggered by "forms of crises" and/or "forms of confrontation".
4.	. . . is a process that consists of different sub-processes.
5	. . . may support adopting new skills and practices; norms, values, and beliefs; and mindsets and worldviews.
6.	. . . has strategic and pedagogical relevance.
7. **7.1.** **7.2.**	. . . is a personal and (generatively) confrontational process . . . . . that may be characterised as emotionally painful . . . . and may be hampered by socio-cultural dynamics, such as a sense of loyalty.
8. **8.1**	. . . may be enabled by "unlearning facilitators", ... who may inspire and support individuals who are unaware or reluctant to unlearn.
9.	. . . and "unlearning spaces" are important for unlearning and sustainability transitions.

Figure. 6.1. Propositions on the concept of unlearning for sustainability transition studies

6.2. Reflections on my research practice

"Perhaps counterintuitively, slowing down to listen to the world – empirically and imaginatively at the same time – seems our only hope in a moment of crisis and urgency".

– Anna Tsing et al. Arts of Living on a Damaged Planet: Ghosts and Monsters of the Anthropocene (2017)

This thesis aimed to develop the concept of unlearning for sustainability transition studies. While I intended to enrich my understanding of such processes with qualitative research, inevitably, this thesis and its findings have limitations. First, some are related to the nature of qualitative research in social sciences, including my decision to apply a case-study approach. Second, I recognise that the conceptual focus on unlearning in transition processes may have obscured other dynamics in the field. Third, I reflect on my expectations for ***"meaningful"*** research and how my role as a researcher and forms of research collaborations might have shaped the interpretations of my findings. Finally, this thesis focused on the Dutch food system. I studied transition processes at a time of highly complex societal and sectoral dynamics, so the findings on unlearning should be interpreted within this context and time span.

6.2.1. Reflections on the case-study approach

To conceptualise and fine-tune the concept of unlearning for sustainability transition studies, I decided to study in-depth how processes of unlearning manifested and unfolded in three selected cases. While this research strategy implied close collaboration with and a rich understanding of the initiatives studied, it also meant prioritising certain cases over others as an inevitable consequence of an instrumental case-study approach. Indeed, researchers who apply a case-study approach are ***"urged to seek out what is common and what is particular about the case"*** (Hyett et al. 2014:2).

The studied cases in this thesis were unique in the sense that they represented (a) shielded environments for individuals to learn and unlearn ("unlearning spaces") and (b) a transition process within the Dutch food system. First, in terms of an ***unlearning space***, I studied the CSA farms and the CBG as collectives to experiment with alternative food production and consumption, as well as the course on family-farm succession that existed

outside of the regular programme for MBO students. The willingness of individuals to partake in these unlearning spaces and embark on a transition process (i.e. converting to solidarity payment, exploring a PGS for local food system transformation, and incorporating unlearning in course design for farm succession) was an important reason to foreground these cases.

Second, the four cases (including the hen battery cage phase-out) were rooted in the Dutch food system. However, they spoke to different elements of food system transformation, from alternative organising to education, giving a more comprehensive understanding of transition processes in this context. As a research strategy, I sought diverse expressions of phase-out and unlearning in the Dutch food system and included data from policy-level documents and (agricultural) newspapers (**Chapter 2**), interviews and group sessions with members from grassroots food initiatives (**Chapter 3** and **4**) and focus groups with agricultural educators (**Chapter 5**). I explicitly studied cases in the Netherlands, for the reasons stated in my methodology, which limited the interpretability of the results for initiatives in other countries. For example, previous research has shown that reasons for participating in CSAs differ across countries (Brehm and Eisenhauer 2008; Cox et al. 2008), as well as the objectives of farmers and consumers who engage with PGS (Nelson et al. 2016; Roggio and Evans 2022).

Overall, this thesis reported on phase-out and unlearning in multiple initiatives and the transition processes that unfolded. This thesis did not aim to perform a comparative case-study analysis and seek similarities and differences between the different initiatives. Whereas I observed unlearning in the studied cases and concluded on the relevance of unlearning in sustainability transitions, more systematic research is warranted to further define how unlearning manifests in transitions within and beyond (a) the Netherlands and (b) (alternative) food systems while theorising on reasons for variety. Due to overlapping similarities between grassroots innovations across different socio-technical regimes (cf. Seyfang and Smith 2007), unlearning in ***"other-than-food"*** initiatives is expected. However, research to confirm this assumption is requested. Cross-sectoral comparisons may reveal how certain aspects of the food system, including the aforementioned community membership, farming

identities, and loyalty between farming generations and communities, uniquely shape unlearning in ways that may be less profound in other systems, such as energy.

6.2.2. Reflections on the unlearning perspective

This section reflects on the opportunities and limitations of applying an unlearning perspective in the field of sustainability transitions.

First, I contend that a sustained focus on unlearning drew my attention to different, often overlooked aspects and features of transition processes. During the various conversations I had over the years when collecting data, presenting my research at academic conferences, and discussing with my colleagues and friends, an unlearning perspective brought in new questions, new conversation topics, and a different attitude in life altogether. Foremost, I noticed how an unlearning perspective helped to make space for discussions about more obscured, socially and emotionally uncomfortable and challenging aspects of transition processes.

Furthermore, I noticed how the research participants, most notably the teachers (**Chapter 5**) and CSA members and farmers (**Chapter 3**), considered unlearning a useful concept to make sense of the world around them. Their shared and swift understanding and appreciation for the notion of unlearning in conversing about transition processes resulted in my conclusion on the importance of foregrounding unlearning in sustainability transition studies (see **Section 6.3.1**). However, given the fact that most respondents were committed to food system transformation, the concept of unlearning may resonate ***differently*** with more conventional to alternative actors in the food system that may benefit from continuing ***"business as usual"*** (Turnheim and Sovacool 2020).

In my decision to unravel transition processes from an unlearning perspective, I recognise that I may have shaped and influenced how research participants came to understand and reflect on change processes during the interviews (Wilson et al. 2018). I do not see this as a problem per se but as acknowledging an ***"anything-but-neutral"*** stance in social research (Wittmayer and Schäpke 2014; Skovlund et al. 2023). As a result, how research participants engaged with unlearning and found ways to make the concept their own influenced my thinking about unlearning. Meanwhile, the combination of unlearning theories (see **Section 6.2.1**)

informed me where to look and what to look for. Essentially, the respondents helped me understand what unlearning entails and how it is embodied and expressed in real-life experiences.

Finally, I learned that this PhD research on unlearning was also an unlearning experience for me. Autoethnography was never really the plan, and I did not take measures to facilitate such an analysis. In the retrospective account, I noticed how an unlearning perspective shaped my attitude as a researcher in trying to make sense of the world. Thus, I came to value the importance of reflexivity as a researcher, collaborator and colleague. Indeed, weighing different perspectives and being surprised by new insight came with acknowledging the limits of my perspective when confronted with new information. Gradually, I became more aware of who I was and the assumptions that shape(d) me, and thereby my research endeavours – ***"and what it means to succeed or fail as [researchers and] teachers"*** (Cochran-Smith 2003:25). In this process, I found ways to confront my biases and prejudices and decided to unlearn certain (research) practices and beliefs.

