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Chapter 8

Future challenges for the 'good farmer'

With this book we have brought together the literature that developed in relation to uses of the 'good farmer' concept to describe how farmers 'see' themselves and other farmers, notably after the seminal paper by Burton (2004), but not limited to his work. We have delved into the historic uses of the 'good farmer' term, analysing the early development of symbols and good farmer identities (Chapters 2 and 3). Good farming identity and judgements are clearly co-constructed with the land on which farmers work, the machinery and tools available to them, the commodities they produce and the families and communities with whom they work. The good in farming is ambiguously related to ideas both of performance and moral goodness (Chapter 5). Because defining who is a good farmer is inevitably related to positionality, the 'good farmer' can also serve as a lens to scrutinise power relations in farming communities and highlight those whose positions dominate the social norms. In Chapter 6, we clearly see a dominance of masculinity and heterosexuality in the representation of who can be a farmer, a dominance which may in part be reinforced by the 'good farmer' literature. Clearly there is no universal definition of a good farmer. As shown in Chapter 7 definitions are multiple, contextual and changing. They evolve in a constant dialogue within communities of practice and in interaction with wider society.

In this concluding chapter, we first return to the relationship between the social and cultural dimensions of agriculture and processes of change in agricultural and food systems. We offer an attempt to reconcile change and farmers' resistance by advocating an approach that would consider definitions of the 'good farmer' not as a barrier, as is often the case, but rather as a basis for dialogue and co-construction of futures in food and farming. As definitions of the good farmer are always challenged by changes in society, be they technical, political, or economic, we then offer an initial list of future challenges that farming populations will have to deal with in the coming years. Those processes of transformation will deeply impact what it means to be a farmer, and how to be a good one. Finally, we conclude with some suggestions about future developments of the 'good farmer' conceptualisation and potential methodological approaches.

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Farmers facing the transformation of future agri-food systems

Resisting disappearance

For much of the twentieth century, substantive rural policy and academic research revolved around what came to be known as the Agrarian Question: the survival and continued prevalence of family farming. Political economy analyses of the transition from feudal to capitalist agricultural production led to the predicted demise of family-based production under market capitalism (Newby, 1987). The presumption was a modernist one: of course science, technology, and industrialisation would replace those people responsible for food and primary commodity production. Both Marxist and Weberian theories supported classical economists' contention that family farms would disappear in the face of economies of scale. Although this clearly did not occur in the 20th century, in the 21st century the issue of the future forms of farming, and the role of farming families in these transition processes has reemerged.

The importance of the Agrarian Question for this book is the peculiar nature of the agricultural sector within late capitalism, reflecting specific land and household-held capital relations. Substantive debate on the issue in the 1970s and 1980s revived Chayanovian (1927) contentions from the early 20th century. Chayanov argued for the inherent resilience of family-based production: families tend to be more flexible than employees in their labour allocations, and are better able to navigate the low and fluctuating returns of agricultural commodity production. Kautsky (1899, 1988), another favoured source, argued that land was so intrinsically valuable to peasants that they would reduce production and sell their own labour in order to retain control over their land. Seminal work by Harriet Friedmann (1978, 1980) updated these debates, arguing that there is no single 'natural' capitalist form of agricultural production, simply forms which are viable under particular conditions. Friedman pointed specifically to the joint nature of family-held farms – that they are at once both a household influenced by broader socio-economic conditions, and a unit of production. Although aspects of agricultural production inevitably enter markets through modernisation, risks to profitability associated with weather patterns and volatile commodity markets have historically made agricultural production unattractive to non-agrarian capital, giving family-based farms a competitive advantage (Magnan, 2012, Alston, 2004).

Discussion of the Agrarian Question was largely abandonned in the early 1990s, reflecting disillusionment with Marxist approaches following the collapse of communism, and a broader cultural turn across the social sciences. Throughout the 20th and 21st century, changes to technology, markets and culture have been gradually eroding family farming's historic resilience as a form of production. The willingness of farm households to work for low or absent wages in order to maintain control of their land appears to be waning, as potential successors demonstrate their unwillingness to live in poverty (Burton and Farstad, 2020; Sutherland, 2015). Reproducing the farm (i.e. transferring it between generations) was once considered as important as reproducing the household (i.e. successfully raising children), but contemporary farming parents are similarly less willing to subject their offspring to the financial hardships of contemporary farming (Villa, 1999). Changes to technology as well as new health and safety requirements make it more difficult to socialise children into the skills and values underpinning the farming profession (Fischer and Burton, 2014). Although there is a cohort of newcomers entering the agricultural field, new entrants struggle to access the land and capital needed to establish their farms, often pursuing 'alternative' approaches both for ideological reasons, and to enable profitable production from minimum resource investment (EIP Agri Focus Group, 2017). While these newcomers bring much needed innovation and energy to the agricultural sector, their numbers remain limited.

The erosion of farming culture from within is matched by broader societal critique. In the US context, Wendell Berry wrote about how popular culture in the US aims to denigrate farmers of all kinds. What this narrative of farming does is to:

> obliterate any concept of farming as an ancient, useful, honorable vocation, requiring admirable intelligence and skill, a complex local culture, great patience and endurance, and moral responsibilities of the gravest kind (Berry, 2002, no page).

Very often, discourses on climate change, biodiversity preservation and water security identify farmers as the problem, rather than the solution. As a counterpoint, farmers can be also glorified as guardians of the 'real moral values', in the tradition of classical agrarianism (e.g. Flinn and Johnson 1974), which often endorses "'natural'/harmonious rural-based small-scale economic activity (peasant family farming, handicrafts) and culture (religious/ethnic/national/ regional/village/family identities derived from Nature)" as opposed to a supposedly more and

more depraved urban society (Brass, 2000, p. 272). In a context of rising right-wing populism in the European countryside, family farming and rural life might become a contested ideological field between authoritarian populism and a renewed and progressive agrarianism based on ideas of food and local sovereignty (Mamonova and Franquesa, 2020; Scoones et al., 2018). Highly idealised notions of farming are evident in agri-tourism offerings (Flanigan et al., 2014) and computer games (Sutherland, 2019a) which present sanitised versions of farming life for popular consumption. The ideological glorification of peasants or farmers' moral values and the commodification of farming activities as leisure practices shows as little respect to the social reality of farming as the previous technological idealism.

If we think of the idea of 'the good farmer' in the context of the wider Agrarian Question, then to think of oneself and others as a good farmer could be understood as an act of resistance to a wider notion that farmers do not matter to society. Simply continuing to exist and practice family farming could be considered an act of resistance. In a recent book on the history of African-American farmers using food and farming as a survival and, thus, resistance strategy, White (2018) describes how cooperatives, demonstration farms, and African-American extension programs served as what she calls collective agency and community resilience (CACR). What White shows is that farming and agriculture offer a way to carve out independent lives under difficult circumstances. In many ways her argument parallels other agri-food work on the centrality of autonomy and freedom (including repeasantisation, van der Ploe 2008) to both farmers' identity, but also their practices with particular focus on their ability to secure credit, land, contracts, and all the other necessities related to the ability to continue to build a farm operation. Further, the wider agri-food literature continues to anticipate what the future of farming might look like. While the Agrarian Question took a decidely negative tone, when will they disappear? What do farmers have to offer the future? This includes utopian ideas that have emerged out of some of our earlier work related to the good farmer literature (Forney et al., 2018; Forney and Stock, 2014; Nelson and Stock, 2018; Stock et al., 2014; Stock and Forney, 2014).

White's (2018) theroretical framework combines individual everyday acts of resistance with ideas of community resilience drawn from James Scott (and others). For Scott (especially in *Weapons of the Weak* [1985]), peasants (including sharecroppers and other marginalised agriculturalists and pastoralists) primarily seek the ability to maintain subsistence – a right to

exist. Writ large, farmers in the 20th century and the Agrarian Question as a whole have seen farmers' extinction as inevitable. Thus, the wider conflict emerges between a farmer's right to their existence as a farmer (in some contexts, also as a person) and modernist presumptions about what the world can and should look like which often excludes farmers. Thus, to make a claim to be a good farmer is an act of resistance. The idea of resistance then does not necessarily choose what kind of farming is better or worse, but that to keep farming is an act of resistance in and of itself. Thus, to be a new farmer is to join in that resistance (Darby, Hossler and Stock 2019; Stock, Hossler and Darby, 2019).

