

Claire Lamine, Danièle Magda, Marta Rivera-Ferre, Terry Marsden (eds.)

Agroecological transitions, between determinist and open-ended visions



Debates around agroecology most often focus on the depth and radicality of the change and relate to different *visions of agroecology*, which tends to eclipse the ontological relationships of actors (or researchers) to the very 'change process' itself.

This book is an endeavor to explicate relationships to change in agroecological transitions, referring to two contrasting and ideal-typical ontological relationships to change, the determinist perspective and the open-ended perspective. These conceptions or interpretations of the change process are based respectively on whether objectives and means are predetermined, or defined during the change process and while accounting for the uncertainty and complexity of mechanisms of change as well as for the diversity of actors'visions.

Many diverse cases of agroecological transitions are discussed in this book, in order to highlight the fact that these perspectives are not always exclusive in transition process but that they can be articulated successively or combined complementarily, in different ways – thus reinforcing the potential diversity of transition pathways.

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What models of justice for the agroecological transition? The normative backdrops of the transition

Pierre M. Stassart, Antoinette M. Dumont, Corentin Hecquet, Stephanie Klaedtke, Camille Lacombe, Matthieu de Nanteuil

1. Introduction

There is not a singular model of agroecological transition. And if this is the case, it is not only because the processes of the transition are always situated, complex, uncertain and undetermined. Behind these difficulties hide issues of another order. The thesis defended in this chapter is that they reflect on the axiological and normative bases of the transition:

- Firstly, axiological. We cannot reduce the actors of the transition to simple strategists seeking only to defend their interests or pure idealists striving for values that are disconnected from reality. They certainly have values, but these values can come into tension with one another. In practice, the actors of the transition are often confronted with conflicts of value that, if not addressed directly, can generate inhibition and suffering.
- Next, normative. It is worth leaving behind the opposition between the absence of normativity (it would suffice to support all participatory initiatives) and authoritarian normativity (it would suffice to enforce general principals). In practice, neither of these paths seems able to provide to actors on the ground with concrete tools allowing them to overcome the conflicts of values that they encounter, without renouncing their deeper motivations.

In this context, the agroecological transition may be threatened from within, due to the lack of approaches or methodologies able to meet these challenges. Therefore, how do we proceed?

To answer this question, we carry out our reflection in three steps. First, we return to the relationship between "transition" and "transformation" and, more broadly, to the meaning of an open-ended and nonrelativist agroecological transition process. To this end, we will identify and go through three "normative stages" for agroecology: the first corresponds to a statement of general principles; the second refers to the need to make compromises based on these principles; and the third demonstrates the importance of the *plurality of normative supports*¹. Inspired by the work of Matthieu de Nanteuil, our article will thus detail different possible supports: the ethics of compromise, the ethics of capability, and the ethics of recognition (de Nanteuil, 2016). Secondly, we will plunge into the reality of the agroecological transition by looking at three concrete cases: practices of purchase-resale in the agroecological production of vegetables in Wallonia, an action-research project with an organizations of sheep farmers and veterinarians in the Millavois area of France and the management of the global plant health within a network of artisanal vegetable seed producers. We will close with a short conclusion on agroecological justice.

2. The agroecological transition as an open-ended and non-relativist process

2.1. An open-ended process, oriented towards social transformation

In the debates on the meaning of "transition," several authors contrast the notion of "transformation" with that of "transition." Andy

To speak of "normative" or "normativity" involves that human action is structured by several rules or principles. These principles often include values, thus shaping *ethical norms*. But this is not always the case: there are also economic, political or legal norms. The idea of "normative support" is crucial in our contribution: it means that referring human action to ethical norms is a *possibility* given to the agroecological actors – not an obligation. It implies that these actors clarify the type of norm they need and explicitly mobilize them as a guide for action. In our perspective, normativity is not given in advance: it's the result of a global process, for which we formulate a *methodology*.