6.2.3. Reflections on the researcher's role and research collaboration

This thesis mostly drew on elicited and enacted research approaches (see **Chapter 1**) to generate data ***with*** the participants. From the onset, my ambition has been to collaborate closely with various actors in the food system. Hence, I have invested much time in building meaningful foundations for collaboration with research participants, including the farmers of CSA farms (**Chapter 3**), the Dutch CSA network, the studied CBG (**Chapter 4**), and the MBO teachers (**Chapter 5**).

In many ways, I attempted to avoid extractivist research practices and navigate the inevitable tension between academics wanting to contribute to theory and publish academic results and societal relevance (Wilmsen 2008; Klenk et al. 2017; Raynor 2019). First, I was always transparent about my motivations as an academic and my objective to publish research findings. However, acknowledging the abovementioned tension, I wanted to make my research questions relevant to a research community while finding ways with research participants to contribute to their daily work and (practical) interests. For example, the farmers from the CSAs in

Chapter 3 were interested in knowing how their community members perceived the conversion to solidarity payment. In agreement with the members, I shared my research findings with the farmers and discussed my observations during my farm visits. Moreover, with the CSA network, it was agreed that beyond organising and facilitating the fieldlab sessions (**Chapter 4**), Jacob Smessaert and I would write a Dutch advisory report on PGS as a tool for farmer–citizen dialogues. This report was disseminated through the Dutch CSA network to inspire and inform other CBGs. We presented the observations twice to local and national stakeholders working on food system transformation in the Netherlands (see List of Non-Academic Publications).

In addition to ***"giving back"*** (in time, skills, knowledge, and solidarity), I also strived to find new ways of engaging with the research participants (Wilmsen 2008; Wilson et al. 2018; Raynor 2019). Gradually, these participants became research collaborators whom I invited in the research process design – most notably the teachers from the course on family-farm succession with whom I collectively decided to explore how unlearning could be incorporated into their course design (**Chapter 5**). Exploring different relations with research participants meant exploring different researcher roles throughout my PhD trajectory (Wittmayer and Schäpke 2014). Thus, I ***grew*** from an interpreter of data to a facilitator and collaborator, which was a valuable (un)learning experience in itself. For example, as a facilitator, I constantly reflected on what it meant to guide group discussions in a ***"neutral"*** manner while acknowledging my position and expectations as ***"the expert"*** (cf. Braakman 2003).

Finally, I sought ways to contribute and stay connected to the different movements and networks advocating for food system transformation in the Netherlands. In the past years, I frequently joined and actively contributed to meetings of different Dutch activist groups, including Voedsel Anders, Agroecologie Network NL, and Ontgroei. In addition, I co-organised a two-day conference on democratic food systems in Wageningen, the Netherlands and various degrowth symposia in the Hague and Utrecht[4], the Netherlands. Moreover, my colleagues and I from the UNMAKING[5] project – within which this PhD research was embedded

4 The second degrowth symposium on "Degrowth and the Circular Economy" was eventually held online

5 For more information about the project, please visit unmaking.sites.uu.nl.

– developed a self-guided workshop toolkit on ***"degrowth and food system transformation"*** to be used by food and degrowth activists to ponder and strategise about the synergies between these two movements (also see, Spanier-Guerrero Lara and Feola 2023). In this workshop, participants can explore how our societies and food systems are organised around the ideology of endless growth. Furthermore, the workshop aims to help participants design tactics, strategies, and ideas for creatively building sustainable food systems and overcoming the barriers that growth-based societies pose. The toolkit is available in multiple languages, including Dutch and English (**see List of Non-Academic Publications**).

6.2.4. Reflections on researching the Dutch food system (2019–2023)

Most of my research and the writing of this thesis occurred during ongoing and passing crises and upheaval– as maybe all four-year projects do – including but not limited to a global pandemic, national farmer's protests, two disruptive election results in the Netherlands, a surge of climate blockades, and devastating wars in and outside of Europe. Indeed, these major events heavily impacted the workings and legitimation of the contemporary Dutch food system – from the shortage of staple products such as grain to shifting food politics and the rise of a populist farmers' party – from social movements mobilising support to decolonise our food systems in solidarity with the Global South to the steady rise of local food boxes and self-growers in the Netherlands. Furthermore, fuelled by the ongoing nitrogen crises in the Netherlands, the role of farming and the farmer's position has increasingly become a societal concern (EEA 2022), which materialised in displays of the upside-down Dutch flag as a political statement partly supporting Dutch farmers while registering political distrust (van der Ploeg 2020). These were raised along most Dutch roads, drawn on lampposts and other street furniture, and stuck to personal car windows and mailboxes. Even though the influences of such major events were not at the core of my research, they certainly shaped and influenced my interactions with research participants. Two illustrative examples follow.

First, I was constantly expected to have insights and opinions about the state of farming affairs in the Netherlands. These viewpoints were always asked for and discussed during my data collection. While creating

extra pressure to keep up with recent developments, these conversations legitimised the work and commitment of the farmers, consumers, and teachers I interviewed and my research on unlearning. I received feedback that my research on unlearning was of ***"timely relevance"***, ***"much-needed"***, and ***"refreshing"*** in light of the national turmoil, for example, discussing the emotions and dilemmas facing Dutch farming communities. In addition, discussing viewpoints helped me appreciate the importance of collective grassroots action and the role of teachers in offering hopeful alternatives and narratives about the future of food and farming in the Netherlands.

Second, crises in and beyond the food system also prompted me to reflect on my role, responsibility, and position in transforming the food system. During the global pandemic, I decided to join a food coop and work in a community garden as a volunteering gardener, beyond those included as cases in this thesis. If I were to research ***"unlearning spaces"*** and alternative food, why should I not experience them first-hand? Looking back, I learned a lot from this direct experience with the collective buying and growing of food, which I consider a vital part of my development as a food transition researcher. On the one hand, it ensured that I could ***usefully*** offer my help with farm work in return for farmers' time and research support. On the other hand, I noticed how it positively contributed to creating a shared language between the research participants and me. Relating my experiences as a community member led to a better interpretation of the experiences and perspectives of members of the studied CSAs and the CBG. Nevertheless, such recognition may have also created certain biases and risks of overinterpreting and/or making assumptions. While important to reflect upon, it is considered an inevitable limitation of enacted research approaches in which the researcher draws on lived experiences, including her own (Skovlund et al. 2023).

Finally, while I do no justice to the severity of the aforementioned crises when considering them as the backdrop of my thesis, I wish to stress that this thesis did not directly study the effects of such major events on unlearning processes and vice versa. Therefore, it appears relevant for future research to more explicitly examine how forms of regime destabilisation and unlearning relate to expressions of phase-out at different levels. For example, exploring how the Dutch nitrogen crisis

and corresponding farmers' protests influenced farmers' and citizens' unlearning would be interesting. It would also be interesting to reproduce stories of unlearning during post-war food system intensification when most Dutch farmers transitioned from predominantly small-scale and organic farming methods to high-tech and efficient businesses. However, unlearning in the far past may be difficult to recall.