The good farmer as solid ground for building sustainable food systems?

Resistance to change appears to be central to the 'good farmer' approach. The good farmer framing is often applied in research when the introduction of new policies or practices in agriculture has been strongly opposed by farmers and, consequently, the behavioural change promoted has failed to materialise. Here the 'good farmer' is recruited because the desired behavioural change (for example, community forestry – Burton, 1998) leads to a level of community-wide resistance that extends beyond any economic rationale and, at the same time, is justified in terms of deeply held personal beliefs about what it is to be a farmer. In these studies, the 'good farmer' is often seen as representing the influence of traditional values and, in this sense, the term can hold negative connotations as a restriction on socially desired or technological progress in agriculture. However, as we outlined in Chapter 3, this is not the case. The good farmer is constantly adapting to changing technologies, broader expectations for social behaviour (e.g. gender roles) and changing expectations for the role of agriculture in society (e.g. environmental). The good farmer could indeed be a farmer reluctant to introduce change – if the peer group happens to consist of similarly oriented farmers – but is more commonly a farmer at the top of his/her game in terms of farming and that means constantly responding to changing social, environmental and economic conditions to stay in farming.

We see the value of the 'good farmer' concept to policy-makers as not so much helping to make errant farmers adapt to policy, but rather helping policy-makers understanding how policies can be designed to be culturally sustainable. An example of this lies in the failure of many action-based agri-environmental schemes to promote a cultural change in attitudes to the environment. Burton and Paragahawewa (2011) argue that conventional agri-environmental schemes fail

because prescribed environmental activities that are invisible in the landscape and are viewed by a farming community with no understanding of what 'good conservation farming' is, do not enable cultural and social capital to be generated in the same way as conventional agriculture. They further contend that economic incentives alone are not enough to change farming cultures because these incentives do not compensate for the loss of non-economic capital. Policies therefore need to be designed such that they:

> do more than pay unenthusiastic participants to perform tasks that are seen as unnecessary and even morally questionable, but rather are structured in a manner that enables their embedding within farming cultures to produce long-term change (Burton and Paragahawewa 2011, p. 102).

Even where change is slowed by deeply held cultural beliefs associated with the good farmer, the consequences are not necessarily negative. Rather, holding to cultural beliefs may act as a buffer against poor policy decisions. For example, UK farmers routinely point to the subsidies that funded them to remove hedgerows in the 1960s and early 1970s (a policy that was resisted by many) that were reversed shortly after joining of the European common market in 1973 as the value of hedgerows for conservation was recognised. 'Good farmers' who had not removed their hedgerows were vindicated by policies that encouraged replanting. In a profession where change is measured in generations there is a certain level of wisdom to not acting in haste – whereas for politicians anxious to be seen as fulfilling to the will of the voting population, haste is often seen as necessary. Likewise, resistance to change associated with the 'good farmer' pits years of accumulated practice-based knowledge (often geographically specific) against the scientifically-based knowledge of policy-makers – and introduces an understanding of locally specific agricultural conditions that are not addressed with policies implemented at the national or international scale. Moral aspects of the good farmer may further assist the development of functioning rural communities and thus help maintain the condition of rural areas and their continuation in agriculture.

In performing these roles in food production the 'good farmer' *inadvertently* contributes to the development of sustainable food futures. However, in other cases, farming cultures are *actively* engaging in the transformation to sustainable agri-food systems. A particularly prescient example is the introduction of organic agriculture and corresponding development of a new

'organic farmer' identity with accompanying notions of what it means to be a good organic farmer (Sutherland and Darnhoffer, 2012, p. 235). Here the authors witnessed the "gradual devaluation of old symbols of 'good faming'" which opened room for alternative definitions of the good farmer. Farmers could create new ways of being a good farmer without having to "convert" and change radically:

> instead of rejecting existing symbols and values outright and replacing them with others, individual farmers reflexively assess personal priorities within the broadened range of symbols and choose ways to realise them (Sutherland and Darnhoffer, 2012, p. 236).

This produces a range of approaches from those who are committed to the organic ideals to those who convert for more pragmatic reasons – however, all make the change by attaching to elements of the good farmer identity whether the ecological benefits of organic farming or the farmer's perceived obligation to farm survival. These new identities can be built further, based on environmental elements of the 'good farmer' identity (Wheeler et al., 2018) to eventually establish a correspondence between more sustainable forms of agriculture and farming cultures that believe in the 'good' of maintaining them.

Future Challenges for 'good farmers'

The economic, social, political and environmental contexts within which agriculture takes place have been constantly changing and farmers throughout history have adapted to these changes. Today farmers face significant challenges in order to persist persisting as farmers at the same time as addresing the multiple challenges of food security, environmental protection and climate change. As we established in Chapters 3 and 7, symbols and norms of 'good farming' are adapted in response to changing 'rules of the game', although these responses are often delayed and somewhat indirect. In this section we reflect on the changing rules of the game and what we know – and do not know – about their intersection with concept of the 'good farmer' in some of its possible futures. More specifically, we discuss seven evolutions of agricultural systems: the declining visibility of symbols; the increasingly contested notion of what a 'good farmer' is; the impact of advanced mechanisation and automation on farms; climate change and farming practices; synthetic proteins and food production without farmers (the 'second domestication' (RethinkX, 2019); agri-environmental schemes and payments by results; digital technologies and communication in food systems.

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Declining visibility of symbols

The changing 'rules of the game' addressed in this book are primarily: the development of scientific agriculture and mechanisation, the profitability of conventional production, and the financial and ethical opportunities of organic farming. As discussed in Chapters 2 and 3, the move from implements to machinery on farms in the 18th and 19th centuries changed the symbols of good arable farming from the appearance of a verdant carpet to one of straight and parallel lines, while developments in soil science removed the necessity of evaluating soil qualities using knowledge of the wild plants that grew in and around the fields. With the increased yields that resulted and helped, to no small extent, by the efforts of the agricultural improvers to change the definition of 'good farming', the concept of the tidy productive farm became the dominant sign of a 'good farmer'. Assisted by the financial advantages, farmers who adopted these innovations could afford to maintain their properties and invest in new machinery and were easily recognised by the condition of their livestock, fields and buildings – displaying something to which their neighbours could aspire. The visibility of symbols of good farming is now declining – hidden behind the doors of intensive barns, concealed in agri-environmental measures and organic farming practices which yield the appearance of weedy or untended fields, and/or held as invisible knowledge of how to operate computer software or hardware. Increasingly the good farmer thus cannot be recognised through viewing fields from a distance, but must be viewed from close up and often through proxies of the skills/knowledge required for production rather than the production itself.

Contested notions of the 'good farmer'

The bifurcation of contemporary farming into businesses based on industrial production methods at one extreme, and 'repeasantisation' at the other (van der Ploeg, 2008) and multifunctional transitions into the provision of public goods, have yielded contested notions of what constitutes 'good farming', not just for farmers, but for society more broadly. Opportunities for direct marketing and diversification alter farming identities through integration into other fields (Brandth and Haugen, 2011). Are farmers still farmers if they work full-time off-farm or diversify into tourism, renewable energy or other service provision which economically dwarves their farming activities? Farmers no longer solely identify as farmers, and therefore may gain their cultural or economic capital elsewhere. Sutherland (2020)

addresses part-time farming, as part of a larger analysis of the transition to hobby farming in an agrarian locale. She found that part-time farmers are not considered to be 'good farmers' by full-time farmers; the identity of 'farmer' is not accepted as multiple – a 'good farmer' 'lives and breathes farming' – a feat not possible if employed off farm for significant periods of time. Similarly, farmers who use contractors are not considered good farmers because they cannot demonstrate skilled role performance. The moniker of 'hobby farmer' is pejorative and utilised to refer to someone else's farming status.