Stirling (2015) points to the potentially apolitical nature of "transition" by emphasizing that, in the face of environmental urgency, the watchword "transition" leads dominant actors to view public deliberation and citizen participation as a luxury that society can no longer afford. In contrast, the notion of "transformation" implies a much more open-ended approach to the problems at hand, capable of questioning established power relationships and privileges. The dynamics of transformation are thus the result of unexpected political choices, but also of less visible paths and more ambiguous pathways than those envisaged by the established order. They seek more radical changes on a large scale and over the long term, they position themselves in the progressive and radical posture described by Shattuck and Holtz-Gimenez (2011). We can oppose the transition towards sustainable agricultural intensification with a path of transformation towards agroecological agriculture (Levidow, 2018)². Our article deliberately adheres to this transformative perspective, while still giving it a particular reorientation. Though we see agroecological transitions as processes of an open-ended and indeterminate nature, they nevertheless rely on normative supports that need to be grasped and made explicit. Our work has therefore consisted in bringing to the foreground what was, from a normative point of view, in the background.

2.2. Normative supports of the agroecological transition

Our theoretical question is the ethical dimension of a transformative transition. Indeed, the normativity we refer to here concerns the conditions of a just transition and, more broadly, the meaning that actors give to their decisions when they intend to pursue an ideal of social justice. We begin our reflection with conflicts of value – ethical dilemmas – that these actors encounter in their practices. Indeed, a reductive reading of the transition might suggest that in order for this transition to take place it would be sufficient to adhere to the values of the emerging model, or to oppose those that underly agricultural productivism. The reality is more complex: in practice, many values clash with each other, and actors do not have the means to make choices based on adequate normative supports.

² In order not to weigh down our text, we will use the generic term "agroecological transition with transformative ambitions."

This is why, at the interface of Marx and Weber, it seems to us more appropriate to approach the ethical question through *conflict*. Following the path opened by McIntyre (1984), such an approach renounces making "virtue" the criterion for determining "the good life." Building on the work of Lukes (1991), it focuses on the practical contexts in which moral questioning arises. Finally, and especially, such an approach seeks to take seriously the ethical experience itself, that is, the questions, divisions or indecisions that actors regularly face in the professional sphere. On a theoretical level, such an orientation has an important consequence: it leads to an acceptance of pluralism, not only of the "ideals of a good life," as said Paul Ricoeur, but of the normative supports themselves. Clearly, there exist several possible ways of overcoming the conflicts of value that actors face. However, this calls for two clarifications: this approach implies going beyond the simple observation of a "irreducible pluralism of values," highlighted by the founding works of John Rawls (1971); it also implies moving away from a universalizing perspective of social ethics, in favour of a more contextual approach (Hunyadi, 2012).

By the same token, the question of the relationship to action appears as the central – and no longer secondary – precept of ethical reflection. The question is no longer how to apply general, decontextualized considerations to concrete situations, but how to take the latter as starting points in identifying the normative supports available to actors in singular contexts. Let us thus take a closer look at the question of the normativity of the agroecological transition. While this is not a new question, our contribution focuses on the status of this normativity for guiding the transition. To do so, we propose an analysis in three stages: principles, compromises and plurality of normative supports.

2.3. From a statement of general principles to a plurality of models of justice: The three "normative stages" of the agroecological transition

Assuming the perspective of a transformative agroecology (Mendez et al., 2013), the Belgian Interdisciplinary Research Group on Agroecology (GIRAF) began defining in 2011 a series of principles for the transition towards sustainable food systems (Stassart et al., 2012). For the 9 co-authors (founding members of GIRAF) the aim was to define first and foremost a framework that could clearly define what agroecology was or was not, according to them. This framework is composed

of 12 principles. In order to not reduce them to a juxtaposition of good practices, the group enriched Altieri's well-known principles, elaborating a series of principles touching on methodological and socioeconomic dimensions of agroecology. In this way, GIRAF laid the foundations for a *first normative stage*, to which other authors would contribute (Nicholls and Altieri, 2016).

Antoinette Dumont (2016) went on to propose a second stage. She endeavoured to show that the above principles do not sufficiently take into account the conflicts of value agroecology actors are confronted with on a daily basis. Her research highlights the following paradox: on a daily basis, transition actors are obliged to negotiate with their ideal... if they want this ideal to be translated into reality. Clearly, the pursuit of an effective transition presupposes the construction of compromises, in order to allow actors to get out of untenable situations. And these compromises sometimes imply depending on the productivist model, without forgetting the transformative aim of agroecology. A change of perspective thus takes place - this is the second normative stage: the question is no longer whether compromises are necessary – they are – but according to what philosophy should they be implemented in the service of a just transition. By basing her investigations on the "cities (cités) model" (Boltanski and Thévenot, 2006), the researcher has endeavoured to recognize these compromises, but also to examine the conditions that make it possible to turn them into a normative support.³ The ethics of compromise thus appeared as a way of giving an ethical framework to actors' experiences. Obeying certain rules, the agreement on an intermediate solution makes it possible to maintain the plurality of values over time, in a relatively stabilized form, in the name of the common good. Nevertheless, the question remains: is this ethics of compromise the only possible way forward?