6.3. Implications for sustainability transition studies and future research directions

I end this thesis with an elaboration on conceptual and empirical suggestions for future research, which were alluded to in the different chapters. I discern four possible research avenues for transition and other scholars interested in societal change and food system transformation dynamics.

6.3.1. Foregrounding unlearning in transitions research

The empirical research in this thesis has given insight into the dynamics of unlearning in sustainability transitions. However, it has also opened many opportunities for more research on unlearning, including those that would tackle the abovementioned limitations of my research design and approach. Therefore, I invite the sustainability transition community to undertake further empirical research on unlearning by examining different cases (beyond the food system) within different geographies (beyond the Netherlands) and across several relevant actors in sustainability transitions (beyond the ***"usual suspects"*** in sustainability transition research committed to sustainable alternatives, like CSAs). This continued investigation would complement my conclusions and triangulate the findings of this research.

To further foreground unlearning in transition theory, I have three recommendations based on the propositions in **Figure 6.1.** First, in capturing unlearning beyond its strategic notions, this thesis conceptually calls for more attention to diverse expressions of unlearning in sustainability transitions and, in particular, more explicit recognition of its pedagogical relevance. Hitherto, transition scholars who have referred to unlearning to transition theory (e.g. Nygren et al. 2017; van Mierlo and Beers 2020) have predominantly drawn from organisational theory, while

connections to postcolonial and feminist perspectives on unlearning have remained absent. Given the recognised need to diversify and decolonise sustainability transition research (Preuß et al. 2021; Truffer et al. 2022), this thesis encourages sustainability transition scholars to foreground how prejudice, privilege, and biases hamper moving socio-technical regimes beyond prevailing unsustainability. Indeed, scholarly and activist work on unlearning racism, gender biases, and subjectivities may continue to provide valuable insight and inspiration on how unlearning informs processes of transformative socio-cultural change (e.g. Cochran-Smith 2003; Choi, J. 2008; Cirnu 2015). Transition scholars are advised to start including these insights to capture unlearning more comprehensively, beyond alluding to its strategic relevance.

Second, I see relevance in promoting an unlearning agenda alongside the upcoming field of studying emotions in sustainability transitions (e.g. Martiskainen and Sovacool 2021; Bogner et al. 2024). In particular, I urge the sustainability transitions community to better recognise and acknowledge the plurality of emotions evoked as part of unlearning processes. For example, this thesis showed how unlearning may be an uncomfortable – or even emotionally painful experience– when learners are asked to rethink their habitual behaviours and practices or confront their conscious and unconscious biases and stereotypical thinking. In addition, it suggests that unlearning can help to navigate the (negative) feelings of discomfort, unease, anger, and loss, also known as ***"transition pain"*** (Bogner et al. 2024:2) experienced in sustainability transitions and phase-out (Feola 2019; Bogner et al. 2024). Moreover, foregrounding unlearning as an emotional process in sustainability transitions, I also encourage further research on and with ***unlearning facilitators*** as they may provide the tools to deal with the abovementioned emotions in practice. For example, a more systematic study is warranted of teachers' characteristics, roles, and responsibilities as unlearning facilitators and the different mechanisms and interventions they may use to help students cope with transition pain.

Finally, I urge the transition community to find creative ways to foreground unlearning in transition theory. I am grateful for my discussions with the Casco Art Institute, Utrecht, during my PhD, which inspired me to think creatively about facilitating unlearning. While

remaining outside the scope of my thesis, I see relevance in exploring how creative methods and arts may aid in the facilitation of unlearning in and for sustainability transitions, including techniques like absurdity and exaggeration (Bhattacharya 2020) and forms of poetic (Rawlinson 2020) and comedic inquiry, such as the ***Human Pollination Project*** designed by Laura Allcorn: ***"a toolkit that allows you to be a bee, . . . intended to provoke questions about the social and environmental implications of colony collapse disorder"*** (Institute for Comedic Inquiry 2009). In addition to finding creative ways to foreground unlearning in transition theory, these new and creative methods may allow the sustainability transitions community to discover ways to unlearn ***their*** research practices.

6.3.2. Recognising and creating unlearning spaces

This thesis introduced the notion of ***unlearning spaces*** as settings and environments judged likely to encourage unlearning. The studied unlearning spaces for this research included physical spaces such as the CSA farms studied in **Chapter 3**, the classroom in Chapter 5, and social spaces in ways that the CBG studied in **Chapter 4** were considered spaces for unlearning. I cast these cases as unlearning spaces within the food system and emphasised (a) their ability to engage multiple actors as active participants in a common process of reflection about different aspects of food system sustainability and (b) their potential to confront participating individuals with the limits of their previously acquired learning in (c) a ***"safe"*** environment with a supportive and caring atmosphere. In this view, this thesis alluded to the importance of creating supportive cultures and environments and the ***"right"*** conditions for processes of unlearning to arise (cf. McLeod 2020). Future research may further this proposition (see **Figure 6.1**) and explore what unlearning spaces entail and how they may be fostered. Specifically, I suggest transition scholars working on grassroots communities and those interested in local, transformative action for food system transformation should recognise these communities as potential unlearning spaces.

First, I elaborate on what framing grassroots communities as unlearning spaces implies for transition theory. Indeed, the findings of this thesis complement the proposition of Giuseppe Feola and the UNMAKING project[6] – within which this PhD research was embedded – that grassroots

6 UNMAKING: Societal transformation to sustainability through the unmaking of capitalism. For more

communities ***"unmake"*** and are ***"spaces for unmaking"*** (Feola 2019; Feola et al. 2021; Raj et al. 2022). The argument is that grassroots communities prefigure in terms of ***"generating novel bottom–up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved"*** (Seyfang and Smith 2007:585) and in terms of refusal and rejection. Elsewhere, several scholars working on experimentation in sustainability transitions have also alluded to the potential of ***niches*** – as shielded environments for experimentation– to ***"contribute to the deinstitutionalization of dominant, unsustainable configurations"*** (Fuenfschilling et al. 2019:222; Seyfang and Haxeltine 2012; Sengers et al. 2019). The findings of this thesis on facilitating unlearning and unlearning spaces further strengthen these arguments and evince grassroots communities and niche experiments as spaces of unmaking.

Chapters 3 and **4** cast different forms of alternative food communities (i.e. a self-harvest farm, a box scheme, and a CBG) as unlearning spaces for food system transformation. These communities have often been celebrated for their pioneering character and ability to learn about, develop, and experiment with alternative modes of food provisioning (Kirwan et al. 2013; Hake 2017; Rossi 2017). Indeed, this thesis found that members of alternative food initiatives also unlearn. For example, an unlearning perspective on the conversion to solidarity payment in a CSA farm (**Chapter 3**) revealed that this transition was not only about institutionalising a novel payment routine but was as much about actively rejecting a market-based payment scheme that contributed to self-exploitation and exclusion of non-White and less-affluent individuals – thus a shared refusal to become a privileged food community. To this end, research and practice on local, transformative action for food system transformation should interpret alternative food communities as unlearning spaces contributing to the deconstruction of unsustainability. An emerging research question could be, ***"How does membership in food communities help to uproot and confront unsustainable consumption practices and unlearn consumer roles and responsibilities?"*** (cf. Renting et al. 2012). For example, research participants mentioned how seasonality, seeing produce grow in variety, and the ***"bodily"*** experience of self-harvesting at a CSA farm made them reflect on what they expected from the goods

information, see unmaking.sites.uu.nl/about/

consumed (e.g. taste, looks, and availability) and what drove these expectations.

