Origin food schemes and the paradox of reducing diversity to defend it

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Abstract

Origin food schemes (OFS) aim to protect and promote a unique product resulting from a specific place and know-how whose qualities are objectified in the product specifications. This paper explores the standardisation effects of OFS on the diversity of local practices and knowledge by analysing the emergence of the specifications of four origin cheeses recognised as Geographical Indications and Slow Food Presidia (Chefchaouen goat cheese in Morocco, Piacentinu Ennese in Italy, and Béarn mountain cheese and Ossau-Iraty in France). Results confirm that specifications directly preserve some genetic resources, taste, and know-how, whilst they also show that traditional production practices are taken into account differently, depending on negotiations among stakeholders during which opposing motives, strategies, and forms of knowledge may emerge. We argue that paradoxically this process results in adapting and reducing existing diversity, including in OFS that are more oriented towards localising practices and promoting a diversity of tastes.

Key words

cheese, geographical indications, knowledge, origin food, product specifications, slow food

Introduction

Origin food schemes (OFS),[1] are multiplying worldwide and are helping shape a *new rurality* where food with a meaningful origin challenges the supremacy of 'placeless' food (Van Der Ploeg and Renting 2000). Geographical Indications[2] (GIs) and Slow Food Presidia are responding to this trend of food differentiation based on origin (Callon *et al*. 2002). Both GIs and Presidia are based on local resources, including production know-how and historical reputation, and their 'qualification strategy' is collectively managed (Tregear *et al*. 2007).

Beyond these similarities, their genesis and implications differ greatly. GIs are framed by government laws in the framework of the TRIPs[3] Agreement, and are unlimited (in time) and inalienable collective rights to a product (Boisvert and Caron 2010). Presidia are on-going projects promoting endangered foods initiated by the Slow Food international consumers' movement (Siniscalchi 2013).

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In the last two decades, GIs have been promoted as Intellectual Property (IP) rights as a way to protect local traditional knowledge and practices associated with cultural biodiversity (Downes and Laird 1999; Dutfield 2000). Slow Food Presidia are also intended to foster the preservation of biodiversity, considered as genetic resources, landscapes, and traditional practices (Peano *et al.* 2014).

But appearances can be deceiving. OFS answer two apparently opposing market needs (Callon *et al.* 2002). On the one hand, origin products must differ from conventional products and meet a consumer demand, originate from a specific place and be the result of specific know-how ('singularisation'). On the other hand, origin products must be sufficiently standardised to be recognised in the marketplace and be comparable to other existing goods ('standardising'). Yet, authors are increasingly questioning the effects of OFS on traditional knowledge and practices associated with biodiversity in Europe and, to an even greater extent, in countries where OFS have been applied as a development tool (Barham and Sylvander 2011; Mancini 2013; Belletti *et al.* 2017).

Specifications – also known as product specifications or codes of practices – are preferred objects of study to reveal the consequences of OFS on food diversity because they establish local rules to use the scheme. The governance system managing such complex negotiations has been identified as a key element to forecast the effects of OFS (Barjolle and Sylvander 2002).

Several authors have already given an account of the preparation of OFS specifications (Bowen 2010; Rangnekar 2011), including cheeses (Bérard *et al.* 2016; Bowen 2011). Such literature suggests that the gap between the immense tacit local knowledge underlying OFS and what is reported in specifications reflects a judgement on the extent to which diversity is a successful or limiting factor for the collective initiative. Some authors have also highlighted the undesirable outputs of codification, for instance that GIs may threaten biodiversity by overexploiting the same resource (Thévenod-Mottet 2010; Boisvert and Caron 2010; Bowen and Zapata 2009). Although to a lesser extent, socio-anthropological studies have explored the consequences of the process of selection and making explicit a diverse range of practices in origin cheese initiatives (Bérard and Marchenay 2006; Faure 1998 in cheeses from the northern Alps; De Sainte Marie *et al.* 1995 in Corsican cheese; Grasseni 2017 in Italian alpine cheeses). However, there have been few ethnographic accounts and explanations for the reduction in local knowledge and practices in OFS, almost no mention is made of the negative effects of Presidia on traditional practices (West and Domingos 2012; Lotti 2010) and, to our knowledge, no previous attempt has been made to compare GIs and Presidia as two worldwide examples of OFS (Mariani *et al.* 2019).

The aim of this article is to explore the standardisation effects of OFS that, by definition, imply a relative homogeneity of the good. To this end, we examined how knowledge and practices are codified as a result of interconnected knowledge and power relations among the actors' schemes. We argue that a delimitation of practices and tastes results from negotiations on the degree of diversity that is acceptable and favourable to the initiative. The consequent harmonisation of heterogeneous logics results in a tension between participation and exclusion of stakeholders, practices, and tastes. Tastes and practices that do not fit into a marketplace and its regulatory framework, or that weaken the dominant quality criterion underpinning an OFS, may

be discarded to allow for a more widely palatable product, to the detriment of cultural biodiversity.

To analyse the conditions of emergence of OFS specifications, this article builds on the vast literature analysing their governance and the configuration of power within networks, referred to as one of the pillars of the Alternative Food Networks (Fonte 2008; Goodman *et al.* 2013). This interest in governance systems is coupled with an ethnographic insight into the practices of reinvention of local food (Wilk 1995; Grasseni 2011 and 2017; Siniscalchi 2013).

The results of this research question the conditions that contribute to the emergence of standardised practices and knowledge in OFS, in their multiple functions as economic, cultural, and social devices. What is more, our results shed light on the capacity of producers and other stakeholders to influence the development of shared rules and orient the qualification process in a more inclusive and biodiversity-oriented way.

With these aims in mind, we begin by outlining the conceptual framework of our analysis and the role of specifications. This is followed by a description of our four case studies – artisan cheeses recognised as Presidium and/or GI – focusing on how they were built, by whom, and why. Next, we analyse to what extent traditional practices and local knowledge are acknowledged in the process of formulating specifications. Finally, we discuss the controversial implications of specifications regarding local practices in the on-going market-driven normalisation of practices and taste.

Specifications between power and knowledge

Murdoch *et al.* (2000) argued that emerging concerns about food quality complement the global trend towards standardisation and industrialisation. Within this shift from commodity consumption to differentiated markets, producers aim to differentiate their products around socially constructed quality criteria, including territorial and social embeddedness (Marsden 2004; Goodman *et al.* 2013). According to Ilbery *et al.* (2005), *product, place, process* – the *3Ps* – are the main elements in 'constructing difference' in the quality food market.

In the case of OFS, socially constructed quality criteria are based on notions of territory and provenance, and their 3Ps characterise the 'quality link' between the product and its geographical origin, which is associated with valued know-how and high quality (De Sainte Marie and Bérard 2009; Bérard and Marchenay 2000 and 2006).