This question leads us to suggest a third stage: that which consists in making the plurality of normative supports a distinct dimension of the analysis, but also of the research framework. Compromise is then only one of the possible configurations among a plurality of normative resources. In his book *Rendre justice au travail* (de Nanteuil, 2016), Matthieu de Nanteuil identifies four possible normative perspectives: the

Following these authors, compromise is opposed to arrangement – an unstable and informal negotiation, similar to "barter," that does not lead to a lasting commitment on the part of the protagonists.

ethics of discussion (Habermas, 1991), the ethics of compromise (Boltanski and Thévenot, 2006), the ethics of capabilities (Sen, 1999; Nussbaum, 2011) and the ethics of recognition (Butler, 1990; Honneth, 1991, 2016)⁴. The argument is as follows: if the philosophical controversy concerns which normative support has the most solid argument, the sociological question is of a different order. For social actors, it is a question of knowing which is the most appropriate support for their situation. This presupposes keeping open a range of possibilities, or never shutting it, in the place of those who are actually faced with practical dilemmas. Such an approach therefore promotes a plural and contextual approach to social ethics: rather than seeking to apply abstract reasoning to local situations, it is a matter of starting from the difficulties encountered by actors in order to envision with them the normative supports they might need to overcome these difficulties. In this perspective, the plurality of normative supports is not a "bonus" to ethical reflection, but the very condition of its effectiveness.

3. The agroecological transition in the face of the plurality of normative supports: Ethics of compromise, ethics of capability, ethics of recognition

The three cases in which we develop our reflection are situated in areas of experimentation of the agroecological transition. They are the result of doctoral research conducted by three of the co-authors of this chapter:

- the analysis of labour and workforce employment in market gardening with an agroecological transition perspective (Dumont, 2017);
- action-research with an association of sheep farmers and extension agents involved in an agroecological transition (Lacombe, 2018);
- management of global plant health in a collaboration with a network of independent vegetable seed producers (Klaedtke, 2017).

These research projects have all, to varying degrees, developed a dimension that is both transdisciplinary and transformative (Herrero

⁴ In our case studies, the ethic of discussion did not appear to be a framework for justice in the face of the dilemmas encountered. Nevertheless, this does not make it a framework to be excluded in the context of the ecological transition.

et al., 2018), either of the course of the research (Lacombe), in the interpretation of results (Klaedtke), or in the restitution to stakeholders (Dumont). In this respect, our chapter has a specific intention: to better grasp the role of a research framework that links researchers and actors through reciprocal learning trajectories, in the emergence and stabilization of normative resources necessary for the transition. With this, we touch on the "engaged" dimension of these three research projects. As Bell and Bellon remind us (Bell and Bellon, 2018), it is not possible to dissociate the knowledge produced from what is important to us and the hopes we maintain.

The question of ethical dilemmas emerged in the course of several thesis defences (April 2017 – December 2018) in an iterative process between the reflexive work of doctoral students around the approach deployed in and around the theses and the categorization of M. de Nanteuil in his previous work. Based on an initial problematisation and the hypotheses formulated for each case, we thus have from a methodological point of view:

- 1. Developed for each case study an initial analysis of the dilemmas and how to overcome them, written by the doctoral student who conducted the study, in order to validate the plurality of normative supports in their respective theoretical framework.
- 2. The six authors then collectively built a complete analytical frame that makes it possible to compare the 3 case studies. This methodology is based on six steps: (i) identification of the tensions that surround professional practices; (ii) identification of a significant ethical dilemma; (iii) analysis of what actors consider to be a significant injustice; (iv) mobilization of a particular normative support to overcome these difficulties; (v) identification of the epistemological frameworks that this support presupposes; and (vi) stabilization of this support as a resource for transformation, within the researcher-actor relationship.
- 3. Finally, we completed our problematisation by resituating the issue of ethical dilemmas within the larger question of social justice as applied to ecological issues.