Finally, in its examination of unlearning within grassroots communities, this thesis may also inspire organisational scholars working on unlearning who predominantly examine unlearning within commercial organisations. Indeed, key differences between grassroots and commercial settings as unlearning spaces potentially influence why and how unlearning unfolds. First, as mentioned before, organisational scholars have tended to overemphasise external triggers and goal-performance mismatches in unlearning and argue that organisations should unlearn to remain relevant in changing environments (e.g. Tsang and Zahra 2008). Unlearning in grassroots communities may not necessarily be driven by an attempt to re-adjust and ensure environmental fit. Instead, it may be provoked by the attempt to break out of prevailing systems (Chatterton 2016). Second, organisational theory has often described unlearning as a consequence of top-down organisational policy that imposes the discarding of certain ways of doing in favour of others. Various scholars have emphasised the role of managers or management teams as facilitators and inhibitors in such organisational unlearning (Hedberg 1981; Akgün et al. 2007; Becker 2008). However, as many grassroots communities rely on democratic decision-making and distributed leadership responsibilities – including teams, committees, and working groups – calls for unlearning in these settings may be more horizontal, designed from the bottom up (Ornetzeder and Rohracher 2013; Krauss 2019; Degens and Lapschieb 2023). Third, grassroots communities are often characterised by fluid and fluctuating membership. While organisational theory considers internal changes as triggers for unlearning, it mostly captures irreversible and disruptive events such as mergers (Cegarra-Navarro and Wensley 2019). Within grassroots communities, internal changes are potentially more frequent and less disruptive, including the leaving and arriving of members and volunteers, and working groups. Hence, these fluctuations may trigger unlearning. Overall, the difference between unlearning processes in commercial or grassroots settings as unlearning spaces remains an interesting objective for future research.

6.3.3. Diversifying and pluralising phase-out

This thesis urged the sustainability transitions community to diversify research on phase-out and regime destabilisation (**Chapter 1** and **Intermezzo**). My research on unlearning was a first attempt to consider the phase-out of (i) socio-cultural dimensions (ii) at the individual and group levels. This section suggests how transition scholars may further pluralise phase-out beyond its usual application to material lock-in associated with technologies and substances.

Beyond material lock-in, Seto et al. (2016) identified two other lock-in types that could be the object of phase-out: ***"lock-in associated with governance, institutions, and decision-making [and] lock-in related to behaviors, habits, and norms"*** (p. 427). Whereas this thesis yielded interesting observations for the latter, transition scholars are encouraged to conceptualise and explore the phase-out of institutions. In its concluding section introducing future research avenues, **Chapter 2** proposed that phase-out scholars may draw inspiration from (disruptive) institutional work that discusses deinstitutionalisation as the activities of actors aimed at deliberately undermining existing institutions (Smink 2015; Novalia et al. 2022). However, empirical evidence on processes of deinstitutionalisation is still warranted. Another way to pluralise research on phase-out beyond material lock-in is to examine how phase-out may intervene in ***"financial"*** path dependencies (e.g. Gençsü et al. 2020). For example, what can transition scholars working on the phase-out of financial structures learn from theory and practice on (fossil fuel) divestment?

Moreover, in line with the aforementioned limitations, future research may consider phase-out as a multi-level process and examine the interactions between a technology ban at the system level and unlearning at the personal level. Relevant research questions may include, ***"How can (societal) unlearning encourage and justify bans? How can bans and planned phase-outs of certain technologies and practices trigger unlearning?"*** For instance, in **Chapter 2**, it would have been interesting to examine how the ban on hen battery cages and the associated debates could have resulted in the unlearning of certain consumption practices and industrialised agriculture.

6.3.4. Unlearning as a tool for degrowth transformations

Referring to the title of this thesis, I urge the sustainability transitions community to further explore what ***"unlearning unsustainability"*** entails. Specifically, I see potential in furthering the debate on ***what*** needs to be unlearned for sustainability transitions. Throughout this thesis, I kept a rather guarded approach to prescribing what needs to be unlearned to transform the food system. Moreover, in **Chapter 5**, I concluded on the importance of viewing unlearning as something that should emerge from students in response to their experienced moments of crisis and confrontation. Though I maintain that one should be mindful in imposing what practices, beliefs, and mindsets are to be unlearned to avoid the resistance or ***"nudging"*** of preferred behaviours, I now suggest how transition scholars may consider directionality in unlearning to prioritise certain sustainability transitions.

Discussions about directionality and steering sustainability transitions are increasingly prominent in transition theory and practice. An emergent policy paradigm aims to address urgent societal problems by formulating clear, timebound, and ambitious ***mission*** goals (Mazzucato 2018; Janssen et al. 2021). In terms of directionality, such mission-oriented approaches to systems' change increasingly suggest that completions of missions include ***"unlearning practices that are not in line with the mission"*** (Elzinga et al. 2023:10). Indeed, this way of thinking comes with expectations on what needs to be unlearned.

In addition, some transition scholars have called for a fundamental transformation of our economic system for sustainability transitions. The transition's agenda has been urged to address more fundamental questions ***"about sufficiency, limits to growth, alternative economic systems and deep changes on the demand side"*** (Köhler et al. 2019:22). It foregrounds new questions such as, ***"How can society support transitions to alternative social and economic systems or embark on fundamentally different pathways to sustainability?"*** (ibid). Feola (2020) suggested ***"the possibility that sustainability transitions may involve a fundamental change of the capitalist system, rather than within it"*** (p. 248) and studied the processes of deconstruction of capitalist modernity for the construction of post-capitalist realities (Feola et al. 2021). Similarly, this thesis has demonstrated that the capitalist political economy shapes and influences phase-out and innovation for

food system sustainability (Meadowcroft 2011; Lawhon and Murphy 2012; Newell 2019). As a future research avenue, **Chapter 2** proposed that the capitalist political economy should be accounted for and may become the object of phase-out to diversify sustainability transitions.

Referring to the interconnected justice and environmental objectives in transition studies, critical theories within the transitions field have increasingly pointed to the necessity of explicitly considering the ***"growth-imperative"*** that drives unsustainability in socio-technical regimes in the Global North (Newell and Mulvaney 2013; Feola 2020; Schmid and Smith, T. 2021). Hence, I contend that future research should consider unlearning a tool for ***post-growth*** or ***"degrowth"*** transformations, drawing attention to the question, ***"How can we unlearn our collective ideas of how our economies should function?"*** Moreover, reaching out to scholarship on degrowth prioritises a more explicit debate about the desired sustainability transitions.