Thus, producers define voluntary and proactive standards to demonstrate in what way their foods differ from and are superior to conventional commodities (Brunori 2006; Guthman 2007; Holloway *et al.* 2007). Specifications objectify, measure, and communicate those differentiated quality attributes to consumers (Busch 2000; Vuylsteke *et al.* 2005; Bowen and De Master 2011) within a 'quality convention' (Boltanski and Thevenot 2006). In this way, the quality attributes are stabilised and reproduced over time. To obtain a premium price, these differences are 'acknowledged, highlighted and marketed' (Ilbery *et al.* 2005, p. 118).

GIs and Presidia specifications describe and share the 'quality link', namely natural resources and practices, and the area of production (Vandecandelaere *et al.* 2009).

Regarding GIs, the French model has inspired the international institutional framework (Barham 2003), and generally only collective entities are allowed to apply for a GI. Their governing body negotiates specifications, with no other requirements than health and safety standards. Scientists and public institutions collaborate with producers to consolidate and validate their choices (Bérard and Marchenay 2006). Producers' compliance with specifications is verified by third-party certification, whose cost is shared among producers.

Aside from temporary exceptions,[4] Presidia can also only be created by collective entities, both formally recognised or not, under control of the Slow Food Foundation for Biodiversity (SFFB), i.e., the operational body which implements the Presidia project that has an active role initiating Presidia and selecting producers. The SFFB asks Presidia producers to select the best practices that can be found in their territory and which respect the guidelines for the improvement of the organoleptic, environmental, and social food quality, captured by the 'Good, Clean, and Fair' slogan[5] (Petrini 2007). For example, pasteurisation and use of silage are forbidden in Presidia cheeses (SFFB 2019). In this private qualification system, first and second-party certification assures that specifications are met.

Busch (2011) reported that once established, specifications appear to be anonymous, neutral, and self-evident. Their authors, motives, and the process of negotiation are hidden behind standards and rules. However, in practice, codification is rarely consensual (Barham 2003). Barjolle (2006) underlined the complex rationale behind the governance of the qualification strategy, i.e. process initiators, members' motivation, and the consistency of these motivations with contextual and commercial stakes. Local institutions help mediate among competing interests and regulate possible controversies (Marescotti 2003). Nevertheless, the act of judgement at the origin of specifications is 'a demonstration of power' by those who used their greater bargaining power to take the decisions, including the institutions themselves (Renard and Loconto 2013, p. 55).

In addition to power relations, negotiations are also underpinned by different forms of knowledge, i.e. ways of understanding the environment and doing things (Ray 1998). This recalls the debate over the epistemological implications of defining the knowledge that brought together economic (Balconi *et al*. 2007), geographic (Whatmore 2009; Fonte and Papadopoulos 2010), and anthropologic concerns (Bicker *et al*. 2004) in rural development. Following the seminal work of Polanyi (1966), authors recognise a divide between tacit or local, and explicit forms of knowledge (Wilburn 2014). This binary logic is behind the many definitions of knowledge that tend to establish dichotomies: local, indigenous, ecological, contextualised, traditional, practical, tacit knowledge are opposed to exogenous, scientific, universal, standardised, modern, theoretical, codified knowledge. Other authors point to the need to look at mutual interconnections (Ingold 2000; Geertz 2000; Escobar 2008). For instance, Ray (1998) suggests considering different actors involved in the re-discovery or even in the invention of rural local knowledge.

For the purpose of this article, we use Fonte's (2008) classification of the forms of knowledge used in local food networks,[6] whilst recognising their interaction and contrast. Building on this conceptual approach, we explore OFS by looking at how the 3Ps, *product*, *place*, *process* (Ilbery *et al*. 2005) are understood and negotiated in specifications.

Methods: four case studies of origin cheese

Our analysis is empirically grounded on four case studies: Chefchaouen goat cheese GI, Piacentinu Ennese GI and Presidium, Béarn mountain cheese Presidium, and Ossau-Iraty GI (Table 1). The case-study method (Yin 1994; Stake 1995) is used to reveal the peculiarities, logics, and unexpected outcomes of each case. We focused on origin cheeses because the 'quality link' between product and origin applies to multiple dimensions of the local environment, from landscape to micro-organisms. As suggested by Bérard and Marchenay (2006, p. 113), '[t]he cheesemaking systems unite countless practices and forms of knowledge from all domains of living organisms'.

In order to analyse the models of GIs and Presidia in different geographical and legal contexts, the case studies are either a GI and/or a Presidium in three countries where OFS are particularly relevant or in development, i.e., France, Italy, and Morocco. In France and Italy, GIs play a major role in marketing and have a long history, initiated in France in 1935 and followed by Italy in 1954. Italy is the cradle of the Slow Food movement and by 2020 Italian Presidia accounted for 318 of the 585 total worldwide (SFFB). Morocco began implementing the GI system only recently, but has rapidly implemented 48 GIs since 2010[7] (OMPIC), and its exposure to the Slow Food movement is also increasing.

Empirical evidence was collected by means of observation and informal and semi-structured interviews with approximately 30 actors in each of the four OFS, throughout the supply chain, including producers, consumers, local institutions, and retailers conducted for a total of 12 months between March 2014 and September 2017. Questions focused on the creation of the OFS, the actors and their motives, the codification processes, and changes in practices.

The ethnographic information was complemented by analysis of public documents, local and national press, individual and collective websites, and in particular by detailed analysis of the specifications listed in Table 1.[8]

The emergence of specifications: stakeholders, motivations, and governance

To explore to what extent OFS take local knowledge and traditional practices into account, we compared the emergence of the four schemes and the formulation of their specifications by considering the following factors (Table 2):

- Which actors were directly involved?
- What was their motivation?
- How are they coordinated and how is decision-making power shared?