3.1. The dilemma of purchase-resale and the ethics of compromise

This first case study is based on the PhD work of Antoinette M. Dumont that examines working conditions in vegetable production, of organic farmers based on less than 10 hectares that commercialize their produce in "direct sale" combined for a minority with "purchaseresale." Though these farmers do not identify explicitly with agroecology, they pursue nonetheless several agroecological principles in terms of both ecological and socioeconomic factors (Dumont and Baret, 2017).

Tensions

The farmers of the two examined production systems, confronted with socioeconomic and political constraints that made the viability of their farms challenging, do not manage to put into place *all* of the principles of agroecology. As such, they violate their own ideals and the societal expectations placed on them. Although farmers do not necessarily explicitly refer to agroecology, their difficulty could be translated by the affirmation: "I am unable to implement agroecology." After many years of work, they feel judged. They are disappointed by the harmful situations that they have created to the point that, on occasion, they quit farming altogether.

A significant ethical dilemma

Behind this tension hides a profound dilemma: either undertake only direct sale commercialization on behalf of the transition, but assuming precarious working conditions; or, on the contrary, improve working conditions by undertaking a purchase-resale arrangement, but at the risk of evading certain agroecological principles. Indeed, farmers must work a considerable number of hours in order to generate a low income and find it difficult to pay their workforce properly. Some chose thus to engage in what is commonly called "purchase-resale." They generate more than 50% of their revenue by buying organic vegetables from abroad or from Walloon farms qualified as "industrial organic," bought at low prices through wholesalers and which they subsequently resell for profit. This practice is very controversial, and the vast majority of producers reject it because they do not want to depend on or support unsustainable farms. A minority group of farmers, however, have opted for this option. They see it as a necessary choice in order to live decently and assure quality

employment for their labour force. They have chosen to favour values of social equity at the expense of values of autonomy and financial independence from the dominant system. The majority of producers, on the contrary, make the opposite choice. This situation points to a deeper polarization of between those who refuse any linkage with the productivist model, even if it means impinging on the viability of their farming goals, and those who seek to develop an agroecological model that is viable in the long term, for both producers and farm workers.

A significant injustice: Constant but ignored compromises

In practice, all producers must make compromises. The figure of radical injustice that they refer to, explicitly or otherwise, is unilateralism, that is, the impossibility to combine different values. This occurs when consumers, other farmers, or managers of agricultural institutions, who generally have poor knowledge of agroecological realities, judge harshly the compromises made and, more generally, produce arbitrary judgements. The feeling of a radical injustice is experienced by agroecological producers, who often feel isolated in the face of the compromises made; it can be found in the already mentioned assertion: "I am unable to implement agroecology." This affirmation translates both the considerable efforts that they make and the divisions that they experience, as a societal issue intertwines with their individual farming goals. With no way out, this phrase can be a source of suffering.

A specific normative support: Reconstructing legitimate action through the ethics of compromise

In her thesis, Antoinette M. Dumont proposes a theoretical framework called the *justification of practices* to analyse the extent to which agroecological principles guide producers' practices and affect their work experience (Dumont, 2017). This framework is based on the notions of "justification" (Boltanski and Thévenot, 1991) and the ethics of compromise (de Nanteuil, 2016).

To get out of the above mentioned dilemma, producers have implicitly created two forms of compromise. Minority producers opting for purchase-resale espouse a vision of agroecological agriculture that is based on a compromise between the "industrial" city (economic efficiency) and the "civic" city (decent work contracts, focused on employment quality), while producers opting rather for a direct sales model espouse a

compromise between the "domestic" city (interpersonal relations and direct sales, "localness") and the "civic" city (transparency of the relation to the consumer, a refusal to support unsustainable practices for society as a whole)⁵. These choices govern the entire operation of their farm, materialized by different investments and contracts (for example, a predominance of workers hired with permanent, as opposed to short term, contracts). What is important to observe though, is that the minority producers also consider their action as the result of a compromise, thus intending to give a solid ethical foundation to their own choices.

Moreover, these compromises are justified by a plurality of axiological registers, including the civic city that implies a strong sense of the common good. In other words, these compromises are not purely utilitarian, nor simple superficial arrangements, but definitively *compromises* that are hard to reverse and are considered to be desirable for society.