Degrowth has become a recognised paradigm for identifying and critiquing systemic unsustainability rooted in capitalist, growth-based economies (Hickel 2021; Guerrero Lara et al. 2023). It assumes that as long as everyday practices in the Global North are linked to capitalist growth imperatives, sustainability transitions will be limited (Wilhite 2016; Feola 2020; Schmeltzer et al. 2022). Following D'Alisa et al. (2014), ***"Degrowth signifies a society with a smaller metabolism, but more importantly, a society with a metabolism, which has a different structure and serves new functions"*** (p. 3f). Hence, degrowth transformations are not just a matter of downscaling but a question of doing things differently and shifting from an economy of efficiency, control, and extraction (i.e. profit-centred) towards an economy of sufficiency, care, and reciprocity (i.e. wellbeing-centred) (D'Alisa et al. 2014; McGreevy et al. 2022; Schmeltzer et al. 2022; Buch-Hansen and Nesterova 2023).

The degrowth literature has discussed phase-out to some extent. For example, degrowth proposals, such as those identified by Fitzpatrick et al. (2022), embrace phasing-out policies for unsustainable technologies, substances, and practices through proposals such as the following:

> ***"... banning political donations, banning fossil fuel lobbyists from climate agreements, ... reducing overproduction, that is goods and services that***

> *are resource intensive while contributing little to collective wellbeing (often cited examples include pesticides, advertising, arms, beef, flying, and SUVs) . . . discouraging luxury consumption (for example through boycotts, flying quotas, progressive taxes on consumption, taxes on secondary houses, excise tax on sports cars, yacht, and private jets."* (p. 7)

Thus, future research could more systematically explore destabilisation and phase-out within the degrowth literature.

In addition, degrowth suggests that achieving a more sustainable future necessitates strategies to unveil and disrupt our (societal) addiction to growth that perpetuates unsustainability (Fitzpatrick et al. 2022; Schmeltzer et al. 2022). It involves a critical reflection and transformation of who we are, how we relate to each other, and our place in the world (Latouche 2009; Buch-Hansen and Nesterova 2023). In this, I recognise my proposition in **Chapter 1** that sustainability transitions involve unlearning (a) socio-cultural dimensions at (b) the personal level. Therefore, this thesis's empirical findings may yield a provisional perspective for degrowth scholars working on socio-cultural changes. Specifically, they may consider ***"unlearning as a tool"*** to help reduce the reliance on the dominant ideology of infinite growth ingrained in every aspect of our individual and collective lives.

The aforementioned workshop toolkit on ***"degrowth and food system transformation"*** (**Section 6.2.3**) exemplifies such a tool. The goal of the workshop is for participants to consider the links between the struggle for more just and ecologically viable food systems and the core ideas of degrowth transformation, thereby thinking about strategies to overcome obstacles for a food system transformation rooted in societies' current pursuit of endless economic growth. I consider the toolkit an unlearning exercise that integrates creative and interactive methods to facilitate unlearning institutionalised ***"growth"***.

Chapter 4 similarly expressed that explicitly considering a ***"postcapitalist possibility"*** (Schmid and Smith, T. 2021) in food communities could happen by collectively taking the time to understand the political economy and operational logic of contemporary capitalist agrifood systems. Thus, considering how alternative food communities are framed as ***"templates for the reconfiguration of capitalist society"*** (Goodman et al. 2012:3, also see

Vincent and Feola 2020), future research on food system transformation should explore more explicitly to what extent grassroots communities such as CSA can be understood as spaces to unlearn capitalism and how the unlearning of growth-based mindsets may unfold in such initiatives. Future questions may include: How do we unlearn growth mindsets and capitalist assumptions that dictate how we organise current food systems? How do grassroots communities in the food system facilitate such degrowth-specific unlearning processes?

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Appendices

A. Timeline and main events: phase-out of hen battery cages in the Netherlands

Year	Action	Source
1960s	Commercial introduction of battery cages in the Netherlands.	Blokhuis and Metz 1992 de Boer and Cornelissen, 2002 Mollenhorst and de Boer, 2004 de Lauwere et al. 2006
1971	Activist group *Lekker Dier* organised a protest at Flevohof amusement park.	Verdonk 2012
1973	'Husbandry and Animal Welfare Committee' was installed by the Dutch National Council for Agricultural Research (NLTO).	Blokhuis and Metz 1992 Blokhuis and Metz 1995
1975	The Husbandry and Animal Welfare committee installed by the NLTO published the report: *'Veehouderij – Welzijn Dieren'*.	Blokhuis and Metz 1992 Blokhuis and Metz 1995 Hopster 2010
1976	The 'Convention on the Protection of Animals kept for Farming Purposes' was published by the Council of Europe (COE).	COE 1976 Appleby 2003
1979	Possible ban on battery cages was first discussed by the EU Council of Ministers of Agriculture	Blokhuis and Metz 1992 Mollenhorst and de Boer 2004
1985	The Dutch 'Law establishing minimum requirements of keeping laying hens' came into effect ensuring a minimum cage area of 425cm^2.	Rijksoverheid 1983
1988	The EU directive 88/166/EEC came into effect ensuring minimum requirements for all newly built cages from January 1988.	EEC 1986 Blokhuis and Metz 1995 Appleby 2003 Mollenhorst and de Boer 2004
1995	The requirements of EU directive 88/166/EEC applied for all battery cages.	EEC 1986 Blokhuis and Metz 1995 Appleby 2003 Mollenhorst and de Boer 2004
1997	Action group *Wakker Dier* was established	Savelkouls 2013
1998	LTO and PVE published their vision for the future of poultry farming (1998-2004)	Brinkman 1998 Brunt 1998
1998	*Dierenbescherming* (Dutch society for the protection of Animals) and *Stichting Natuur & Milieu* (Nature & Environment foundation) publish a report 'Samen hokken of samen Scharrelen'.	NRC 1998 de Jong-Timmerman 2003
1998	Minister of Agriculture Apotheker announced a 'growth stop' for the poultry sector.	Vermeulen 1999 Meij 2003

Year	Action	Source
1998	The Dutch Ministry of Agriculture appoints the Alders committee to explore how to restructure the poultry sector according to sustainability principles	Brinkman 1998
1999	The EU decided that all battery cages had to be phased out by 2012 (directive 1999/74/EC). The Dutch government decided to follow European guidelines rather than bringing forward the ban to 2009.	EC 1999 Appleby 2003 Fiks et al. 2003 Mollenhorst and de Boer 2004 De Lauwere et al.,2006 Hopster 2010
1999	Alders committee on 're-orientation poultry farming in the Netherlands' presented its main recommendations in a report .	FD 1999 Severt 2003
2001	The Wijffels' Committee, installed by Minister Brinkhorst, publishes a vision report on the future of livestock farming (2010).	Bentum 2001 Moerland 2001 Meij 2003
2003	Avian Influenza epidemic hit the Netherlands	Severt 2003
2008	Minister Verburg supports the colony cage or 'kleingruppenhaltungen' rather than enriched cages as an alternative system for battery cages.	Pot and Termeer 2010 Leenstra et al. 2012
2012	Ban on battery cages in the Netherlands. Laying hens may only be kept in colony cages or alternative to cage housing systems.	Rijksoverheid 2010
2010	Manifesto on sustainable livestock farming is published and supported by >150 researchers in the Netherlands	Beukema 2010
2011	CDON sends a letter to Alders on 'mega stables'	CDON 2011
2018	CIWF published a report advocating for all cage ban in the Netherlands.	CIWF 2018
2021	End of transitional period for farmers in the Netherlands who had invested in enriched cages before 2008.	Rijksoverheid 2010