Naylor et al. (2018) also found that hobby farmers were not identified as 'good farmers'. American evidence suggests that non-commercial farming is increasing; the US Department of Agriculture (2015) identified retirement farms (29%) and off-farm occupation farms (38.5%) as together comprising the majority of farms in the agricultural census. Although percentages of self-identified non-commercial farmers appear lower in Europe (Sutherland et al., 2019), pluriactivity has a rich tradition (Evans and Ilbery, 1993; Fuller, 1990). Opportunities for remote working or commuting make it increasingly possible to combine lucrative employment with farming practices (commercial and non-commercial), while technological advancements such as milking robots enable farmers to maintain a full time off-farm job while continuing to farm as or even more intensively than previously (Burton and Farstad, 2020). The existence of elective belonging and communities of interest (versus communities of place, as described in Chapter 7) raises the question of what is the reference point against which farmers measure their status? Where the socialisation of farmers historically has occurred within local farming communities with shared understandings of agriculture, rural areas have increasingly mixed urban/rural populations, while technological advances such as the internet and faster modes of transport make it possible for farmers to maintain a far more dispersed peer group.

Changing rules of the game also lead to reflexivity – active consideration of farming symbols and practices by farmers themselves. Recurrent food and health crises raise consumer and farmer consciousness of farming practices, challenging accepted standards or norms (Sutherland and Darnhofer, 2012). The 2013 European horsemeat scandal (where of 27 beef burger products examined, 37% tested positive for horse DNA) similarly raised consumer consciousness and critique of farming and the organisation of the supply chain. Increased regulations around traceability represent an opportunity and challenge to good farmer ideals – factory style farms are often more able to cope with the increasing regulations. As described in

Chapter 7, risks associated with livestock disease have reduced the number of agricultural shows and competitions – as well as the desirability of showing livestock. Re-localisation of food through short food supply chains is increasing, but continues to serve a minority of the population, often a cohort with considerable disposable income. This raises the social justice issue of 'good farming for whom'?

Advanced mechanization and automation

A further complication is the progressive mechanisation of agriculture. As we note in Chapter 3, machinery absorbs the skill and knowledge requirements from farm work such that, as technology advances, so there are fewer and fewer ways in which the farmer is able to display good farming credentials. Globalisation of both the varieties of food produced and machinery types results in a further standardisation of symbols. The result is an impoverishment of the rich symbolic displays present in the 18th and 19th Centuries. Recently the move to robotic farming in sectors such as dairy has taken the production role almost completely out of the hands of the farmers (Holloway et al., 2014a,b). Bell et al. (2015) posits that there is a conjoined professionalisation and deskilling of American farmers, as advertisers portray farming as a white collar profession, while the data is analysed off-farm by 'experts'; farmers lose control of their data and are thus heavily influenced by corporate databases. Likewise, it is increasingly seed suppliers or supermarkets that determine not only what is grown on farms, but how it is grown, while increasing farm scale, corporate agriculture and contract farming raise the question of "who actually *is* the farmer"?

The good climate farmer

A key issue for future farmers to address is the often-competing imperatives of producing increasing volumes of food and the need to address climate change. The need for the 'good climate farmer' to emerge has been recently recognised in the concept of 'climate smart agriculture' – agriculture with the multiple objectives of increasing agricultural productivity, increasing adaptive capacity to climate change, and decreasing greenhouse gas emissions and enhancing carbon sinks (Campbell et al., 2014). However, this does not necessarily lead to a single 'good climate farmer' concept. In some cases, those seeking to address the issue emphasise the productivity role, with claims that intensive production is the best way to address

climate change as intensive agriculture produces lower emissions per kg of protein produced – even if, overall, the emissions are high. In other cases, however, the argument is made that farming needs to be less intensive as intensive agriculture is both a major user of fossil energy and releases large quantities of other greenhouse gases (in particular, methane from ruminants and nitrous oxide from nitrogenous fertiliser use) that contribute significantly to climate change. Small firms, for example, have a greater ability to supply environmentally friendly products (Krasnov et al., 2020), while Lorenz et al. (2019) found that confinement systems need to produce higher quantities of milk per cow in order to produce milk with a similar greenhouse warming potential to pasture based systems. The dual necessities of providing food and addressing climate change are thus likely to lead to many contestations of what good farming is in the coming decades.

Synthetic food and agriculture without farmers?

Of course, this assumes that farmers have any role to play in our food future. July 2019 saw a momentous event occur. Perfect Day – a company started only 5 years previously – won the race to become the first of 30+ start-ups to release a food product made of animal protein produced without the use of animals. Perfect Day's ice-cream was not produced by a cow, but by a yeast – a yeast that had been genetically engineered to produce 6 different types of cows-milk protein when fed sugar and other nutrients. The three flavours of biosynthesised dairy ice cream were made available as a limited edition release on the company's website in the US. The public response was overwhelming. Retailing for $20 per tub (similar premium dairy ice-creams sell for $12 to $17 per tub) the product sold out within 24 hours. Reports from an invited tasting for journalists suggest that it did not disappoint. One reported that it "tasted just like real ice cream" while another observed that it may be too similar to a dairy product to appeal to the vegan market (Scipioni, 2019).

Perfect Day ice cream may be the only biosynthetic protein product to be sold to the public as yet, but it is part of a much larger movement to synthesise meat and milk that has developed since Mark Post first exhibited a burger made out of laboratory grown meat in 2013. A "proof of concept" designed to "change the discussion from 'this is never going to work to, 'well, we actually showed that it works, but now we need to get funding and work on it'" (Fountain, 2013) the event has led to a flourishing of new start-up companies aiming to produce a variety of

synthetic protein products including beef, bacon, chicken, fish, shrimp, mouse meat cat food, egg white, kangaroo, and so on. These are grown from stem cells outside of the animal – with a nutrient rich serum providing nutrients required for growth. Most meat-based start-ups predict they will have a marketable product within the coming decade, but the arrival of Perfect Day's fermentation-based ice cream in 2019 suggests that dairy farmers may be the first to be affected by these products.

What would this future mean for the good farmer? A move to the production of animal products *in vitro* (also termed the 'post-animal bioeconomy', Ferrari and Loesch, 2017) is the result of decades of technological development that have moved the skills of food production out of the hands of farmers and into those of corporations, engineers, computer scientists, drones, satellites, and so on.

Do we need farmers in a post-animal bioeconomy? The answer is probably yes. Synthetic meat production requires a growth serum which the industry is seeking to create from plant material, while the production of fermented products requires sugars and other nutrients to feed the yeasts. However, this would be a very different type of agriculture. To change from producing cow milk to goat milk, for example, would require simply replacing a cow-milk protein producing yeast with a goat-milk protein producing yeast – but, potentially, no other significant change in material input. Thus, rather than a physically differentiated countryside based on livestock farmers with generations of skills in livestock production and governed by notions of good farming, all that would be required for 'milk' production is sugar. With predictions that the process would involve between 77% and 91% less land use than conventional dairy (Steer, 2015), production could shrink the area required for growing sugar to only the best and flattest land – land that would be suited to further mechanisation and possibly, ultimately, complete robotisation.

In addressing this possibility Burton (2019) suggests it is unlikely that all production would shift to synthetics simply because of additional qualities that can be attached to natural protein products – such as locality, landscape and support for rural communities. However, if bioreactors are able to churn out mass animal protein then, he argues, industrial livestock production will be outcompeted – providing the price of synthetics falls below that of industrially produced meat (which the cellular agriculture start-ups confidently predict will

occur in the 2020s). In this way the post-animal bioeconomy could have significant effect on shaping the good farmer. Naturally produced protein would be sold not on the basis of nutritional content, but on production factors related to the taste, quality of animal welfare, environmental care, landscape care, and the social benefits of maintaining farming communities. In this hypothetical case the definition of the 'good farmer' – in the case of livestock at least – would be narrowed considerably from where it stands today. Good livestock farming would need to be as natural as possible in order to attract the premium prices required to remain profitable and the roles of the good farmer would adapt accordingly.

Changes to the good farmer may not be so dramatic for other types of production as there is currently no imagined way to synthesise fresh fruit and vegetables. Urban agriculture may introduce new definitions of farmer as production of fresh vegetables moves into the city – whether by using waste urban space or through the construction of purpose-built vertical farms for vegetable production. The notion of good arable farming is also unlikely to be affected in the short term. However, a recent Finnish start-up 'Solar Foods' has developed a protein manufactured from carbon dioxide drawn from the air via a 'proprietary organism' (a bacteria that requires CO_2 and hydrogen rather than sugar) which it touts as a potential substitute for soy or wheat flour (Southey, 2019). If, as it contends, it is able to upscale production and release a commercial product in 2021 it will mean that cereal farmers and livestock farmers could face a similar threat within the next decade. Once again, the 'good cereal farmer' may need to abandon a quantitative valuation of their production roles in favour of emphasising external qualities associated with the production process. With the cheap food production role taken by another sector, there may be fewer paths for the good farmer in the decades to come.