The underlying epistemological framework

The compromise is revealed here thanks to the heuristic strength of the "cities model" (Boltanski and Thévenot, 2006). Examining the justifications that underly agroecological practices reveals the existence of not just one, but many. The question thus shifts to the coexistence of these different justifications. This is where the ethics of compromise emerges: ensuring that this coexistence takes hold in the long term, and that the transition is never a simple matter of unilateral or arbitrary decisions. The importance lies in the fact that compromises are made between actors who hold values with the same degree of legitimacy. As such, the mobilization of the "cities model" allows for researchers and actors on the ground to open to a new question: what forms of agroecology and what underlying values do we not only want to support, but to sustain?

The stabilization of normative support within the researcher-actor relationship

The researcher's conceptualization and explanation, which updates and stabilizes the normative support of the ethics of compromise, becomes a resource when actors can use it to overcome taboos and discuss

The terms "industrial city," "domestic city" and "civic city" are borrowed from Boltanski and Thévenot (2006).

"unspoken" dilemmas. So, after the thesis, several restitutions, as well as the constitution of a file co-written with actors on the ground, became the opportunity to explain this resource and to debate the experienced dilemma, as well as the two compromises made in order to overcome it. While the themes of purchase-resale or off-the-books employment were up to that point taboo (Pongo, 2017), they are now brought up and sometimes discussed, namely within commercialization cooperatives that bring together organic producers on small or medium sized farms.

3.2. Act collectively or accompany singularities? The ethics of capabilities in the face of a recurring dilemma

The model of compromise between "cities" presupposes a willingness for negotiation more so than creating one. In the following case, the normative support used refers to an ethics of capabilities. It is based on the development of capacities for action. This figure is illustrated by the case of AVEM, an Association of Veterinarians and of around 60 Millavois Sheep Farmers. In the context of the restructuration of the Roquefort Confederation, which sets the prices and volumes of sheep milk produced for a majority of livestock farmers, and faced with reoccurring climatic uncertainty, this organization decided to put into place a project of agroecological transition towards autonomy. Some of the farmers of the steering committee, accompanied by a veterinarian and agronomist of the association, proposed to co-construct locally a diagnostic tool to assess farm's possibilities to achieve agroecology.

Tensions

The first part of their project⁶ is focused on the conception of a tool for evaluating the agroecological performance of production systems. Tensions emerged in the debates surrounding the criteria and indicators to put into place. Indeed, it was necessary to identify concrete elements to which the group of farmers and partners wished to give importance and collectively attribute value. The farmers who initiated the project had

The SALSA project (Agroecological Milk Systems of Southern Aveyron) is a Ministry of Agriculture State funded project lasting three years (2014–2017), within the framework of the "Collective Mobilization for Agroecology" call for projects.

emphasized the importance of farm autonomy, the impact of practices on the environment and the efficiency in the use of inputs. Nonetheless, during the first interviews and workshops, it became clear that for other farmers, other criteria appeared to be essential (namely, the revenue and well-being of the farmer). Moreover, the criteria to be given most importance in strategic choices differed from one individual to another.

A significant ethical dilemma

With this tool, the dilemma for the AVEM was the following: on the one hand, recognize and support the singularity of individual pathways of change; and on the other hand, to demonstrate, thanks to the evaluation of production systems, that the most autonomous farms and those least impacted by the environment were also those that were doing the best financially. Ought that all the members could be convinced of the advantages of their transition, and that the veterinary advisors and agronomists could then disseminate these best practices. But the question of individual choices and pathways of change, as well as the values that motivate individuals to change, had not been addressed directly at the start of the project. Moreover, the objective for the association was to accompany its members towards an autonomy in regard to chemical inputs as well as a decision-making autonomy with regard to other commercial actors (upstream and downstream), while helping them to minimize their environmental impact. Finally, there was an implicit desire that working on a more global approach to farms would enable a more collective dynamic, by re-articulating individual monitoring (veterinary monitoring) with more collective aspects (trainings).