Chefchaouen goat cheese or the top-down invention of a cheese

Chefchaouen goat cheese is a fresh cheese produced in the mountain town of Chefchaouen, situated in the Jabala area (northern Morocco), where goats graze natural pastures, rich in aromatic plants (Chentouf *et al.* 2014). Unlike the rest of the

Table 1: *Case studies and their specifications*

	Chefchaouen goat cheese	Piacentinu Ennese	Béarn mountain cheese	Ossau-Iraty
Place	Chefchaouen province, Pays Jbala/Rif (Morocco)	Southern Enna province, inner Sicily (Italy)	Aspe, Ossau, and Barétous valleys, Pyrenees (France)	Béarn and Basque Country, Pyrenees (France)
Quality schemes	GI in 2011 – not operating	GI in 2011 Presidium in 2013	Presidium in 2008	GI in 1980
Demanders	ANOC (National Association of Sheep and Goat Breeders)	Consorzio di Tutela del Piacentinu Ennese DOP	AET3V (Association of Transhumant Breeders of 3 Valleys)	Syndicat de défense du fromage d'appellation d'origine contrôlée Ossau-Iraty
Page Structure	17 • denomination • area delimitation • proof of origin • quality/link with origin • product description • process of production • certification • labelling • traceability • control plan	6 • denomination • product description • area delimitation • origin proof • production process • quality/link with origin • certification • labelling • processed products	2 • denomination • area delimitation • production process • self-certification	11 • denomination • product description • area delimitation • proof of origin • production process • quality/link with origin • certification • labelling • traceability • control plan

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Table 2: *Specifications are defined through negotiations among a variety of actors and motivations*

	Chefchaouen goat cheese	Piacentinu Ennese	Béarn mountain cheese	Ossau-Iraty
Promoters	State ANOC	A few cheese makers Local institutions	Shepherds (AET3V) Slow Food	3 dairies
Motivation	National rural development plan Valorising a local product	Market share Social recognition Winning EU aids for traditional food	Price increase Social recognition	Differentiating a local product to replace Roquefort
Collective action	Little appropriation by local actors Exclusion of other local cheesemakers	Exclusion of milk suppliers Dairies *vs* farmers Unclear selection of Presidia members Difficult decision-making	Same interests and vision Inclusion but little participation Opposition to PDO	Initial exclusion of *fermiers* Conflicting rotating governance Lactalis dairy dominates
Code of practice	Modern and safe cheese: Alpine goats, pasteurised milk, lactic ferments, synthetic rennet, French recipe Exclusion of traditional cheesemaking methods	Exclusive production area: the southern part of Enna province Territorial approach Highly demanding traditional practices: wooden tools, on-farm rennet, raw milk	Little regulation: mountain pasture, daily manufacture, mixed milk cheese allowed No control over use of starters	Standardised cheese to be easily produced and marketed From 2015: logo 'on-farm', 'dairy', '*Estive*' to differentiate practices

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country where cheese consumption and production is recent, cheesemaking in northern Morocco dates from the Al-Andalus period, X-XIII century (Ibn Halsun 1996).

Since 1992, the Ajbane Chefchaouen dairy processes the milk of Alpine and crossbreed goats thanks to the support of international stakeholders, e.g., the Belgian and French Embassies, and cheese technicians. A premium price is paid for milk collected from 40 shepherds who breed between 10 and 100 goats in the forests surrounding Chefchaouen (Authors' interviews 2015). First, milk is analysed and pasteurised, and then, starter cultures and synthetic animal rennet are added to produce a French-style cheese based on lactic coagulation. Cheese is sold under vacuum in shops and tourist restaurants in Chefchaouen, and in supermarkets and restaurants in the main cities in northern Morocco.

A GI was authorised for Chefchaouen goat cheese in 2011. However, since the full traceability of the cheesemaking is not guaranteed, the scheme is not yet operational. The only producer is the Ajbane Chefchaouen dairy, managed by the National Association of Sheep and Goat Breeders (French acronym ANOC), under the administrative supervision of the Ministry of Agriculture. ANOC applied for the GI and defined specifications in collaboration with the Ministry of Agriculture, Labelling Division, thereby excluding local cheese producers from the negotiating table (Authors' interviews 2015).

Chefchaouen goat cheese is one of the local products (*produits de terroir)* expected to promote the economic development of marginal areas – mountains in this case – while preserving the cultural and environmental heritage. ANOC is the 'aggregator'[9] of local small and medium farmers in a process of agricultural modernisation in Chefchaouen. However, the markedly top-down approach of the initiative is the subject of local criticism, as ANOC is perceived as a national bureaucratic body usurping local resources. Moreover, the institutional commitment to develop GIs does not appear to have been appropriated by local actors. Shepherds, the Ajbane Chefchaouen's staff, and local cooks are generally not aware of the GI initiative. In the absence of regional awareness of its potential, the Kingdom remains an important actor in the GI trajectory.

Piacentinu Ennese, from oblivion to the best tables

Piacentinu Ennese is an ancient sheep cheese flavoured with pepper and saffron, probably dating back to the 12th century (OESAAS 2007). The GI was recognised in 2011 – it was the 1000th PDO in Europe – and the Presidium in 2013. Cheese production and maturing take place in part of the Enna province, in the centre of Sicily. In 2015, only seven cheesemakers, including three dairies, produced 35 metric tons of the cheese per year (Authors interview 2015).

Twenty years ago, a few cheesemakers started the qualification process of Piacentinu Ennese to transform this cheese, which had almost disappeared and was largely unknown, into a profitable fashionable product. The GI and Slow Food recognitions were intended to enable the cheese to reach more lucrative market niches beyond the Sicilian borders. The Department of Agriculture of the province of Enna helped structure the emergent value chain and raised European funds. Valuing this peculiar

cheese appeared to be a multi-actor strategy for better remunerating sheep breeders located in an economically marginal region with a high potential for specialty food (Authors' interviews 2014).

The *Consorzio di Tutela del Piacentinu Ennese DOP* is the GI governing body, headed by the producers – including the three dairies – who launched the scheme. The Consorzio defined the GI specifications which were subsequently validated by Slow Food and used also within the Presidium framework, but not without controversies. Members criticised the Consorzio for four main reasons (Authors' interviews 2015). (i) Specifications do not reflect several producers' needs, e.g., the sale of cheese in portions is forbidden, which helps guarantee traceability, but limits marketing possibilities. (ii) The Consorzio is not succeeding in creating a unified group to take advantage of national promotion opportunities. (iii) Slow Food questions the GI control plan and suspects two producers of fraud, and consequently does not recognise them in the Presidium. For their part, producers consider the Slow Food selection process to lack clarity and even to be arbitrary. (iv) The Consorzio only includes cheesemakers, these people are rarely also shepherds. Therefore, shepherds have no say in the specifications and hardly profit from the OFS (Authors' interviews 2015).

Paradoxically, the director of the Enna Sheep Breeders Association was one of the driving forces behind the qualification process and connected milk producers with dairies and institutions. However, the power of local dairies increased within the Consorzio to the detriment of milk suppliers who were progressively excluded from both OFS and from the possibility to influence the price of milk. Slow Food is currently supporting a redefinition of the Consorzio legal framework and specifications.

Béarn mountain cheese, or the real Ossau-Iraty?

In Béarn (French Pyrenees), Slow Food started a Presidium to promote the cheese produced in the high-mountains and rediscover cheesemaking practices that avoid selected starter cultures. At the end of June, animals, mainly sheep, are moved from the valleys to mountain pastures whose aromatic herbs confer special flavours to the milk. Shepherds make a semi-hard cheese (*pâte pressée non cuite*) in simple but standard-compliant mountain huts (Corouge 2002). In 2007–2008, the local chapter of Slow Food, composed of food enthusiasts, lobbied the SFFB to establish a Presidium for these unique transhumant shepherds' cheeses.