'Conservation' as a product

How else might the 'good farmer' be affected by the changing context of agriculture? One area is in the changing design of agri-environmental schemes. In particular, farmers in Europe have become accustomed to agri-environmental schemes based on a set of prescribed actions on their farms, often from a menu system – which has lead to frequent selection of items on the basis of ease of management rather than ecological benefits (Butler et al., 2010). Increasingly, however, policy-makers are looking at paying farmers not for performing prescribed actions but for achieving environmental results – thus addressing the perceived need for more cost effective

agri-environmental delivery mechanisms (ENRD and EC, 2010). Such schemes are gradually increasing in number across the European Union (Herzon et al., 2018). Where this intersects with the good farmer is in that, for result oriented schemes, the outcome of 'conservation' becomes a product – measured by prescribed indicators – in the same way that conventional crops are a product from the farm. Consequently, knowledge and skills (i.e. cultural capital) in environmental management would move from being largely irrelevant (as farmers only need to follow the rules in action-based schemes) to being potentially critical to success as a farmer. In turn, and providing the guarantees of an economic return were sufficiently long-term, this would create a social value to skills and knowledge – providing peer esteem, encouraging knowledge transfer, and creating the mutual obligations necessary for the building of social capital. In this way, as the number of result-based schemes increase, environmental work could become part of the 'good farmer' identity even amongst farmers with little understanding or interest in the environment at present (see Burton and Schwarz, 2013).

Digital tools for communication and control

Another possible area where the 'good farmer' may be affected is through the development of new communication technologies and social media platforms which could lead to dramatic changes in social interaction – both within the farming community and between farmers and non-farmers. This is somewhat of a double-edged sword for the 'good farmer'. On the one hand, such technology provides an important means of communication between farmers (including, potentially, visual symbols of good farming), promoting agriculture to the public and providing a means of selling farm-based products directly to the public. However, there are also potential downsides. In a recent study, Zahl-Thanem et al. (in press) observe that in the carnivore debate in Norway social media provided internet 'trolls' with direct access to farmers who spoke out in support of predator control. The result was that some farmers felt they were unable to enter debates or put their perspective on the carnivore issue into the public arena because of the risk of trolling – examples of which include hate messaging, deliberate misreporting on predator monitoring sites, and the sending of false reports to the Food Safety Authority. This illustrates how farmers' notions of good farming can now be directly challenged by non-farming groups espousing their own views on what 'good farming' should be. The long-term implications of this is uncertain, but it is clear that the ability of mobile technologies to transfer information visually, instantaneously and directly to specific individuals makes them potentially transformative for the transfer of symbols and notions of good farming.

The development of digital technologies in agriculture might also impact the 'good farmer' through an inflation of technologies of control, in the context of a generalisation of the audit discipline in agrifood systems (Campbell et al., 2011). Indeed, classical modes of control and governance are challenged by the extraordinary 'capacities' of Big Data surveillance (Lyon, 2014). The development of automatic data collection by connected farm tools that feed into larger centralised data bases opens farmers to both a dramatic increase in monitoring and potentially ethically questionable data extraction, accumulation, and commodification (Bronson and Knezevic, 2016; Zuboff, 2015). Information could be gathered to monitor the use of subsidies in agricultural systems (including for environmental schemes), and for better traceability and transparency in food chains. While a 'traditional' understanding of the 'good farmer' relied mostly on the role of social control by peers, the development of new technologies of accountability could give increasing weight to external auditing systems with a renewed capacity to control farmers practices in 'real time'. Moreover, the potential extent of the influence of digital technologies in communication and monitoring highlights the need for a greater understanding of the role of technology in constructing the 'good farmer'.

Future directions for good farming research

This book has demonstrated the potential both for delving deeper into the history of the good farmer, and for using various conceptualisations for advancing thinking on who is recognised as a 'good farmer' and what this means for the future of the agricultural sector. In this section we reflect on the future directions for good farming research, connecting it to advances in social thinking, research methods, and broader social and spatial justice issues.

Advancing the conceptualisation of the good farmer

In the introduction, we situated the 'good farming' literature within the cultural turn which occurred across the social sciences in the 1990s. More recently, 'relational' and 'affective turns' have occurred in social research (Clough and Halley, 2007; Leys, 2011). Although rural studies has remained largely lodged in what is now termed 'representational' research (i.e. research based on the textual and verbal expressions provided by participants), there has been a broader turn towards 'non-representational' or 'more-than-representational' approaches in the

associated disciplines of geography and sociology. Non-representational thinking is an umbrella term for approaches that seek to go 'beyond': i.e. 'more-than-human', 'more-than-textual', and beyond active cognition, to consider multiple senses and the relations between human and non-human (sentient and otherwise) actants (Lorimer, 2005). Non-representational research is a broad church, bringing together actor-network theory, biological philosophy, neomaterialism, process philosophy, speculative realism, social economy, performance theory, poststructuralist feminism, critical theory, post-phenomenology and pragmatism (Vannini, 2015, p. 3).

Non-representational thinking offers the opportunity to rethink the conceptualisation of 'good farming' in relation to actants which were previously less considered, that is, more intentionally assessing the intersecting roles of place, animals, land and objects in co-constructing the meaning of 'good farming' and associated identities. The groundwork for the broadening of analysis is already in place – Gray (1998), for example, demonstrated how cultural norms are embedded in places, arguing that farm and farm household are 'consubstantial' – mutually constituted. Research into good farming symbols in this book and elsewhere demonstrates that these symbols have traditionally been geographically situated (developed in relation to land capacity and the types of livestock produced). Exploration of non-representational approaches appears to be a logical next step.

Non-representational thinking emphasises the negotiated and embodied nature of social interaction. It particularly emphasises going beyond human bodies to consider how relations are made and unmade. For example, analysis of how implementation of robotic milking systems transformed farmer understanding of the 'good dairy cow', identifies how farmer practices become refocused around 'bad cows', who perform poorly within robotic milking systems (Holloway et al., 2014a). Key in Holloway et al.'s analysis is the performance and practices of cattle themselves. Within this analysis, the agency of cattle as actors is highlighted – cows are constructed as making choices ('good' and 'bad') in how they respond to they behave within new robotic milking regimes. Burton et al. (2012) make a similar finding with respect to dairy farms in New Zealand. In this case the authors observe the creation of 'cowshed cultures' where farmer cultures, cow cultures, and the structure of the farm interact with each other to create positively or negatively reinforcing cycles of improving or worsening welfare. Both 'bad/good cows' and 'bad/good stockmen' can transfer this culture onto new farms. As described in

Chapter 7, good farming symbols become literally embodied in livestock, but livestock are not passive participants in these processes, as would be suggested in most 'good farming' approaches. This line of thinking opens up avenues for considering the negotiated and embodied nature of good farming symbols within the farm setting, and indeed within the farm household, as multiple family members negotiate identity in relation to a broad set of actants.

Non-representational approaches thus draw particular attention to practices and performances: how experiences are staged, encountered and enacted. Huttunen and Oosterveer (2017), for example, integrated practice theory with good farming concepts in their work on farmer fertilisation practices, demonstrating how the recombination of 'elements' leads to change in practices. (Shove et al., 2012). Advances in technology are constructed as more than simply new 'rules of the game' to which farmers must respond, but as actants which have specific properties and attributes which lead to performances of practices which reinforce or introduce new meanings – in Huttunen and Oosterveer's case, technological advancement of fertilisation practices led to no change in the traditional meaning (of maintaining soil quality and increasing fertility) until the potential differences in meaning (e.g. environmental protection) were reflexively considered by farmers. The importance of reflexivity to changing standards of good farming was discussed in Chapter 7 (also in Sutherland et al., 2012; Sutherland, 2013).