B. Overview of fieldlab sessions on participatory guarantee systems (PGS)

Fieldlab	Objectives	Target audience	Working methods	Conclusion(s)	Follow-up
Session 1 'Define'	Getting to know each other and discovering PGS. Overview of values underpinning a sustainable and local food system and identifying key themes.	Members CBG Producers CBG Other regional producers	Individual reflection (journaling) Presentations Brainstorming Group discussions	Overview of values that were grouped into different themes (economy, ecology, collaboration, community and identity, education)	Interpreting and further developing the themes and core values. Translation into the way the CBG operates.
Session 2 'Define' 'Measure'	Deepening themes and core values for the way the CBG operates.	Members CBG Producers CBG Other regional producers	Individual reflection (journaling) Small-group discussion (rotating) Group discussion	The CBG should develop a framework around sustainability criteria and entry requirements.	A deeper conversation is needed with CBG members on entry requirements for producers and on the tension between 'sustainable versus./ and local' food.
Session 3 'Measure'	Reaching a group agreement about minimum criteria for producers. Specific focus on theme 'ecology'	Members CBG (without producers)	Individual reflection (journaling) Consent-based group process (building on specific scenarios)	Group agreement around the definition of sustainable food in a local context.	Making the concept of sustainability more concrete in terms of entry requirements for producers.
Session 4 'Measure' 'Assess'	Discussing how the CBG decides if non-certified producers fit the sustainability vision of the CBG.	Members CBG (without producers)	Presentations Group discussion	Decisions on short- and medium-term follow-up steps Motivation to start a process that evolves with the development of the CBG.	Discussion on transparency and continuing farmer-citizen dialogues.

Fieldlab	Objectives	Target audience	Working methods	Conclusion(s)	Follow-up
Session 5 'Assess'	Feedback to CBG producers of decisions and conversations of the CBG. Initiating dialogues and formulating guidelines for transparency between producers and consumers of the CBG.	Members CBG Producers CBG Other regional producers	Presentations Imagination exercises and role-playing Small-group discussion	The value of (open) dialogue for both producers and consumers, and the need for conversation-starters to facilitate such dialogues. Transparency about production methods is desired.	Further developing the frameworks for farmer-citizen dialogues (form and content) Online transparency both for producers and for consumers.

List of publications and conference presentations

Academic publications

Guerrero Lara, L., **van Oers, L**., Smessaert, J., Spanier, J., Raj, G., & Feola, G. (2023). Degrowth and agri-food systems: A research agenda for the critical social sciences. ***Sustainability Science***, 1–16. https://doi.org/10.1007/s11625-022-01276-y

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Non-academic publications

Raj, G., Smessaert, J,. Spanier, J., **van Oers, L.,** Guerrero Lara, L and Ceelen, I. (2023). Degrowth and food system transformation. A workshop toolkit. Designed by Bomburo, pp 1–31

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van Oers, L. en Smessaert, J. (2022). Participatieve garantiesystemen (PGS) voor Buurtmarkten. Een instrument voor boer–burger dialogen. Copernicus Instituut voor Duurzame Ontwikkeling, Faculteit Geowetenschappen, Universiteit Utrecht, pp. 1–24

van Oers, L. (2019). Een duurzaam voedselsysteem vraagt om meer dan innovatie: een pleidooi voor een 'exnovatiestrategie' in voedselbeleid**.** In: Lanjouw, J. (Ed.) Boze boeren, LED-lampen en kipdino's. Uitgeverij van Gennep, pp. 117–126

Conference presentations

Year	Conference	Location	Presentation title	Chapter
2020	International Sustainability Transitions Conference (IST)	Vienna (Online)	Exnovation for sustainability transitions	**2**
2020	NEST conference	Zurich (Online)	Sustainability transitions and exnovation: broadening an emerging research field with insights from political economy	**2**
2021	International Sustainability Transitions Conference (IST)	Karlsruhe (Online)	Unlearning in sustainability transitions	**3**
2021	NEST conference	Sofia (Online)	Sustainability transitions as processes of unlearning	**3**
2021	SPRU PhD Forum	Brighton (Online)	Setting up a participatory guarantee system (PGS) with Dutch food communities: the unmaking of capitalist agri-food systems	**4**
2021	Boerenlandbouw-conferentie	Dordrecht	Participatieve garantie systemen (PGS) in Nederland	**4**
2022	Voedsel Anders Conferentie	Wageningen	Samen uitgangspunten voor duurzaamheid maken: Participatieve Garantie Systemen in Nederland	**4**
2022	NEST conference	Lyon	(Un)making roles, responsibilities and expertise in food collectives: setting up a participatory guarantee system (PGS)	**4**
2022	Invitational Seminar on Environmental & Sustainability Education Research	Ghent	Unlearning in grassroots innovations for sustainability: Rethinking payment in community-supported agriculture (CSA)	**3**
2022	Royal Geographical Society Annual International Conference (RGS)	Newcastle (Online)	The politics of deliberate destabilisation for sustainability transitions	**2**
2023	European Forum for Studies of Policies for Research and Innovation (EU-SPRI)	Brighton	The politics of deliberate destabilisation and phase-out	**2**
2023	Rural Sociology Conference	Groningen	Setting-up a participatory guarantee system with a Dutch consumers' buying group	**4**

Year	Conference	Location	Presentation title	Chapter
2023	International Sustainability Transitions Conference (IST)	Utrecht	Community-supported agriculture as spaces to unlearn capitalism? Evidence from two Dutch cases	**3**

* **Chapter 5** *has not been presented at conferences*

Summary

This thesis aims to develop the concept of ***unlearning*** to diversify accounts of destabilisation and phase-out processes in sustainability transition studies. Sustainability transitions involve shifts from unsustainable socio-technical regimes to make space for more socially or environmentally benign alternatives. Governance through phase-out can facilitate such regime shifts, which concerns the intentional termination of unsustainable arrangements.

Conceptually, this thesis suggests phase-out beyond narrowly focused policies to discontinue unsustainable technologies and substances. It considers how research and practice on phase-out may shift from the ***"material"*** as its mere unit of analysis to ***"social"*** and ***"cultural"*** dimensions of socio-technical regimes. I suggest using the notion of unlearning for this specific ambition. Unlearning is a well-established and often researched concept in adjacent theoretical fields capable of eliciting the phase-out (i) of socio-cultural dimensions (ii) at the individual and group level.

In **Chapter 1**, I identify several limitations of current research and practice on phase-out, proposing to diversify and pluralise the concept for sustainability transition studies. I delineate three possible ways to further broaden the concept. First, phase-out often relates to material lock-in, and the dimension undergoing termination is typically a technology or substance, overlooking socio-cultural dimensions of regime stability. Second, phase-out research and practice seem to overlook the personal sphere of transformation, in which individuals purposefully distance themselves from or discard routinised behaviours and taken-for-granted beliefs in search of more sustainable alternatives. Finally, current studies on phase-out typically focus on the energy sector in a manner that proposes fossil (technology) phase-out to decarbonise societies. Hence, this thesis mobilises and examines the concept of unlearning in the context of the Dutch food system to address these research gaps in sustainability transition studies.