The largest and oldest association of shepherds and cheesemakers in Béarn, the Three Valleys Transhumant Breeders Association (French acronym AET3V), was created in 1990. Today, the AET3V has 88 members, of which 51 make cheese in the high-mountain summer pastures. Moreover, 40 shepherds produce mountain cheese outside the AET3V (Authors' interview 2016). Although all 91 cheesemakers on the Béarn mountains are formally entitled to join the Presidium, in practice only the AET3V members belong to the Slow Food network. Slow Food is a priority partner to increase gastronomic appreciation and added value of high-mountain cheese for direct sale and long distance markets, namely Paris. AET3V is also supported by the Haut-Béarn Heritage Institution whose aim is to reconcile agro-pastoral activity with environmental concerns e.g., protection of bears and the coexistence with the Pyrenees National Park.

Another OFS is potentially available to Béarn shepherds: the Ossau-Iraty GI. This large scale and diverse GI brings together almost 2000 businesses in Béarn and the Basque Country. Ossau-Iraty includes different cheesemaking styles (e.g., size, shape, maturing) corresponding to the regional practices, and includes stakeholders with diverging interests (transhumant shepherds, valley farmers who sell milk, and industrial dairies). This GI is largely dominated by industrial dairy groups, e.g., Lactalis (formerly Besnier) and Bongrain, whose decision-making centres are located outside the GI area. These companies played a central role in the definition of the GI governance and specifications (Mariani *et al*. 2019; Millet 2019). In fact, like for Brocciu (De Sainte Marie *et al*. 1995), the main reason for starting a GI process was to quickly reconvert local milk from the production of Roquefort – a GI cheese from the Aveyron Region – to a local cheese to be sold with added value, because in 1980, the industrial Roquefort cheese processors unexpectedly left the region. Since then, the governing body of the GI, i.e. the *Syndicat de défense du fromage d'appellation d'origine contrôlée Ossau-Iraty*, is composed of three groups: (i) milk producers (1,239), (ii) on-farm producers (*fermiers)* (156), and (iii) cooperatives or dairies (12). Maturers (*affineurs*) (22) are divided between on-farm producers and dairies (2017). On-farm production, which coexists beside industrial producers with no significant difference in price, accounts for only 10 per cent of the total, although it is on the increase. The Presidency rotates every two years among the three groups, but the GI governance is based on the share of production and, as a result, the farmers have little say in the matter unless they establish political networks, which in fact they have done. In the period of their Presidency, on-farm producers won several battles to be entitled to recognition (see following section).

Presidium members have divergent views about the GI initiative, deciding either to join it (15 of them) or to boycott it because associating images of traditional production with ordinary cheese is detrimental to the interests of shepherds and small quality cheesemakers.

At the heart of the code: fixing (traditional) practices

After detailing the emergence of the OFS in each case study, we now assess the content of their specifications according to the *3Ps, product, place, process* (Ilbery *et al*. 2005). Such categories allow us to show to what extent traditional practices were included in specifications, as outlined in Figure 1, and how the selection and codification took place.

- How is quality understood and negotiated?
- How are rules codified?

Product

Specifications extensively describe the *product*, including physical, organoleptic, and chemical features to be distinguished on the market. In the case of Piacentinu Ennese, the first distinction is visual: saffron should be detectable from the simple

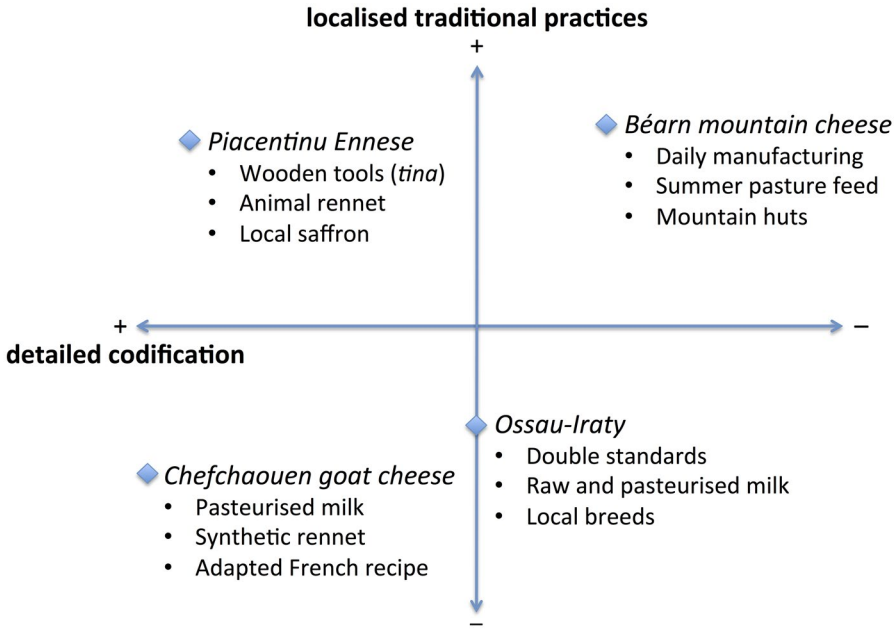

Figure 1: *Traditional practices in specifications with differing requirements [Colour figure can be viewed at wileyonlinelibrary.com]*

observation of the rind. The rind must also show traces of the rush basket in which the fresh coagulated cheese is placed. The Béarn mountain cheese is not even described in terms of 'intrinsic qualities' (Esejel *et al.* 2008), but visually identified only by the '*Estive*/Mountain' logo showing a mountain and edelweiss on the surface of the cheese suggesting its natural origin. In the case of the Ossau-Iraty, specifications address complex notions of food identity and heritage, and recommend the use of two different size moulds, which result in different ripening and taste characteristics: 4–5 kg cheeses are ripened for a shorter period in a humid cave, resulting in a creamy texture, whereas 2–3 kg cheeses are ripened for a longer period in a dry cave, so that the rind is grey in colour and the curd is firm. These specifications correspond to the traditional cheesemaking styles of the whole region, from east (Béarn) to west (Basque Country), from the Ossau peak to the Iraty valley, symbolically unified by the name Ossau-Iraty. A GI technician pointed out:

> For many years, the Ossau-Iraty tasting committee evaluated Béarn and Basque, on-farm and dairy cheeses together, but we now have four separate tasting sections. It was impossible to judge cheeses that are so different; it was always a war among the Basque and Béarn jury members. (Authors' interviews 2015)

Very differently, in the case of Chefchaouen goat cheese, the product description shows compliance with modern standards of hygiene and contrasts traditional

practices: cheese must be wrapped in food paper and then put under vacuum, whereas artisanal moulds made with dwarf palm leaves (*doum* in Arabic) are avoided due to hygiene concerns.