A radical injustice: Actors faced with the inability to act

The initiators of the SALSA project hoped that area farmers would be able to reflect and decide for themselves on the quantities of milk to be produced on their farms, thanks to a broader reflection on the autonomy and coherence of their system. They noted, indeed, that more and more farms are expanding and increasing their livestock to be able to produce more milk, and thus meet the ever-increasing demand from the industry. With the end of the federal Roquefort system, which defined production references for each farm and set agreements on prices, their fear was that this phenomenon would increase, with falling prices as in the dairy cow sector. The desire was therefore to counter this phenomenon by allowing farmers to avoid having their litre-amounts dictated by downstream

actors and to build their own references locally. The aim of the project and the diagnostic tool was therefore to provide farmers with the capacity to establish the litre-amounts sold to the dairy industry according to their own production, and not the other way around. The injustice they felt they were facing was the inability to act – and to act independently.

A specific normative support: Overcoming conflicts by developing the capacity of actors

The individual/collective dilemma was resolved by three shifts that have increased the actors' capacity for action. First, the choice of the form of the results produced by the tool that was able to represent, on the same graph, the results of the collective and the particularities of each farmers' situation (Fig. 1). Indeed, this graph shows a form of ideal to be attained for the group of farmers (the most autonomous and efficient farms possible, with little impact on the environment, at the top right), while at the same time making it possible to compare individual situations and envision individual pathways of change, taking into account each person's starting off points and subsequent choices.

The results were presented on the same graph to facilitate an overall comparison of systems and to facilitate exchanges between farmers. A negative autonomy corresponds to a situation where the farmer buys all his production as well as part of the feed necessary to maintain his non-lactating ewes.

Subsequently, the tool evolved in its uses. Rather than using it as a tool for *prescribing* changes, the researchers proposed to use it as a base for *demonstration and debate* within small groups of farmers. This made it possible to support individuals in their transition choices, while collectively constructing common principles of action through debate and experimentation. Finally, the tool was seen as an evolving, non-stabilized, resource within the technical committee.

The underlying epistemological framework

Camille Lacombe mobilized the conceptual framework of John Dewey's American pragmatism to take action and to analyse how the tool was used in concrete situations. Rather than deploying it solely for positivist uses, as a base to produce knowledge and identify good practices, she proposed to use it in a more constructivist way, as a support to facilitate reflective debates among farmers on the ends and means of

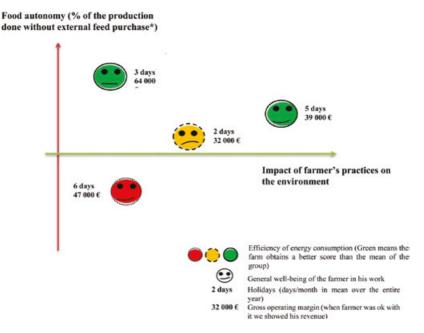


Fig. 1: Example of results of the SALSA diagnostic for four participating farms.

the agroecological transition (Lacombe et al., 2018). Pragmatism puts individuals, their choices and experiences, at the centre of reflections. It recognizes individuals as autonomous beings, capable of making choices and testing hypotheses in their work situations, in order to collectively assess the consequences. It has brought to the forefront the question of the capacity of farmers to carry out a certain number of actions or decisions. We see here how pragmatism, as a theoretical referent and epistemological framework, has made it possible to open the question of the ethical issue of developing the capacities of the AVEM.

The stabilization of normative support within the researcher-actor relationship

On this occasion, the co-produced resource is the result of a change of perspective, in which the diagnostic tool was co-constructed between researchers and the SALSA project committee. Supplemented by "socioeconomic" and "well-being" dimensions, it served as a diagnostic tool

and a means of comparing individual situations. It has become the basis for *explaining* individual choices and trajectories of farmers, for *discussion* among farmers about the objectives and means of transition, and for *simulating* a change in practices among farmers engaged in a transition on their farms.

The AVEM also used the results to test new methods of joint intervention between veterinarians and agronomists on farms, in order to provide comprehensive support to farmers. Participating farmers were also put in the role of advisor to their willing colleagues on changes in practice, which they discussed with the group. Finally, the AVEM took up the issue of transition support again to discuss the follow-up to the SALSA project within the association. The steering committee decided that the facilitation of the collective workdays for transition accompaniment should continue beyond the project.

Finally, the progress made within the project has made it possible to move from designing a *tool* to designing a *support system* using the tool as a basis for facilitation. This made sense for an association bringing together farmers and their advisors, where the question of how the advisors mobilize the tool with farmers ultimately proved to be as important as the question of the type of knowledge that the tool was able to produce.