In **Chapter 2**, I illustrate the limits of technology phase-out in sustainability transitions and direct attention to ***"what remains"*** when phase-out focuses solely on the material dimensions of socio-technical regimes. I confront the politics of hen battery cage phase-out in the Netherlands by bridging research on the political economy of sustainability transitions with recent theorisations about the deliberate destabilisation of unsustainable socio-technical regimes.

In particular, this study reflects how phase-outs may face deeply rooted socio-cultural practices, beliefs, and mindsets associated with maintaining unsustainability. I suggest that the concept of unlearning is most fitting to study such phase-out processes.

Therefore, this thesis builds on scholarly work and activism on unlearning in organisational theory and postcolonial and feminist studies to develop the notion of unlearning for empirical research in sustainability transition studies (**RQ I)**. Furthermore, I study whether and how processes of unlearning unfold in three selected transition processes in the Dutch food system, applying a qualitative research approach (**RQ II**). Finally, theorising on the relevance of unlearning to sustainability transitions, I examine how processes of unlearning may be facilitated (**RQ III**).

Chapters 3–5 are qualitative, empirical studies of physical and social ***"unlearning spaces"*** in the Dutch food system. Participants may be confronted with the limits of their previously acquired learning in unlearning spaces. What characterises the selected unlearning spaces in this thesis is their ability to engage multiple actors as active participants in a common process of reflection regarding different aspects of food system sustainability.

Chapter 3 examines manifestations of unlearning in the conversion to solidarity payment that occurred within two Dutch community-supported agriculture farms. By reconstructing the narrative of this conversion, I elicit various expressions on unlearning by farmers and community members. **Chapter 4** explores the social processes of local community transformation, including (un)learning, that shape and influence whether and how a consumer-buying group defines, measures, and analyses local sustainability. For this study, Jacob Smessaert and I designed and facilitated a temporary fieldlab on participatory guarantee systems. Finally, **Chapter 5** discusses how unlearning may be facilitated and designed into agricultural education. In conversation with teachers from a course on family-farm succession in secondary vocational education (MBO), this chapter explores how to facilitate unlearning sub-processes and the role and responsibilities of teachers as ***"unlearning facilitators"***.

Chapter 6 answers the thesis' main research questions, synthesises findings from the empirical chapters, and proposes how transition scholars may mobilise my observations and conclusions to study sustainability transitions

within and beyond food systems. Combining my literature review and empirical findings on unlearning in sustainability transitions, this thesis develops nine propositions for sustainability transition studies: **(i)** unlearning involves the distancing and discarding of skills and practices; norms, values, and beliefs; and mindsets and worldviews; **(ii)** unlearning is intentional, not accidental; **(iii)** unlearning can be triggered by ***"forms of crises"*** and/or ***"forms of confrontation"***; **(iv)** unlearning is a process that consists of different sub-processes; **(v)** unlearning may support the adoption of new skills and practices; norms, values, and beliefs; and mindsets and worldviews; **(vi)** unlearning has strategic and pedagogical relevance; **(vii)** unlearning is a personal and (generatively) confrontational process, which may be characterised as emotionally painful and hampered by socio-cultural dynamics; **(viii)** unlearning may be enabled by ***"unlearning facilitators"***, who may inspire and support individuals who are unaware or reluctant to unlearn; **(ix)** and ***"unlearning spaces"*** are important to trigger and nurture unlearning and sustainability transitions.

Then, after delineating reflections on my research practice, I close this thesis with four implications for future research. In sum, I urge transition scholars to start or improve how they **(i)** foreground unlearning in transition theory, **(ii)** recognise and create unlearning spaces, **(iii)** diversify and pluralise phase-out, and finally, **(iv)** discuss ***"what"*** needs to be unlearned for sustainability transitions, in particular how unlearning can be a tool for degrowth transformations.

Samenvatting in het Nederlands

Dit proefschrift beoogt het concept van ***unlearning*** ('afleren') te ontwikkelen om studies naar afbouw en uitfasering in duurzaamheidstransities te verruimen. Duurzaamheidstransities betreffen verschuivingen binnen onduurzame socio-technische regimes waarbij er ruimte wordt gecreëerd voor sociaal en/of ecologisch verantwoorde alternatieven. Sturing op uitfasering door middel van beleid kan een dergelijke regimeverschuiving faciliteren, en daarmee de bewuste afbouw van onduurzame systemen stimuleren.

Vanuit een conceptueel oogpunt stelt dit proefschrift afbouw en uitfasering voor die verder gaan dan het beëindigen van onduurzame technologieën en producten. Het beschouwt hoe het onderzoek en de uitvoering van uitfasering kunnen verschuiven van het "materiële" als analyse-eenheid naar de "sociale" en "culturele" facetten van socio-technische regimes. Ik stel voor om het begrip ***unlearning*** te gebruiken voor deze specifieke ambitie. Unlearning is een geaccepteerd en vaak onderzocht concept in verschillende theoretische velden en kan helpen om de geleidelijke uitfasering (i) van sociaal-culturele dimensies (ii) op individueel en groepsniveau beter te begrijpen.

In **hoofdstuk 1** identificeer ik een aantal beperkingen binnen het huidige onderzoek naar uitfasering en afbouw, en onderbouw ik hoe deze concepten verbreed dienen te worden voor het begrijpen van duurzaamheidstransities. In het eerste hoofdstuk schets ik drie mogelijke manieren om de concepten verder te verruimen. Ten eerste heeft uitfasering vaak betrekking op de materiële ***lock-in***. Het onderwerp van afbouw is meestal een technologie of product, waarbij sociaal-culturele facetten van regimestabiliteit meestal over het hoofd worden gezien. Ten tweede gaan onderzoek en praktijkervaringen met uitfasering te vaak voorbij aan het persoonlijke deel van de transformatie, waarin individuen doelbewust afstand nemen van routinematig gedrag en vanzelfsprekendheden. Tot slot richten huidige studies over uitfasering zich voornamelijk op de energiesector op een manier die de afbouw van het fossiele regime voorstelt om de uitstoot van CO_2 te reduceren. Dit proefschrift onderzoekt het concept van ***unlearning*** in de context van het Nederlandse voedselsysteem om deze drie beperkingen aan te pakken.

In **hoofdstuk 2** illustreer ik de tekortkomingen van technologie-uitfasering voor duurzaamheidstransities door aandacht te richten op ***"wat er overblijft"*** wanneer uitfasering zich uitsluitend richt op het materiële deel van socio-

technische regimes. Ik bestudeer de politiek van de (historische) uitfasering van legbatterijen in Nederland door onderzoek over de politieke economie van duurzaamheidstransities met recente ideeën over de afbouw van niet-duurzame socio-technische regimes te combineren. In het bijzonder weerspiegelt mijn studie hoe de uitfasering van legbatterijen sterk beïnvloed werd door diepgewortelde sociaal-culturele praktijken, overtuigingen en denkwijzen die geassocieerd worden met het in stand houden van onduurzaamheid. Vervolgens beargumenteer ik dat het concept ***unlearning*** zeer geschikt is om op sociaal-cultureel niveau processen van uitfasering te bestuderen.