Place

The definition of the *place*, i.e., the area of production, is the second pillar of specifications and relates to a political judgment on the spatial distribution of practices. The area delimitation is a critical point in the development of specifications and usually corresponds to pedoclimatic and historical concerns, coupled with administrative limits and/or economic concerns. For instance, Piacentinu Ennese production and maturing must take place between 400 and 800 m.a.s.l., within the borders of nine villages. Political disputes led local institutions to limit the area to the southern province of Enna despite controversial historical evidence, resulting in the exclusion of producers that claim access to this OFS. A professor of the University of Catania explained:

> Historical evidence of the practice of adding saffron to milk refer to southern Enna villages. But paradoxically, growing saffron is historically rooted in the northern province which provides higher quality saffron. The delimitation of the area of production of Piacentinu was based more on political reasons than on scientific studies. (Authors' interview 2015)

The spatial delimitation of the Béarn Presidium is also strict, but the main criterion for delimitation is pedoclimatic and not historical. The cheese has to be produced in pastoral areas managed collectively in Béarn high-mountains (from 1,500 up to 2,400 m.a.s.l.). The geographical area of the Ossau-Iraty is considerably larger (650,000 ha), including almost the totality of Béarn and Basque Country, i.e., the department of Pyrénées-Atlantiques. In that area, regular rainfall allows varied and rich grasslands in the foothills. However, the area of production was modified twice after 1980. Initially, the area covered the whole department of Pyrénées-Atlantiques and three municipalities in the department of Hautes-Pyrénées, to include most of the dairy businesses. Then, in 2001, on-farm producers succeeded to exclude the plains on the basis of their intensive farming systems. Finally in 2016, the area was slightly enlarged to include the 800 ha collective land around the county town of Pau, called Pont-Long, as a local geographer explained:

> I joined a special commission of the National Institute of origin and quality with other researchers and local experts to prove that in the past, in winter, Ossau farmers were entitled to collectively use the Pont-Long. (Authors interview 2015)

Chefchaouen goat cheese specifications are entirely based on political strategies. Despite the long tradition of pastoral activity, Chefchaouen does not hold a historical reputation for cheesemaking. The delimitation corresponds to the administrative area of the former province of Chefchaouen, including the six municipalities of the Cercle de Mokrisset that since 2009 belong to the newly created province of Ouezzane. In 2015, ANOC started the procedure to include the area of Beni-Ahmed (Tetouan province), where an experimental program is conducted.

Process

The main section of specifications describes different elements of the *process* of production that characterises the link between product, environment, and local history.

- Breeds

Raw milk transformed in Piacentinu Ennese comes from Sicilian breeds (Comisana, Pinzirita, Valle del Belice, and their crossbreeds), tangible expressions of cheese biodiversity (Mariani *et al*. 2015). Whilst Ossau-Iraty mandates the use of local sheep breeds (Manech tête noire, Manech tête rousse, and Basco-béarnaise), the Béarn Presidium implicitly considers that only local breeds are apt to climb and take advantage of mountain pastures, and therefore no specification is required. The Presidium also includes the production of mixed cow, goat, and sheep cheese – this mix being the most ancient local cheese-style. Chefchaouen GI specifications recognise that crossbreeds dominate the local goat population and produce quality milk richer in casein and fat (45–65 per cent dry matter), but explicitly welcome governmental genetic plans to implement milk production with imported pure breeds (Alpine, Saanen, Mourciana, and Malaguina).

- Feed

In the Béarn Presidium, animals graze in rich mountain pastures and only simple grains and mineral inputs are allowed. Ossau-Iraty specifications are less demanding, but more prescriptive. Requirements are at least 8 months grazing per year (not specifically on mountains), a minimum daily and annual feed sourced from the area – with limited fertilisation and banning of GMOs and, since 1 February 2018, silage – , and an annual and daily maximum use of concentrates. Both Chefchaouen goat cheese and Piacentinu Ennese specifications mention the traditional extensive and semi-extensive farming practices; pastures are supposed to be responsible for the unique flavour of the cheese, integrated with locally produced cereals and leguminous plants. However, specifications are descriptive and not prescriptive.[10]

- Time and production volume

Piacentinu Ennese specifications do not limit the production season, although all the producers stop the production in summertime when pastures dry. Within the Béarn Presidium, cheesemaking is daily and exclusively done from June to September. Also Ossau-Iraty limits the season of production: milking must not exceed 265 days per year and is prohibited in September and October. Only the Ossau-Iraty specifications limit the average volume of milk produced, which does not exceed 300 l per ewe per year. In Chefchaouen, seasonality is not mentioned in the specifications.[11]

- Production techniques

The process of production of Piacentinu Ennese is highly specified, but with unquantifiable standards. For instance, the milk from one or two consecutive milkings is put in a wooden tub and saffron is added in order to get a bright yellow colour described as 'beautiful'. Maximum 5 g of saffron grown in the production area are allowed in 100 lt milk, but a minimum amount is not fixed. Rennet is locally sourced from lambs and young goats, and the quantity depends on its strength. The 'right texture' is evaluated 'by touching' and 'steering' at the limpidity of the whey.

Throughout the production process, the making of Piacentinu requires the use of traditional materials: *tina* (wooden tub), *rotula* (wooden stick used to break the curd), *tavoliere* (wooden table), or *canestro di giunco* (rush basket). These specifications are the result of long discussions between farmers, institutions, and researchers. In particular the Dairy Research Consortium, CoRFiLaC, conducted several studies to differentiate organoleptic profiles of Piacentinu Ennese according to diverse production techniques (Fallico *et al.* 2006; Carpino *et al.* 2010; Licitra and Carpino 2014), supporting the request for derogations to the 92/46/EEC regulation (EEC Council 1992) on the health and safety rules for milk-based products, that, for instance, forbids the use of wooden tools.

In Béarn, the only requirement concerns the environment of production: milking and cheesemaking must be carried out in mountain huts (*cabane, cayolar,* or *cuyala*) that undergo a health and safety audit. Moreover, the Presidium aims to avoid the use of selected cultures that, since the 1980s, technicians have spread to obtain homogeneous and regular cheeses, whilst limiting the proliferation of undesirable bacteria and related cheese defects. As the AET3V coordinator explained:

> Despite numerous experiments conducted with Italian Slow Food experts, results are not ideal. Shepherds barely master temperatures and times in mountain huts, where you cannot measure acidity like on a farm, but some of them are still experimenting. (Authors' interview 2014)

Local technicians' expert knowledge competes with Slow Food expert knowledge, whilst shepherds are building new contextual lay knowledge. In contrast, in the current debate on the electrification of mountain huts, Slow Food opposes shepherds' requests for electrification because this would potentially allow refrigeration of milk to less than 4°C and postpone cheesemaking, resulting in a change of taste. Paradoxically, Slow Food's expert knowledge is used to defend shepherds' lay knowledge against their will.