Related to non-representational approaches, assemblage thinking is another theoretical domain with potential for developing a renewed theorisation of the 'good farmer'. Inspired by the work of Deleuze and Guattari (Deleuze and Guatarri, 1988), assemblage thinking has become influential in several disciplines, notably geography (Allen, 2011; Anderson and McFarlane, 2011; McFarlane and Anderson, 2011) and anthropology (Li, 2007; Ong and Collier, 2005; Tsing, 2015). In the context of agricultural and rural studies, there is an emerging assemblage scholarship, expanding its interests to non-human actants, and paying more attention to how complex sets of relations are constituting the world. As an example, the 'Biological economies' group (Lewis et al., 2013) (Le Heron et al, 2016), gathering agrifood scholars in New Zealand, proposes a new approach to regional development that builds on a dialog between "'assemblage thinking' and 'enactive research'" (Lewis et al., 2013, p. 180). They describe the collaboration between the Biological economies research team and several 'experimentations' developing in rural New Zealand economies, with a specific focus on the "the making of possibilities" and a reflection on the performativity – or 'enactiveness' – of research in the process. Assemblage

thinking offers also a rejuvenating theoretical framing to rethink 'rural places' in a globalising world, by focusing notably on the processes of territorialisation and deterritorialisation – understood as process of stabilisation and destabilisation – that characterise assemblages (Jones et al, 2019; Woods, 2015). As Woods (2015) suggests, considering rural places as changing assemblages of both 'material' and 'expressive' components – in De Landa's terms (De Landa, 2006) – allows understanding of the current restructuration of the rural "not as the erosion of place-difference, but as the re-assembling of places as the substitution of material and expressive components is accompanied by processes of reterritorialisation and recoding". By articulating the materiality of the social and its expressive dimension (with includes 'representations'), assemblage thinking offers an interesting framing, we contend, to bridging the existing representational approaches of the 'good farmer' with novel, non-representational, relational and more-than-human, theorisations.

Following a similar inspiration, Forney et al. (2018) developed a preliminary framing of agri-environmental governance as assemblage, where governance is understood as emerging from repeated interaction between diverse actors – human and non-human – that are all central to the agency of the assemblage. From an assemblage perspective, farming cultures – and thereby interpretations of the 'good farmer' – can be conceived as co-constructed through the many interactions of farmers with multiple other elements of assemblages they are part of – colleagues, soil, cows, grass, policies, veterinaries, prices on the market, salesman, standards, etc. Such a framing calls for new ways of understanding cultural changes and resistances in agriculture, by widening the scope and moving the focus from farmers and farm to the wider set of relations in which they are involved. We have already mentioned the potential of approaches that would look more closely at the embodied social interactions between human and non-human actors on the farm. Another direction would be to look for 'echoes' or 'resonances' of the 'good farmer' in other places (material and symbolic) within the agrifood system. Jones et al. (2019) apply an 'assemblage methodology' to the study of the case of Welsh wool production within a globalised wool market. Their focus is not on the 'good farmer' or farming culture, however, they show clearly how localised changes have resonances across the whole assemblage. We suggest that a similar attention paid to how changes happening along the diverse assemblages in which farmers are involved – value chains, policy systems, knowledge systems, etc. – might enrich our understanding of what makes farming culture transform and change, beyond the local interactions with peers. Such a research endeavour

would arguably help articulate more precisely at the theoretical and empirical levels the cultural approaches of localised interpretations of the 'good farmer' with more structural analyses of agrifood system.

Advancing research methods

Non-representational and associated practice-based approaches can advance the good farming literature through more active consideration of the practices and performances of good farming identity, both at the farm level and within wider assemblages. To achieve this requires new research methods. In this section we consider opportunities for advancing the methodological approaches to understanding 'good farming'.

To date, empirical research into the 'good farmer' has largely relied on traditional, often qualitative research methods: qualitative interviewing, with some participant observation and focus group-based research. Simply implementing visual research methods could be a step forward: visual research methods have now become relatively commonplace in sociology and geography, recognised for their utility in generating rich textual data (Sutherland, 2019b). Visual methods are surprisingly absent from much of the rural studies literature, including that addressing the 'good farmer'. Farmers clearly assess each other's performance visually – primarily through 'roadside' farming but also through evaluation of livestock quality and health at auctions and shows, etc. Farmers may also observe practices – farming skills applied *in situ* (e.g. cultivating fields, showing cattle at sales etc). The symbols of good farming are thus largely visual symbols – for example tidy farmsteads, even fields of crops, healthy livestock – and form the farmer's aesthetic preference for agricultural landscapes (Burton, 2012). The importance of sensory perception more broadly could also be considered – the sounds and sensations of farming that are embedded in identities and socialisation processes. For example, the experience of interacting with livestock is not limited to visual observation – farmers touch their animals, to move them, clean them, and wash them. The unconscious way these experiences influence farmers brings us back to non-representational approaches.

Non-representational approaches emphasise that much of human response is subconscious – as Thrift (2008, pp. 36), argues: "conscious awareness is fragmented and volatile" – people are not capable of actively processing the wealth of interactions that occur on a daily basis.

Bourdieusian concepts underpinning much of the 'good farmer' literature are consistent with this tenet – Bourdieu clearly defines the habitus as an subconscious disposition to act; cultural capital symbols are acquired and enforced through a largely subconscious socialisation process (Bourdieu, 1984). Burton's (2004) seminal paper on the good farmer was, in part, a reaction against the then overuse of 'attitudinal studies (i.e. the behavioural approach) in the farming literature – with researchers placing too much emphasis on reasoned behaviour (in the manner of economic studies). Perhaps it is time to take a further step away from regarding farming as driven predominantly by reasoned action. The methodological challenge we are faced with, however, is how to access and assess these subconscious processes. To date, methodological development has been far outstripped by theoretical conceptualisation within non-representational approaches, but there are some promising developments occurring which could be relevant to advancing the good farming literature.

Future work could de-centralise farmers, and instead focus on specific events, and the associated backgrounds, practices and relations which lead to physiological responses (which reinforce or challenge the associated practices). Spinney (2015) for example, puts forth a method for combining GPS tracking and biosensing to assess response during events, an approach he argues yields more detailed verbal accounts. Looking more closely at how culturally significant behaviours are publicly and privately performed – i.e. the specific practices which encode or undermine symbolic development – could yield an improved understanding of how symbols develop and function. Examples range from the social costs of losing agricultural interaction venues – like auction marts and shows – and the overall erosion of farming identities through diversification and part-time farming and the 'making private' of skilled role performance (by increasingly indoor and desk-based performances). The role of non-farmers in shaping farming culture is increasingly evident in the fragmentation of good farming ideals and government support to achieve 'multifunctional' farming objectives. The interaction of policies and policy-makers as actants in good farming practices is an important area for future research.

Non-representational approaches also draw attention to the spaces of data collection. How study participants report in one place may be very different – interviews are almost always conducted in participants' homes (i.e. on the farm) – what difference would it make to undertake these at an auction mart, a school, or a place of off-farm employment? Pilgeram (2007), for example,

looks at how gender is performed at auction marts; public performance of good farming identity can also be expected to include practices of bidding, showing, dressing and relating to livestock, facilities and human actors. There is also a burgeoning research on urban agriculture transitions, and farm experiences as therapy for non-farmers.

The 'good farmer' literature has largely focused on farm practices and strangely enough, rarely engaged the product of farming – food. This has been consistent with a definition of farming as the provisioning activity of anonymous raw material to the food industry, very typical of a productivist regime (Wilson, 2001). However, there are niches were quality food products have contributed to creating new forms of farming pride, generally in relation to relatively short and relocalised food chains. For example, Forney and Häberli (2016) showed how different enactments of the 'local' in the Swiss dairy sector were related to contrasting identifications. In this kind of configuration, being a 'good farmer' or not is not a matter for the farming community alone to judge, but depends strongly on evaluation by other actors, mainly consumers, as well as new institutions promoting food 'quality'. Understanding how symbols of the good farmer are co-constructed in these networks or assemblages requires application of some sort of multi-sited methodologies, based on the principle of 'follow-the-thing' (Marcus, 1995) from one place to another, developing interviews and or observation with multiple types of actors (e.g. see Darnhofer, 2020). Those methods are already well established but have not been applied to the 'good farmer' to date. They also invite more novel combinations in the context of food, in relation to its material and sensuous dimensions, for example by relating the materiality of a food product to the specific interpretations of the 'good farmer' that seem to be associated with its production.