3.3. An identity that breaks with European phytosanitary regulations: The dilemma of farmers' seed and the ethics of recognition

In this case, it is the ethics of recognition that will be mobilized. More than the search for middle-ground or the development of capacities, this normative support is based on the recognition of practices and a new identity: that of artisanal seed producers.

The case discussed here concerns a recent reclamation for the recognition of a paradigm shift in the treatment of plant health, established beginning in 2010 by an association of eight seed craftsmen, the "carrot crunchers" (*Croqueurs de Carottes*), a member of the "Farmers Seed Network" (*Réseau des Semences Paysannes*). These small seed companies promote the production and dissemination of open-pollinated organic vegetable seeds free of property rights. Their reclamation is based on their own plant health management practices, which break with a European

phytosanitary regulatory system that follows a logic of removal of pathogenic organisms in order to eliminate the sanitary risk linked to seeds.

Tensions

Conflicting tensions emerge around the European phytosanitary regulatory constraints. During the final symposium of the European research project "Farm Seed Opportunities," an expert in seed technology stated that the sanitary quality of seeds supplied by these artisans was "mediocre" by European standards. He based this on analyses of bean seeds showing the presence of a *Xanthomonas* bacterium (*Xanthomonas axonopodis* pv. *phaseoli* and *X. fuscans* pv. *Fuscans*). This bacterium causes a disease called "common bacterial blight" on this plant. Some of the *Croqueurs* present were indignant. On the one hand, according to their experience, the disease in question is endemic: it can no longer be eradicated as the regulations aim for. On the other hand, their practices and observations lead them to live "with" the disease rather than "against" it, considering the overall health of the plant as it evolves in a given terroir rather than through the microbiological properties of the seeds alone.

A significant ethical dilemma

Following this symposium, Stephanie Klaedtke undertook a PhD project with the aim of gaining a better understanding of the management of bean health by the *Croqueurs*, using the *Xanthomonas* issue as a model. However, as it is a quarantine organism, the detection of *Xanthomonas* on seeds during trials must be reported to the authorities, potentially leading to the exclusion of the artisans seeds from market sale. For artisanal producers, the dilemma is either to enter into an open conflict in order to bring recognition to a perceived injustice, or to accept that their practices are tolerated in the margins, in order to develop both their market access and their alliance with the scientific world, but at the risk of becoming invisible.

A significant injustice: Contempt

The injustice denounced by the *Croqueurs* stems from the declaration of their supposed incompetence in seed health management by the seed technology expert (van der Brug, 2010), which appears as a form of contempt. This expert asserted that "farmers awareness of seed quality is limited and that knowledge about seed treatment is practically non-existent." This public expression of disdain is part of a broader disqualification of

the practices and knowledge developed by seed artisans, particularly in regards to their claim to contribute to cultivated biodiversity⁷. For them, this situation is not tolerable. On an issue with as much importance as biodiversity, it deliberately ignores the knowledge and skills of these seed producers, accumulated over the course many years.

A specific normative support: Extending the conditions for recognition to non-institutional statutes and practices

Stephanie Klaedtke thus chose to substitute a second disease for the *Xanthomonas* model, that of "halo blight," caused by a bacterium of the genus *Pseudomonas* and that has an infectious cycle and symptoms similar to *Xanthomonas*. Both bean diseases are managed in the same way by the *Croqueurs* but *Pseudomonas* is not a quarantine organism, unlike *Xanthomonas*. Studying the interactions of beans with *Pseudomonas* does not endanger either the research project or the seed producers.

We refer to this second disease, *Pseudomonas*, as "diplomatic," because it can bring about the coexistence of different and contradictory practices (Stengers, 2006). Switching to *Pseudomonas* transforms the problem and frees the *Croqueurs* from regulatory quarantine threats. This transformation enables change of perspective within the project. By following the practices of artisanal seed producers, the project broadens the initial bio-technical perspective by focusing on the way in which stakeholders define and conceive plant health, through their approach that is both *global* in relation to the plant and *situated* in relation to the terroir.