Ossau-Iraty specifications result from long-lasting negotiations and allow for different practices in on-farm and dairy productions.[12] Initially, extra-local industrials designed a cheese that is easy to produce and market. After the GI inception in 1980, on-farm producers obtained permission to exclude some industrial techniques from the specifications. Since 2015, their product gained increased recognition through different logos. Confrontations were a battle of knowledge. For instance, on-farm producers lobbied to recognise local knowledge against HACCP principles for

authorising the use of nettle in on-farm production. Alternatively, scientific knowledge dominated debates about lactose removal, as a technician told us:

> A few years ago, industrials paid for studies supporting lactose removal. Results were absurd. On-farm producers had to repay them in kind and financed new studies that proved the opposite. (Authors' interview 2015)

Chefchaouen goat cheese specifications underline the hygiene standards that milk suppliers must follow in milking and delivery. Cheesemaking couples semi-industrial procedures and labour-intensive artisan tasks. On one hand, thermic treatments, stainless steel curdling basins and synthetic animal rennet are required, whilst the use of natural rennet (i.e., dried goat or lamb stomach) and the traditional practice of preserving cheese in brine are forbidden. On the other hand, manual moulding with a large spoon and manual packaging are compulsory.

ANOC drew-up the GI specifications discarding local knowledge, and consequently local cheesemakers, and built on the standards developed by the Ajbane Chefchaouen together with European cheese technicians. This imported expert knowledge is coupled with health and safety concerns, framed by the HACCP principles. The Moroccan Labelling Division opposed the initial specifications because they described the process of production of one dairy, but only asked for minor modifications without undermining the ANOC monopoly.

Meeting market needs: standardising effects of specifications

After showing how different OFS take local knowledge into account – from the management of pastures to the management of the bacterial flora – we now assess the desired and undesired standardisation effects of specifications on practices and tastes. The codification of practices resulted in a reduction of tastes that is functional to market demand in all our case studies, including the ones that are most keen to value localised traditional practices, such as the Piacentinu Ennese and Béarn mountain cheese.

Our interviews suggested that market demand shapes the current Piacentinu Ennese as highly different from the one that local producers and consumers remember. Several practices tend to root the cheese into tradition and locality, and enhance the typicality of taste, e.g., the use of locally grown saffron and wooden cheesemaking tools. Maturing practices, instead, are defined to meet the demand of modern consumers who ask for mild cheese. Piacentinu Ennese is sold with 60 days of required minimum maturing although tastes are more complex after four-month maturing (Horne *et al*. 2005). Considered by Slow Food the 'least Sicilian' of traditional Sicilian cheeses, Piacentinu Ennese has the potential to surpass the island borders: the saltiness is reduced by the sweet effect of saffron, and the senses, starting from sight and smell, are stimulated. When sale is postponed, cheese is put under-vacuum to stop the maturing process and prevent loss of weight and development of more complex tastes.

A reduction of diversity of practices is evident also in the case of the Béarn mountain cheese Presidium, whose concise specifications recognise exclusively cheese

made in standard-compliant mountain huts. Its qualification process started in 1994, when old mountain huts were declared out of the norm with regard to the 92/46/EEC regulation (EEC Council 1992). National authorities gave a four-year derogation to sell on-farm cheeses made in out of the norm workshops, identified by the '*Estive*/Mountain' logo, while since 1998, local authorities financed the renovations to bring mountain workshops up to standards. Shepherds kept the logo to differentiate the mountain production from the valley production and took advantage of the Slow Food communication channels.

This normalisation process led to profound changes in cheesemaking tools and practices: wooden tools were forbidden, copper cauldrons and wood fires disappeared, milk hygiene increased as well as the consequent need to add starter cultures. The organoleptic features of mountain cheese dramatically changed to adapt to new regulatory and market contexts. The Slow Food's fight against the use of starter cultures which contribute to taste homologation is not in line with market demand, as a Presidium cheesemaker commented:

> I would lose many cheeses without starters, as consumers don't accept defective cheeses. In addition, working with my own ferments is very demanding. I must give extra care to all the production steps, with some hygiene but not too much, and cheese maturing is more difficult: every cheese has to be treated differently. (Authors' interview 2016)

Overall, local cheese lovers comment that the range of tastes of the Presidium cheese has narrowed: the best and the worst cheeses disappeared. The wide variety of tastes accepted in old times, and related diverse consumption habits, were reduced to meet the demand framed by contemporary mass-consumption.

In Ossau-Iraty, a market for labour-intensive on-farm production of artisan cheese exists alongside low cost production of industrial cheese, however the difference between the organoleptic qualities of both cheese styles tend to be reduced. Special 'authorities' justify the reduction of tastes hiding its market–driven implications. A 'taste rule' is imposed like in the other French GI cheeses: trained tasting commissions evaluate cheeses according to a set of organoleptic standards to discard products that are too distant from the commonly accepted ones. An on-farm cheesemaker told us:

> My cheese is appreciated by the best cheesemongers in Paris, but the Ossau-Iraty tasting commission already gave me two non-conformity warnings. My cheese does not comply with the expected regular flat taste. They say it is too animal, but old local cheese was more animal than the one I make! (Authors' interview 2015)

The market in which the studied OFS fit, although devoted to differentiated quality food, is internally segmented. Mass-consumption of Ossau-Iraty is validated by the recognised 'taste authority' of the GI tasting commission. Conversely, choices of a consumers' niche in search of differentiated tastes are validated by other authorities such as cheesemongers, specialised revues, and Slow Food itself.

In Chefchaouen, the establishment of the GI on a modern and profitable value chain mirrors a deep change (and reduction) in the cheese-related production, distribution, and consumption practices. Traditionally Chefchaouen's shepherds were accustomed to transforming their milk into butter, *leben*, i.e., fermented milk, or to

sell it fresh door-to-door in Chefchaouen *medina*, but we recorded numbers of cheese-making practices moving towards the nearby provinces of Ouezzane and Tetouan. A large variety of curdling methods was used in the past: fig milk, thistle, goat or lamb rennet. Another widespread method was lactic coagulation without rennet addition, in numerous variations, resulting in an acidic and less compact cheese. Cheese was eaten fresh or preserved in brine, very salty and/or dried.

The Ajbane Chefchaouen dairy decided to move away from these habits and manufacture a cheese that satisfies a growing consumers' niche demand for a 'fresh', 'white', 'spreadable', 'mild', 'safe', 'unsalted', 'goat and thus healthy' cheese (recurring words in Authors' interviews 2015; Schällebaum and Ettoli 2014). Specifications, therefore, require practices that meet such result: pasteurising milk, replacing the varied local bacterial flora with selected cultures, a long lactic coagulation at controlled temperature (22°C) complemented by commercial animal rennet that, paradoxically, is not sold in northern Morocco. Numerous types of cheese and tastes are hence excluded from the newly established OFS.