Dit proefschrift bouwt voort op wetenschappelijk werk en activisme over ***unlearning*** in organisatiestudies en postkoloniale en feministische studies om het begrip ***unlearning*** te ontwikkelen voor empirisch onderzoek in duurzaamheidstransitiestudies (**Onderzoeksvraag I**). Verder bestudeer ik hoe processen van ***unlearning*** zich ontvouwen in drie geselecteerde transitieprocessen in het Nederlandse voedselsysteem, waarbij ik een kwalitatieve onderzoeksbenadering toepas (**Onderzoeksvraag II**). Ten slotte, theoretiserend over de relevantie van afleren voor duurzaamheidstransities, onderzoek ik op welke manier processen van ***unlearning*** kunnen worden gefaciliteerd (**Onderzoeksvraag III**).

De **hoofdstukken 3-5** zijn kwalitatieve, empirische studies van fysieke en sociale "***unlearning*** ruimtes" in het Nederlandse voedselsysteem. Deelnemers kunnen binnen dit soort ruimtes geconfronteerd worden met de grenzen van hun eerder verworven kennis. Wat de geselecteerde ***unlearning*** ruimtes in dit proefschrift kenmerkt, is hun vermogen om meerdere actoren als actieve deelnemers te betrekken bij een gemeenschappelijk proces van reflectie over verschillende aspecten van duurzaamheid van het voedselsysteem.

Hoofdstuk 3 beschrijft de rol en uitingen van ***unlearning*** in de omschakeling naar solidaire vergoedingen die plaatsvond binnen twee Nederlandse initiatieven voor gemeenschapslandbouw (CSA). Door het verloop van deze omschakeling te reconstrueren, maak ik deze verschillende uitingen – als ervaren door de tuinders en overige leden van de gemeenschap – zichtbaar. In **hoofdstuk 4** bestudeer ik de sociale processen van lokale gemeenschapstransformatie en analyseer ik hoe deze processen vormgeven aan, en invloed hebben op de manier waarop een buurtmarkt (CBG) lokale duurzaamheid definieert, meet en analyseert. Voor deze studie hebben mijn collega Jacob Smessaert en ik een tijdelijk ***fieldlab*** over participatieve garantiesystemen (PGS) ontworpen en

gefaciliteerd. Tot slot beschrijf ik in **hoofdstuk 5** hoe *unlearning* vormgegeven kan worden binnen agrarisch onderwijs. In gesprek met docenten van een cursus over duurzame bedrijfsovername in het middelbaar beroeps onderwijs (MBO) verkent dit hoofdstuk hoe deelprocessen van *unlearning* gefaciliteerd kunnen worden en de rollen en verantwoordelijkheden van docenten als "*unlearning* facilitatoren".

Hoofdstuk 6 beantwoordt de belangrijkste onderzoeksvragen van dit proefschrift, voegt de bevindingen van de empirische hoofdstukken samen en stelt voor hoe transitiewetenschappers mijn observaties en conclusies kunnen gebruiken in vervolgstudies. Door literatuuronderzoek en empirische bevindingen over *unlearning* te combineren ontwikkelt deze dissertatie negen stellingen voor duurzaamheidstransitiestudies: **(i)** *unlearning* gaat gepaard met het afstand nemen en beëindigen van vaardigheden en praktijken; normen, waarden en overtuigingen; en denkwijzen en wereldbeelden; **(ii)** *unlearning* gebeurt opzettelijk, niet toevallig; **(iii)** *unlearning* kan worden uitgelokt door "vormen van crises" en/of "vormen van confrontatie"; **(iv)** *unlearning* is een proces dat bestaat uit verschillende deelprocessen; **(v)** *unlearning* kan de adoptie van nieuwe vaardigheden en praktijken, normen, waarden en overtuigingen, en denkwijzen en wereldbeelden ondersteunen; **(vi)** *unlearning* heeft strategische en pedagogische relevantie; **(vii)** *unlearning* is een persoonlijk en (generatief) confronterend proces, dat kan worden gekenmerkt als emotioneel pijnlijk, gehinderd door sociaal-culturele dynamieken; **(viii)** *unlearning* kan mogelijk worden gemaakt door ***"unlearning facilitatoren"***, die individuen die zich niet bewust zijn van, of aarzelen over ***unlearning,*** kunnen inspireren en ondersteunen; **(ix)** en ***"unlearning ruimtes"*** zijn belangrijk om ***unlearning*** en duurzaamheidstransities op gang te brengen en te voeden.

Na een reflectie op mijn onderzoekspraktijk sluit ik deze thesis af met vier implicaties voor vervolgonderzoek. Samenvattend raad ik transitiewetenschappers aan om te beginnen met, of te verbeteren in **(i)** *unlearning* op de voorgrond te plaatsen in transitietheorieën, **(ii)** plekken voor *unlearning* te herkennen en te creëren, **(iii)** de concepten afbouw en uitfasering verder te verruimen, en tot slot **(iv)** te bediscussiëren "wat" er moet worden afgeleerd voor duurzaamheidstransities, in het bijzonder hoe *unlearning* een hulpmiddel kan zijn voor *degrowth* transformaties.

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About the author

Laura van Oers (1991) was born in Roosendaal, the Netherlands. She moved to Utrecht in 2010 and enrolled in the bachelor's programme ***Natuurwetenschappen en Innovatiemanagement*** (EN: Science and Innovation Management) and successfully participated in the Faculty of Geosciences Honours programme at Utrecht University. Laura finished the master's programme ***Innovation Sciences*** at Utrecht University in 2017 (Cum Laude). During her master's studies, Laura completed electives from Wageningen University's ***Organic Agriculture*** programme. She interned at the Netherlands Enterprise Agency (RVO) in the final year of her master's programme (2016–2017) where she wrote her thesis on legitimacy creation in grassroots innovations, with the case of community-supported agriculture (CSA) in the Netherlands.

After completing her master's degree, Laura obtained a position at the Innovation Studies Group, Copernicus Institute of Sustainable Development, Utrecht University, where she worked as a junior researcher and teacher from 2017–2019. She contributed to the research project ***"the knowledge politics of smart urbanism (KNOWING)"***. Laura was additionally involved as a teacher in the Science and Innovation Management bachelor programme. She taught various courses and supervised theses and consultancy projects, for which she obtained her basic teaching qualification (BKO) in 2020. She was also a member of the Young Geo council.

Laura became part of the UNMAKING project in 2019 as a PhD candidate in Environmental Governance, Copernicus Institute for Sustainable Development, Utrecht University. Laura is an active member of the Dutch Degrowth movement ('Ontgroei') and was a board member for Voedsel Anders during her PhD. She organised various conferences and events, including several degrowth symposia in Utrecht and the International Sustainability Transitions (IST) conference in Utrecht.