The underlying epistemological framework

Departing from this tension between experts and seed artisans, Stephanie Klaedtke mobilized the sociology of controversies to complement field trials in an attempt to understand the issues and the networks

An expert in plant breeding, Théo Van Hinten, says about them: « The in situ community is less coherent [than the ex situ]. [...] Not only the nature of [...] and the conservation methods vary, also the actors [...] have quite different perspectives. [...] They form a very diverse mixture [...]. As a result, [...] it is difficult to describe their specificities [because of] the lack of information. [...] It is not clear whether this material is available for utilization. [...] Making these components better accessible, by digitizing and translating them and connecting them via websites, will increase access to in situ diversity substantially ». (Farmer's Pride Workshop 1, January 2019, WG 1 1C – 2C, PGR user network stakeholders and Promoting and enabling use of material conserved in situ in the network).

that contribute to them. She thus enacted the shift from a bio-technical approach ("what biological interactions are at play?") to a socio-technical approach ("how is plant health defined?"). In her approach, she does not reduce the dispute to a simple conflict of interest. Following Callon (1999), she interprets it instead as a "hot debate" where: "Actors are unable to agree upon what constitutes causes or effects of the problem, nor on the knowledge necessary to solve it. Even a common definition of the problem cannot be agreed upon. In such hot debates, the involved actors propose visions for the future that are incompatible." This allows Klaedtke to express the depth of disagreement and to ultimately note that: "The participants don't agree with the definition of bean seed health that the seed technologist considers to be a given." (Klaedtke, 2017). She then shows how seeds, practices and knowledge circulate within the *Croqueurs* network by observing them closely – following the precepts of Actor Network Theory - in order to understand how they collectively manage the global health of plants that are in co-evolution with their terroirs. This reveals the specificity of their socio-material practices but also their socio-political practices (Hecquet, 2019). The latter reveals their public, but also legal, reclamation for recognition of another way of managing living things.

The stabilization of normative support within the researcher-actor relationship

Defended in 2017, the PhD on which this case study is based received an enthusiastic reception that surprised the doctoral student and her sociologist co-superviser, less for the academic appreciation of its transdisciplinary approach than for the interest it elicited from seed artisans.

Their interest related to the new resource that the thesis had become for their normative framework. The researcher demonstrates, in collaboration with these producers, the importance of reconfiguring the initial sanitary problem, by moving away from the paradigm of sanitary purity to a global and situated approach of plant health at the crossroads of the practices of seed artisans, their terroir and the seeds they maintain. (Klaedtke et al., 2018) How the problem is defined holds greater importance to artisan seed producers than academic solutions that do not address their "real" problems. Based in an academic qualification and the scientific network, the thesis becomes a resource to give credibility to producers' request for recognition, which relates to a different conception of managing living things but also to the identity of seed craftsman. This

is also what paradoxically allows this thesis to be described as "transformative," despite the fact that it does not provide an immediate solution (Stassart et al., 2020).

This credibility and the collaborative dimension of the thesis contributed to the establishment within the Farmers' Seed Network of a working group on plant health. In July 2019, the group organized a meeting called "Visions of living things and plant health," in which the researcher and the actors of the thesis participated. The linchpin of this meeting was the farmer of the *Croqueurs* who had been outraged by the reductionist vision expressed by the expert. Taking the participants on a tour of his farm plots, he retraced the history of the controversy in which they had initially been described as incompetent. Starting from a profound dilemma, having gone through the rejection of a significant injustice, the actors and researchers together defined a path for overcoming their difficulties. The ethics of recognition provided them, in this case, with the support they needed to back up their analyses and their reclamation for political action.

4. Conclusion

In this chapter, we have intended to recognize the ideals of justice sought by the actors involved in the agroecological transition, while equipping them to overcome conflicts of value that are too often ignored. Looking at three case studies, we have observed that, in each situation, the normative supports used to overcome these conflicts were different. Yet, beyond the differences, a common methodology emerged. In this chapter, we have been able to identify six successive phases though which actors involved in the transition are able to identify profound dilemmas and to overcome them while referring to contextual norms of justice. This methodology is our major collective contribution: it confirms the existence of a pathway for an open-ended and non-relativist agroecological transition. One point, however, deserves to be explored in greater depth: that of the genesis of normative supports, given that they are linked to particular contexts of action. The question could be formulated as follows: what are these different contexts composed of and/or how do they contribute to the production of specific normative resources? Answering this question would entail launching a full research programme, capable of revealing the underlying dimensions of these different supports and making them accessible – or not – to the actors of the transition. The project of an agroecological justice still requires significant scientific work.

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