Discussion: the politics of (de)limiting diversity

Authors have suggested that OFS actors define the boundaries of the 3Ps *product*, *place*, and *process* (Ilbery *et al*. 2005) through the deconstruction and co-construction of varying understandings of heritage, locality, and quality (Poméon and Fournier 2010; Sanz-Cañada and Muchnick 2016; Grasseni 2017). Fonte (2008, p. 214) describes the construction of specifications as 'a process of collection, analysis and selection from the available stock of local traditional knowledge and its integration with expert knowledge'. These selection and codification of practices influence the overall effects of the OFS (Bowen and Zapata 2009; Mancini 2013) and 'the projects of protection and redistribution that these labels attempt' (Guthman 2007, p. 468).

Our results confirm these claims, but emphasise that specifications are not a mere transcription of producers' local lay knowledge. Confrontations of strategic economic models underpinned by plural forms of knowledge challenge the primacy of local knowledge and determine its delimitation within 'global structures of common difference' (Wilk 1995). Wilk (1995) coined this concept to explain how Belizeans reacted to the integration into global/international markets by building a local/national distinctiveness and diversity articulated within a limited frame. We witnessed the same dynamics in the development of specifications that build, mirror, and foster the double 'singularisation' and 'standardising' effect underpinning the qualification processes of OFS (Callon *et al*. 2002).

Whereas the 'singularisation' effect of OFS has been extensively described (Sanz Cañada and Muchnick 2016), our results provide ethnographic evidence of the standardising effects: the reduction of admissible practices and tastes results from the definition of boundaries or delimitations throughout the qualification process. The confrontation and harmonisation of different logics about who and what is included are orchestrated by multiple governing institutions and result in a tension between participation and exclusion.

Quality (de)limitation

The contextualised collective construction of a quality product throughout the writing of specifications tend to favour dominant standards and narratives of quality, although a certain space is intentionally left for a flexible, constant re-interpretation of quality by different actors, or by the same actor in different times. For instance, quality is alternatively understood as linked to tradition (Piacentinu Ennese), uniqueness (Béarn mountain cheese), or safety (Chefchaouen goat cheese). A double standard that reflects a complementary search for authenticity (on-farm production) and regularity (dairy production) is authorised in Ossau-Iraty.

Different understandings of the desired quality have driven the selection of practices allowed in the *process* of production of our case studies, leading to discontinuation practices and variants that oppose or weaken the dominant quality criterion. This allowed for a selective penetration of industrial production techniques and materials. The cases of Ossau-Iraty and Chefchaouen goat cheese fully show how industrial processes are applied to standardise products over time and space and guarantee replicability at minimum cost, especially important to reach a non-local market, surpassing the production of handcrafted 'singularities' (Appadurai 1988). This includes compliance with health and safety standards to enter the market that, in certain niches, can be particularly demanding, as in the case of the new wealthy consumers' demand for food safety in Morocco. In the case of Béarn mountain cheese, the adaptation to hygiene regulations necessitated a modernisation of the cheesemaking facilities, including standardisation of tools and ingredients (e.g., rennet and starters), resulting in a reduction of practices and taste.

Authors have concluded that the GI system may inexorably develop towards food industrialisation, as in the case of Roquefort (Sylvander 1996), or in the case of Camembert, where both 'industrial' and 'traditional' producers standardise their products, although through different marketing strategies (Boisard 1991). Conversely, Mancini *et al*. (2019) argue that appropriate industrial innovations in the production process are a necessary evil, preventing origin food firms from shifting to more profitable goods and avoiding the disappearance of such foods.

Our findings show that OFS may also codify local traditional practices that slow down or even counter this general trend towards industrialisation when their 'market value' is recognised to support quality claims. For instance, the use of wooden tools in Piacentino Ennese is mandatory to guarantee specific organoleptic features, as proved by CoRFiLaC studies. Local knowledge enters the codification process according to its market value and status, in competition with other forms of knowledge. Its 'market value' – e.g., knowledge related to quick preparation and long preservation of food – is one condition of selection that will become explicit, as also suggested by Boisvert (2006). In a top down GI such as Chefchaouen, the rich local knowledge underpinning the food heritage of the region is hardly taken into account by the ANOC non-local staff, leading to standardised production methods.

Property (de)limitation

These delimitations of quality and local/traditional knowledge refer to the delimitation of power of the different stakeholders implicated in the OFS qualification

strategy, in a tension between participation and exclusion from the property and use of the schemes. The governing bodies of our case studies orchestrated a difficult agreement by mediating the stakeholders' strategies. When the actors' heterogeneity and the imbalance in their bargaining power increased, negotiation became conflictive. This is best shown in Ossau-Iraty, where a multinational company like Lactalis works alongside artisanal and transhumant cheesemakers. For Lactalis, Ossau-Iraty cheese represents one of the many specialty or ordinary cheeses produced, whereas for on-farm producers Ossau-Iraty, especially the mountain production, represents the core business and professional identity fulcrum. This heterogeneity resulted in on-farm producers' decennial struggle to (re)negotiate the initial specifications judged as lax (De Sainte Marie *et al.* 2020). This confirms Dentoni *et al.* (2013) who pointed out that the restrictiveness of the Parma ham GI specifications is weakened by the heterogeneity of the Consorzio, namely members' characteristics, assets, and strategies. Similarly, Tregear *et al.* (2007) argue that consultations leading to shared specifications may be arduous and conflictive when individual actors are 'heterogeneous and multi-sectorial in nature'.

This confrontation includes public institutions who are active actors in shaping specifications and their consequences. In the case of Piacentinu Ennese, for instance, local institutions have supported the interests of certain actors and excluded producers located in the northern Enna province from the use of local names leading to the loss of the best local saffron cultivations. In Chefchaouen, ANOC has arranged the OFS for the exclusion of (potential) small artisan cheesemakers who cannot meet the GI specifications while attending the inclusion of milk suppliers located outside the current area of production because they are implicated in a development project. Similarly, Fonte (2008, p. 214) argues that when local players do not participate in the qualification process with a recognised equal status, this 'may lead to the expropriation of local knowledge and the benefits deriving from its enhancement', as in the case the Oscypek cheese Presidium and GI where small producers rarely adhere to hygiene norms or implement production techniques that are not considered as 'authentic'. Consequently, the mediated agreement on geographical borders, quality, and practices resulting in specifications is socially exclusive.