Digitisation has opened up previously unknown spaces or 'backgrounds' for farming practice. Ongoing research by Sutherland (2019a) is considering the role of on-line spaces in developing and reinforcing standards of 'good farming'. Contemporary farming computer games engage millions of players in farming practices, from feeding livestock to cultivating fields and selling commodities. These practices have the potential to reinforce or challenge player understandings of the nature of farming practices and to develop their own symbols and standards of farming. If these are combined with communication technologies and social media platforms that give the public the ability to try to influence definitions of good farming (as mentioned above with respect to carnivores), lay-person understandings of agriculture formed in gaming could have a

direct influence on the definition of good farming. Game-based methods may be useful for eliciting responses to staged encounters; up to a quarter of Farming Simulator's participants (8 million copies sold to date) have direct experience of farming (Lane, 2018), suggesting that current and former farmers seek to practice farming in digital settings, implying a persistence and transmission of cultural capital outside of traditional venues. Social media similarly engages both farmers and the broader public in imagining and challenging the contemporary meanings and practices of farming.

Farming practices are also highly affective. Affect is conceptualised as a "set of flows moving through bodies of humans and other beings" (Thrift, 2008, p. 236), i.e. it is not limited to emotion or human portrayal. In simple terms, emotions are an expression of affect, but affect can extend to atmospheres and pass between people (e.g. at sporting events). More in depth consideration of affect should yield data on how emotional responses, crowd- and family-based experiences influence behaviours, which are then latterly justified on the basis of retro-active cognitive appraisal. Applications range from analysis of the affective encounters farmers have with their livestock to assessing how farming symbols and power relations are reinforced at farmer organisation meetings. Deitz et al. (2018) has advanced participatory mapping to utilising mobile phones and GPS to develop 'emotional maps' of locales (i.e. the geophysical locations where affect is experienced and made sense of). This could usefully be applied to agricultural shows and auctions or utilised on farm tours.

Cross-Cultural developments

This book reflects the focus of the 'good farmer' literature on northern/western Europe, the UK (and Commonwealth countries like CAN, NZ, AUS) and the US. What analogues exist elsewhere and how can we build the necessary research bridges across institutional, linguistic, financial, trade, and knowledge barriers? How deeply do meanings attached to the good farmer reflect ethnic or national differences? Particularly problematic is that much of what has come to be included in the praise accorded to those deemed a 'good farmer' is based solidly on the foundations of social or colonial exclusions, the destruction of many ways of knowing, the radical flattening and erasure of nuance, difference, and contextual existence. It is in this space that we see the idea of the good farmer as one deeply connected to the various other emancipatory projects including Gibson-Graham's (2008) community economics, an emphasis on multiplicity and process in the ideas of food utopias that helps to critically examine the

evolving future of food systems and the lives of those involved, biological economics, ontological turns, and wrestling with the appropriate role of technology in our fields and lives.

One of the premises of the current volume is that one person's good farmer is another person's bad farmer or not a farmer at all. These kinds of conflicts are deeply held and felt and need to be examined – these moral orders (as described by Farrell, 2015) – help explain both examples of shared success (e.g. Walker, 2018, on community cooperation in Oregon; Wynne-Jones, 2017 on farmer cooperation in Wales) as well as protracted conflicts over land use decision making, technological uptake, etc. These fundamentally value-oriented conflicts also help take us away from dualistic distinctions between top-down or bottom-up or even the individual versus institutional ways of trying to understand conflict.

In line with consideration of the geographical 'other', there has been limited work specifically addressing women and gender or race within the good farming literature. Taking this further, an intersectionality framework illustrates the combinatorial effects of race, class, gender, and political geographic location that the good farming literature hitherto has missed, focusing instead on primarily heterosexual, white farmers in the US, UK, Switzerland and New Zealand. As argued in Chapter 6, the good farmer literature – by conforming to standard qualitative research practices of interviewing one person per household, the 'primary farmer', and not critically reflecting on the role of gender in identity formation – has contributed to the invisibility of women on contemporary farms. There is an opportunity to redress this imbalance by undertaking more focused research into women's roles utilising good farming constructs. Particular issues include how newcomers develop a 'good farmer' identity – female new entrants and women who married into farming, gender in transitions to part-time or diversified farming, and the role of women in on-farm diversification (particularly into people-facing diversification activities such as direct marketing and agri-tourism). How women shape the public image of farming is also an important issue. Women are more likely to be involved in agri-tourism activities, which actively stage farming encounters for the public and shape public perceptions. Women may thus be more influential in determining which farming practices are made visible (or invisible) to non-farming audiences.

One of the barriers to expanding our understanding of who is a good farmer in other places is language as well as structural barriers for academics in the global South. Colleagues across the

world are working on what being a farmer means to be a person and a community (e.g., Dwiartama et al., 2017; Mwaura, 2017). We hope that this book, with its limitations can help spur connections, conversations, dialogue, and shared research experience across these divides. In the end, this book and the literature it pushes forward offers a chance, a bridge, if you will, to expand not just the good farmer literature in agri-food worlds, but as a recognition that we need to be better about seeking out hidden and oppressed voices of those doing the farming, expanding and helping to expand of who is recognised as farmers.

Our personal request …

This book represents our collective knowledge and experiences of the 'good farmer' concept built up over decades of research. While we have outlined our views, summarised existing knowledge, and even developed new knowledge related to the 'good farmer', we are clearly limited by our own small understandings of the diverse cultural world of the farmer in a developed world context. We could have invited literally thousands of researchers, policy-makers, industry representatives and farmers themselves from across the world to join us as co-authors on the book – and each would have brought a unique perspective on what it is to be a 'good farmer'. Each would have strengthened the book. We say this to reinforce our contention that what we present here is not the final word on the 'good farmer', but rather an invitation for many others with an interest in farming culture to join us in our endeavour to understand the role of the 'good farmer' in the field and in the food system. What we desire is diversity. The development of a single concept of the 'good farmer' with defined roles that can be applied to all farmers in all situations – the optimised 'good farmer' – is not one we would welcome. It is important to remember that while the literature suggests farmers are subject to (often strong) peer pressure, this does not in any sense mean farmers all aim to be the same. If our studies have taught us anything it is that farmers seek to be innovative – to experiment with new approaches, to be better and different, to enjoy success, to conquer failure, but above all, to do so within a community where their work is understood and valued.

With the multiple moral imperatives for today's agriculture – boosting the sustainable use of resources, enhancing the natural environment, feeding the world, and so on – it is easy to believe that the objective is to 'develop' a 'good farmer' who is able to satisfy all of society's needs as well as his/her own goals. However, this is the trap fallen into by the agricultural improvers of

previous centuries. There is no question that agriculture has needed to be modernised over the centuries to meet the demand for increased production and food security. However, this has often been done by drawing a simple dichotomy between 'good farmers' and 'bad farmers' with 'bad farmers' generally those following customary practices or acting under constraints improvers did not understand. This has resulted in the loss of a wide range of farming practices that today might be considered 'good farming' (e.g. the 'traditional ecological knowledge' of which ecologists frequently bemoan the loss) and serves as a warning both against trying to define a single 'good farmer' and using the concept of the 'bad farmer' to forward our own agendas.

There is indeed such a thing as 'bad farming'. As with people in any occupation, farmers can be inattentive, incapable or incompetent – leading to poor displays of the symbols of 'good farming' and earning a reputation as a 'bad farmer'. However, when it comes to strategic choices on farm management or making the best of what is available, the existence of 'bad farming' is more questionable. As we have illustrated throughout the book, farmers are constantly having to adapt to changes in their environment such that practices that might be considered 'bad farming' at one time or in one context, may be considered 'good farming' in another – with the 'bad farmer' of yesterday potentially becoming the 'good farmer' of today. For the maintenance of societal needs, it is important that we develop and hold knowledge of the values of different practices – rather than classifying them as 'good' or 'bad'. This does not mean that approaches drawing on the 'good farmer' concept should forgo critical statements. Cultivating diversity in the social and cultural dimension of farming means also promoting reflexive dialog and debates, as well as critical engagements with how agriculture is done. The 'good farmer' concept must reflect this diversity, also to promote reflexivity in the farming worlds.

We wish to conclude by paying tribute to the subjects of our book. There are many 'good farmers' in the world, but all of the farmers we have spoken too in the many years of our collective experience are 'good people' – even though their political or environmental views are sometimes divergent from our own. We say this because they have allowed us the privilege of glimpsing into their culture, businesses, family lives and often their homes, taking the time to explain their perspectives and trusting us with their stories. We are very aware of and thankful for this honour. As we sit as around their formica or oak tables, lean against old farm machinery

with them, or walk side-by-side through the fields, we must remember that we are observers in their world – invited guests – and it is their story we are telling.

References

Agri, EIP (2016). EIP-Agri Focus Group: New Entrants into farming: Lessons to foster innovation and entrepreneurship. Final Report. In EIP-Agri Focus Group: New Entrants into farming: Lessons to foster innovation and entrepreneurship. European Commission, Brussels.

Allen, J. (2011). Powerful assemblages? *Area, 43*(2), 154-157.

Anderson, B., and McFarlane, C. (2011). Assemblage and geography. *Area, 43*(2), 124-127.

Bell, S. E., Hullinger, A., & Brislen, L. (2015). Manipulated Masculinities: Agribusiness, Deskilling, and the Rise of the Businessman-Farmer in the United States. *Rural Sociology, 80*(3), 285-313

Berry, W. (2002). The prejudice against country people. *The Progressive*. April. Online at https://www.iatp.org/news/the-prejudice-against-country-people. April 15th, 2002. (accessed March 16, 2020).

Bourdieu, P. (1984). *Distinction: A social critique of the judgment of taste.* Cambridge: Harvard University Press.

Brandth, B., & Haugen, M. S. (2011). Farm diversification into tourism – Implications for social identity? *Journal of Rural Studies, 27*(1), 35-44.

Brass, T. (2000). *Peasants, Populism, and Postmodernism. The Return of the Agrarian Myth*. London/Portland-OR: Franck Cass Publishers.

Bronson, K., and Knezevic, I. (2016). Big Data in food and agriculture. *Big Data and Society, 3*(1).

Burton, R.J.F. (1998). The role of farmer self-identity in agricultural decision making in the Marston Vale Community Forest. Unpublished PhD Thesis. DeMontfort University, Leicester.

Burton, R.J.F. (2004). Seeing through the 'good farmer's' eyes: toward developping an understading of the social symbolic value of 'productivist' behaviour. *Sociologia Ruralis, 44* (2), 195-215.

Burton, R.J.F. (2012). Understanding Farmers' Aesthetic Preference for Tidy Agricultural Landscapes: A Bourdieusian Perspective. *Landscape Research, 37*(1), 51-71.

Burton, R.J.F. (2019). The potential impact of synthetic animal protein on livestock production: The new "war against agriculture"? *Journal of Rural Studies, 68*, 33-45.

Burton, R.J.F., and Paragahawewa, U. H. (2011). Creating culturally sustainable agri-environmental schemes. *Journal of Rural Studies, 27*(1), 95-104.

Burton, R.J.F., Peoples, S., and M.H. Cooper (2012). Building 'cowshed cultures': A cultural perspective on the promotion of stockmanship and animal welfare on dairy farms. *Journal of Rural Studies, 28*(2), 174-187.

Burton, R.J.F., and Schwarz, G. (2013). Result-oriented agri-environmental schemes in Europe and their potential for promoting behavioural change. *Land Use Policy, 30*(1), 628-641.

Campbell, H., Rosin, C.J., Hunt, L.M., and Fairweather, J.R. (2012). The Social Practice of Sustainable Agriculture under Audit Discipline: Initial Insights from the ARGOS Project in New Zealand. *Journal of Rural Studies, 28* (1), 129-141.

Chayanov, A. (1927). *Theory of Peasant Co-operatives. Translated by David Wedgwood Benn*. Columbus: Ohio State University Press.

Clough, P.T. and J. Halley 2007. *The Affective Turn. Theorizing the social*. Durnham, NC: Duke University Press.

Darnhofer, I. Farming from a Process-Relational Perspective: Making Openings for Change Visible. *Sociologia Ruralis, n/a*(n/a).

Deitz, M., Notley, T., Catanzaro, M., Third, A., & Sandbach, K. (2018). Emotion mapping: Using participatory media to support young people's participation in urban design. *Emotion, Space and Society, 28*, 9-17.

De Landa, M. (2006). *A new philosophy of society : assemblage theory and social complexity*. London: Bloomsbury.

Deleuze, G., and Guatarri, F. (1988). *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Athlone.

Dwiartama, A., Tresnadi, C., Furqon, A. and M.F. Pratama. 2017. From Initiative to Movement: The Growth and Evolution of Local Food Networks in Bandung, Indonesia. *Asian Journal of Social Science Studies, 2*(4), 91-98.

Evans, N., and B.W. Ilbery (1993). The pluriactivity, part-time farming, and farm diversification debate. *Environment and Planning A, 25*, 945–959.

Farrell, J. (2015). *Battle for Yellowstone: morality and the sacred roots of environmental conflict*. Princeton; Oxford:Princeton University Press.

Fischer, H. and R.J.F. Burton (2014). Understanding Farm Succession as Socially Constructed Endogenous Cycles. *Sociologia Ruralis, 54*(4), 417-438.

Flanigan, S., Blackstock, K. and C. Hunter (2014). Agritourism from the perspective of providers and visitors: a typology-based study. *Tourism Management, 40*, 394-405.

Flinn, W. L. and D. E. Johnson (1974). Agrarianism among Wisconsin farmers. *Rural Sociology, 39*, 187-204.

Forney, J. (2016). Enacting Swiss Cheese: About the Multiple Ontologies of Local Food. In R. Le Heron, H. Campbell, N. Lewis, and M. S. Carolan (Eds.), *Biological Economies: Experimentation and the politics of agrifood frontiers*. London / New York: Routledge.

Forney, J., and I. Häberli (2016). Introducing 'Seeds of Change' into the Food System? Localisation Strategies in the Swiss Dairy Industry. *Sociologia Ruralis, 56*(2), 135-156.

Forney, J., Rosin, C., and Campbell, H. (Eds.). (2018). *Agri-environmental Governance as an Assemblage. Multiplicity, Power, and Transformation*. London/New York: Routledge.

Forney, J., and Stock, P. V. (2014). Conversion of Family Farms and Resilience in Southland, New Zealand. *International Journal of Sociology of Agriculture and Food, 21*(1), 7-29.

Friedmann, H. (1978). World Market, State, and Family Farm: Social Bases of Household Production in the Era of Wage Labor. *Comparative Studies in Society and History, 20*(4), 545-586.

Friedmann, H. (1980). Household production and the national economy: Concepts for the analysis of Agrarian formations. *The Journal of Peasant Studies, 7*(2), 158-184.

Fuller, A. M. (1990). From part-time farming to pluriactivity: a decade of change in Rural Europe. *Journal of Rural Studies, 6*(4), 361-373.

Gibson-Graham, J. K. (2008). Diverse economies: performative practices for `other worlds'. *Progress in Human Geography, 32*(5), 613-632.

Gray, J. (1998). Family farms in the Scottish borders: a practical definition by hill sheep farmers. *Journal of Rural Studies, 14*(3), 341-356.

Holloway, L., Bear, C. and K. Wilkinson (2014a). Re-capturing bovine life: robot-cow relationships, freedom and control in dairy farming. *Journal of Rural Studies, 33*(1), 131-140.

Holloway, L., Bear, C., & Wilkinson, K. (2014). Robotic milking technologies and renegotiating situated ethical relationships on UK dairy farms. *Agriculture and Human Values, 31*(2), 185-199.

Huttunen, S., & Oosterveer, P. (2017). Transition to Sustainable Fertilisation in Agriculture, A Practices Approach. *Sociologia Ruralis, 57*(2), 191-210.

Jones, L., Heley, J., and M. Woods (2019). Unravelling the Global Wool Assemblage: Researching Place and Production Networks in the Global Countryside. *Sociologia Ruralis, 59*(1), 137-158.

Kautsky, K. (1988). *The Agrarian Question: in Two Volumes*. London: Zwan Publications.

Lane, R. (2018). Meet the real-life farmers who play Farming Simulator. *The Guardian* https://www.theguardian.com/games/2018/jul/24/meet-the-real-life-farmers-who-play-

Le Heron, R., Campbell, H., Lewis, N., and M.S. Carolan (Eds) (2016). *Biological Economies: Experimentation and the politics of agrifood frontiers*. London / New York: Routledge.