Consumption (de)limitation

Understanding the role of market and consumers in the standardisation of practices and tastes is crucial. Mancini *et al.* (2019, p. 3049) contend that compliance with quality standards and increased productivity can compromise consumers' expectations of traditional taste. However, our results suggest that origin food standardisation is partially subordinated to consumers' taste and demand for homogeneous and relatively regular food. Faure (1998) described the progressive elimination of traditional bitter tastes from Abondance and Raschera PDOs cheeses because these flavours are considered defects. Our findings from Ossau-Iraty complement these claims, suggesting that expert tasting panels tend to create a homogeneous and recognisable taste, excluding animal scents considered unusual to average consumers, but appreciated by local or even specialty consumers.

Taste standardisation is also meant to comply with 'niche' consumers' demand for consistency, as in the case of Presidia that are more favourable to a local multiple construction and evaluation of taste, i.e., Piacentinu Ennese and Béarn mountain cheese. Although Siniscalchi (2013) argues that Presidia are 'singular products' – rare, produced in limited quantities, following 'traditional' techniques – our results show that taste diversity is limited within this singularity.[13] Not all taste heterogeneity is relevant and worth preserving and Slow Food behaves as a guarantor of 'good' taste[14] (West and Domingos 2012; MacDonald 2013). A salty or pungent hint in Piacentinu Ennese can be considered an unacceptable defect.

Taste authorities, such as GI tasting commissions or the SFFB, validate the right/good taste on the basis of standards that are themselves standardised and result in disciplining consumers' senses (Busch 2000). Traditional tastes are thus reduced within 'global structures of common difference' (Wilk 1995) and stabilised by specifications.

Conclusion

Current research has extensively explained the factors that make GIs, Presidia and other collective origin food successful initiatives in shaping *another* rurality in which small producers can organise themselves to compete on the market and food is re-embedded in ecological and social relations. Local governance, in particular, throughout the qualification process, has been addressed as a key element in the initiation and development of OFS, raising questions about the balance of power between very heterogeneous stakeholders. Our study builds on these works and addresses the conditions of emergence of OFS and the process of codification of knowledge into specifications because it reveals the logics of the development of the scheme and helps forecast undesirable outputs. Whilst the findings from the cases may not be generalisable, our analysis aims to conceptually reflect on issues that may have wider implications beyond the research sites.

In conclusion, we have shown that specifications are the result of long-lasting and difficult negotiations among local actors, including institutions, and international movements, such as Slow Food. The heterogeneity of stakeholders and their motivation are key elements in defining the strategic development of the quality scheme and hence in forecasting the effects on local practices and knowledge.

In this context, although specifications may successfully preserve genetic resources, tastes, knowledge, and landscape as resources for a collective project, we found that they inevitably reduce the traditional diversity of admissible practices or variations that such schemes – also the most keen to value it – specifically aim to protect. In a collective effort to reach to new or extra-local markets demanding minimum costs, food safety, regular qualities and tastes, practices are standardised and the nature of products is changed. By doing so, the declared goal of preservation of biodiversity and traditional practices is framed and limited by market needs.

In this way, we contribute to the growing debate on the unintended consequences of ethical labelling by providing a better understanding of alternative food governance systems. Most importantly, it is necessary to recognise that knowledge codification is highly politicised and GI and Slow Food Presidia schemes are generated in a

neoliberal world, a world of property rights and markets, where traditional knowledge plays a role in relation to its market value. Further research would help assess if more participatory systems of governance of origin food may contribute to strengthening local rural communities and encouraging innovation towards a wider consideration of cultural biodiversity in the long term.

Conflicts of interest

The Authors declare that there is no conflict of interest.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Notes

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[1] Origin Food Schemes are specific Food Quality Schemes that base the qualification strategy on 'origin', intended both in reference to a geographic and cultural provenance.

[2] GIs are defined as indications that identify a good as 'originating in the territory of a Member, or a region or locality in that territory, where a given quality, reputation or other characteristic of the good is essentially attributable to its geographic origin'. In the EU system, the general term of GIs comprises two sub-types: Protected Geographical Indications (PGIs) and the stricter Protected Designations of Origin (PDOs).

[3] TRIPs is the 1994 WTO Agreement on Trade Related Aspects of Intellectual Property Rights, that complemented and in some aspects replaced the 1966 WIPO Lisbon agreement (adopted in 1958).

[4] See for instance the one producer Euskal Txerria pig Presidium (Lotti 2010).

[5] See Siniscalchi (2013) for a critical account of the 'Good, Clean and Fair' concepts.

[6] Fonte's (2008, p. 18) characterises 'expert' knowledge as scientific and managerial knowledge, whilst differentiating 'local' knowledge as 'tacit', i.e., pre-discursively transmitted, and 'lay' knowledge, i.e., 'a technical form of knowledge acquired through particular experiential circumstances and transmitted by specific "local experts" in informal situations of learning'.

[7] Argan oil is the only Moroccan GI included in the EU register and allowed for protection in the EU (eAmbrosia).

[8] A Presidium and a GI have been recognised in the case of Piacentinu Ennese and the two share the same specifications. In the case of the Béarn mountain cheese Presidium, Slow Food specified the prohibition of starter cultures to the requirements of the brand '*Estive*' (number 083567026 at the French Institute for Intellectual Property, owned by the AET3V), without formalising other specifications.

[9] Since 2008, the Kingdom of Morocco has been the driver in the initiation of GIs: the 25-06 law provides the legal framework and the second pillar of the national agricultural plan (Green Morocco Plan, GMP) devotes human and economic resources to their strategic development (Moroccan Labelling Division and FAO 2010). Specifically, the GMP is intended to strengthen local production systems by linking local private and public entities in the so-called 'aggregation' strategy (Akesbi 2012).

[10] Only feed requirements are traceability and prohibition of growth hormones and animal flours in Chefchaouen, and the prohibition of silages and GMOs in Piacentinu Ennese.

[11] The Ajbane Chefchaouen subsidises milk production outside the lactation period peak to match the demand for cheese that increases in summertime when the milk production is lower.

[12] For instance, on-farm production authorises the use of nettle to filter milk, whereas dairy production allows for industrial techniques, i.e., pasteurisation and lactose removal and, until 2014, the use of polyvinyl acetate to cure the rind. Quantifiable standards are specified in both productions.

[13] The story of the first cheese Presidium, Sardinian Casizolu, gives a further account of such dialectic between taste diversity and market needs, resulting in standardisation of cheeses that were acidic and bitter for the modern ordinary market, although responsive to local habits. 'Casizolu is bitter because that's how we like it here', they told us, cutting off all our attempts to suggest improvements. [...] [B]ut without making an effort to eliminate serious defects, products have no chance of succeeding on the market. That day marked the start of a challenging journey towards improving the average quality without flattening out differences (SFFB).

[14] See the effect of wine experts and critiques on the standardisation of wines (Ulin 1995).

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