Lewis, N., Le Heron, R., Campbell, H., Henry, M., Le Heron, E., Pawson, E., Perkins, H., Roche, M. and C. Rosin (2013). Assembling biological economies: Region-shaping initiatives in making and retaining value. *New Zealand Geographer, 69*(3), 180-196.

Leys, R. (2011). The Turn to Affect: A Critique. *Critical Inquiry, 37*(3), 434-472.

Li, T. M. (2007). Practices of assemblage and community forest management. *Economy and Society, 36*(2), 263-293.

Lyon, D. (2014). Surveillance, Snowden, and Big Data: Capacities, consequences, critique. *Big Data and Society, 1*(2).

Magnan, A. (2012). New avenues of farm corporatization in the prairie grains sector: farm family entrepreneurs and the case of One Earth Farms. *Agriculture and Human Values, 29*(2), 161-175.

Mamonova, N., and J. Franquesa (2020). Populism, Neoliberalism and Agrarian Movements in Europe. Understanding Rural Support for Right-Wing Politics and Looking for Progressive Solutions. *Sociologia Ruralis, n/a*(n/a).

Marcus, G. E. (1995). Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography. *Annual Review of Anthropology, 24*(1), 95-117.

McFarlane, C., and B. Anderson. (2011). Thinking with assemblage. *Area, 43*(2), 162-164.

Mwaura, G. M. (2017). Just Farming? Neoliberal Subjectivities and Agricultural Livelihoods among Educated Youth in Kenya. *Development and Change, 48*(6), 1310-1335.

Naylor, R., Hamilton-Webb, A., Little, R., & Maye, D. (2018). The 'Good Farmer': Farmer Identities and the Control of Exotic Livestock Disease in England. *Sociologia Ruralis, 58*(1), 3-19.

Nelson, J., & Stock, P. (2018). Repeasantisation in The United States. *Sociologia Ruralis, 58*(1), 83-103.

Newby, H. (1987). Emergent Issues in Theories of Agrarian Development. Pluriactivity and Rural Development. *Arkleton Trust Occasional Paper Series 2*. The Arkleton Trust Ltd., Oxford. https://arkletontrust.co.uk/wp-content/uploads/2017/12/Emergent-Issues-in-Theories-of-Agrarian-Development.pdf (Accessed 16th March 2020)

Ong, A., and S.J. Collier (Eds.). (2005). *Global Assemblages. Technology, Politics ans Ethics as Anthropological Problems*. Malden/Oxford/Victoria: Blackwell Publishing.

Pilgeram, R. (2007). 'Ass-kicking' Women: Doing and Undoing Gender in a US Livestock Auction. *Gender, Work & Organization, 14*(6), 572-595.

RethinkX (2019). Rethinking Food and Agriculture 2020-2030. The Second Domestication of Plants and Animals, the Disruption of the Cow, and the Collapse of Industrial Livestock Farming. RethinkX. https://www.rethinkx.com/food-and-agriculture#food-and-agriculture-download (Accessed 16th March 2020).

Scoones, I., Edelman, M., Borras, S. M., Hall, R., Wolford, W., and B. White (2018). Emancipatory rural politics: confronting authoritarian populism. *The Journal of Peasant Studies, 45*(1), 1-20.

Spinney, J. (2015). Close encounters? Mobile methods, (post)phenomenology and affect. *Cultural Geographies, 22*(2), 231-246.

Scott J. C., (1985). *Weapons of the weak: everyday forms of peasant resistance*. New Haven: Yale University.

Southey, F. (2019) Solar foods makes protein out of thin air: 'this is the most environmentally friendly food there is'. Food Navigator. 15th July, 2019. https://www.foodnavigator.com/Article/2019/07/15/Solar-Foods-makes-protein-out-of-thin-air-This-is-the-most-environmentally-friendly-food-there-is

Stock, P.V. and J. Forney. (2014). Farmer autonomy and the farming self. *Journal of Rural Studies, 36,* 160–171.

Stock, P. V., Forney, J., Emery, S. B., & Wittman, H. (2014). Neoliberal natures on the farm: Farmer autonomy and cooperation in comparative perspective. *Journal of Rural Studies, 36*, 411-422

Sutherland, L-A. (2015). EIP-Agri Focus Group New entrants into farming: lessons to foster innovation and entrepreneurship. Discussion paper. In EIP-Agri Focus Group New entrants into farming: lessons to foster innovation and entrepreneurship. Discussion paper, ed. EIP-Agri Agriculture and Innovation. https://ec.europa.eu/eip/agriculture/sites/agri-eip/files/fg14_new_entrants_starting_paper_2015_en-v2.pdf.

Sutherland, L.-A., & Darnhofer, I. (2012). Of organic farmers and 'good farmers': Changing habitus in rural England. *Journal of Rural Studies, 28*(3), 232-240.

Sutherland, L-A. (2019a). Virtualising the 'Good Life': Discourses of Farm and Community in Stardew Valley. Full paper presented to the TARRN (Transatlantic Rural Research Network) Conference 3-5 April 2019, James Hutton Institute, Aberdeen, UK.

Sutherland, L.-A. (2019). Agriculture and inequalities: Gentrification in a Scottish parish. *Journal of Rural Studies, 68,* 240-250.

Sutherland, L.-A. (2020). Finding 'Hobby' Farmers: A 'Parish Study' Methodology for Qualitative Research. *Sociologia Ruralis, 60*(1), 129-150.

Sutherland, L.-A., Barlagne, C., & Barnes, A. P. (2019). Beyond 'Hobby Farming': towards a typology of non-commercial farming. Agriculture and Human Values, 36(3), 475-493.

Thrift, N. (2008). *Non-representational Theory: Space, Politics, Affect*. London: Routledge.

Tsing, A. L. (2015). *The Mushroom at the End of the World. On the Possibilty of Life in Capitalist Ruins*. Princeton: Princeton University Press.

US Department of Agriculture (2015). Farm Typology. Volume 2. Subject Series. Part 10. AC12-S-10. National Agricultural Statistics Service. https://www.agcensus.usda.gov/Publications/2012/Online_Resources/Typology/typology13.pdf. (accessed 16th March, 2020)

van der Ploeg, J. D. (2008). *The New Peasantries. Struggles for autonomy and sustainability in an era of Empire and globalisation.* London: Earthscan/Routledge.

Vannini, P. (2015). Non-representational research methodologies: An Introduction. In P. Vannini (Ed.), *Non-representational methodologies: Re-envisioning research* (pp. 1-18). New York: Routledge.

Villa, M. (1999). Born to be Farmers? Changing Expectations in Norwegian Farmers' Life Courses. *Sociologia Ruralis, 39*(3), 328-342.

Walker, P. (2018). *Sagebrush collaboration: how Harney County defeated the takeover of the Malheur National Wildlife Refuge*. Corvallis: Oregon State University Press.

Wheeler, R., Lobley, M., Winter, M., and C. Morris (2018). "The good guys are doing it anyway": The accommodation of environmental concern among English and Welsh farmers. *Environment and Planning E: Nature and Space, 1*(4), 664-687.

Wilson, G. A. (2001). From productivism to post-productivism and back again? Exploring the (un)changed natural and mental landscape of european agriculture. *Transactions of the institute of British Geographers, 26*(1), 77-102.

Woods, M. (2015). Territorialisation and the Assemblage of Rural Place: Examples from Canada and New Zealand. In J. Dessein, E. Battaglini, and L. Horlings (Eds.), *Cultural Sustainability and Regional Development: Theories and practices of territorialisation.* London and New York: Routledge.

Wynne-Jones, S. (2017). Understanding farmer co-operation: Exploring practices of social relatedness and emergent affects. *Journal of Rural Studies, 53*, 259-268.

Zahl-Thanem, A., Burton, R.J.F., Blekesaune, A., Haugen, M., and K. Rønningen. (in press). The impact of wolves on psychological distress among farmers in Norway. Accepted by Journal of Rural Studies.

Zuboff, S. (2015). Big other: surveillance capitalism and the prospects of an information civilization. *Journal of Information Technology*, *30*(1), 75-89.