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Landscape elements: Can they help in selling ‘Protected Designation of Origin’ products?

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Landscape Elements: Can They Help in Selling ‘Protected Designation of Origin’ Products?

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ABSTRACT This paper investigates the links between landscape material dimensions (‘objective’ landscape qualities) and the way people represent (the ‘subjective’ qualities) both the product and the landscape. The paper analyses how emblematic elements of landscape are used to valorise products of Protected Designation of Origin in the area of production of Saint-Nectaire cheese in France. We show that emblematic elements of landscape depend both on institutional stakeholders and on geographic contexts (the Cézallier plateau and the Sancy Mountains). Whereas the stakeholders of tourism remain attached to the past and to a traditional view of the natural and man-made heritage, producers emphasise current conditions of production (buildings, cattle breed). A price difference exists between different producers’ networks, mainly because of their ability to stress some specific landscape elements (tied in part to dairy production).

KEY WORDS: Local development, landscape, emblematic elements, quality products

Introduction

Competition is intensifying between standard products and so-called ‘Protected Designation of Origin’ (PDO) or terroir products which are constantly increasing in number (Mollard et al., 2001). Landscape characteristics are often presented as one of the most noteworthy features of these products (Gauttier, 2006). How to root these products in their production area becomes a strategic issue for producers and their organisations. Indeed, understanding the mechanisms that underlie this notion of quality requires an analysis of the links between product quality and the environment, as well as the territories in which they are rooted.

Preserving a particular landscape is frequently put forward as the way to promote a quality product by producers (Colletis-Wahl & Pecqueur, 2001). Several disciplinary approaches have tried to explain the nature of the links between product quality and landscapes, for example, economics, sociology, agronomy or...
geography. However, these approaches often remain disciplinary and thus partial. In economics, a monetary value can be assessed for landscapes, using existing methods developed by environmental economists (Kong et al., 2007; Sengupta & Osgood, 2003). In sociology, the analysis is either centred on the collective processes that turn the landscape into a category of public action (Trom & Zimmerman, 2001); or centred on the landscape representations of the different categories of actors (Greider & Garkovich, 1994). In geography the link between the product and the terroir is an old subject of study. However, the link with the landscape component of the terroir is seldom analysed per se (Deffontaines, 2004).

In this study, we attempt to relate these different approaches (geographic, agronomic, sociological, and economic) to analyse how designation of origin can be a means to valorise landscapes, through deepening links between the material dimensions (that is, ‘objective’ qualities) (see Lancaster, 1966) and the actors’ representations (the ‘subjective’ qualities) for the product as well as for the landscape. Subjective quality is elaborated by producers and consumers who choose among the landscape characteristics that we denote as emblematic. These qualities are used for promoting cheese when they highlight a relationship between the marketed product and the non-marketed landscape elements. The choice of the emblematic elements can be different depending on the stakeholders (producers, institutions, consumers). These different choices lead to different prices of products. To give our analysis a more concrete dimension, we chose a product—AOC Saint-Nectaire cheese—whose promotion strongly emphasises landscape elements.

In the first part of the paper we present the method we applied to the Saint-Nectaire cheese case. We use four main methods in:

- agronomy, to identify the emblematic landscape elements and their spatial differentiation;
- geography, to study their relations with the practices of livestock systems;
- sociology, to identify the diversity of the coordination at work in the highlighting of emblematic elements;
- economics, to identify and measure the nature of the links between products and landscape.

In the second part, we present and discuss the results: subjective qualities can explain price differences.

A Production Zone Characterised by its Geographic and Institutional Diversity

The production area of this cheese stretches across 69 communes in the south-west part of the Puy de Dôme and the northern part of the Cantal départements, covering several natural and agricultural regions (Sancy Mountains, Cézallier and Artense plateaus, ‘Pays coupes’ valleys) (Timj, 1976; Michelin et al., 2007) (see Figure 1). This geographic heterogeneity goes hand in hand with a variety of stakeholders, coordinated to a greater or lesser extent, for example, the Saint-Nectaire union, the producers, the Association des Fromages d’Auvergne (Auvergne Cheese Association) which manages the Route des Fromages (‘Cheese Road’), the affineurs (specialists in maturing cheese), the local tourism offices, the regional park boards, and the...
Remarquable du Goût (site classified as noteworthy from a gastronomic point of view). The nature and differing degrees of affinity or common interest between these stakeholders is essential if we wish to account for the development model.

To promote and commercialise this product, all the stakeholders—institutional stakeholders, producers, or other members of the sector—make use of images of landscapes or of elements of landscapes. Therefore, objective and subjective qualities for the product as well as for the landscape exist: do they lead to different prices? More precisely, we postulated the presence of various emblematic elements used by particular coordinations of stakeholders.

Method

Characterisation of Landscape Elements Produced by Farmers

In the Saint-Nectaire production area, the relations between landscape elements and cheese quality can be introduced by stakeholders in the cheese industry, or by stakeholders in the tourism industry to highlight Saint-Nectaire cheese as a guarantee for the quality of their territory.

The first aim of the qualitative content analysis was to identify the landscape elements used by Saint-Nectaire cheese producers to communicate about the quality of their products. For the agronomists on our team, this analysis was based on understanding the patterns of fields, the practices and the functioning of farms related to the presence of these emblematic elements. The method was based on several geographical tools and concepts designed to distinguish and objectivise what is visible or perceived in the landscape, as well as what constitutes a medium or a product for various individuals (Michelin, 1998; Deffontaines, 2004; Théma, 2005).
We asked 11 farmers who produce Saint-Nectaire cheese, and who were initially interviewed on the functioning of their farms, to take photos of what they deemed important on their farms or their surroundings, and which could be used to convey the quality of their product to consumers (Michelin et al., 2006). A total of 80 photos were taken. For three-quarters of the photos (that is, those with outdoor views, the rest being inside views of cellars and cheese dairies), we systematically counted the various biotic, a-biotic or man-made elements identifiable in each of them (one to four aspects per photo) to identify the most frequent elements. To enhance and adjust this ‘quantitative’ reading of the photos, each of the photographers was interviewed to identify the element that best represented their product in all of their photos. These interviews also enabled us to question the farmers on whether those elements were actually present or not on their farms or in the surrounding area. The purpose was to rank the multiple landscape elements shown, and to reveal the farmers’ message to the consumer, associated with each identified landscape element.

Our study was based also on two datasets: semi-structured interviews with seven institutional stakeholders, and promotional documents produced by their institutions. The institutional interviewees were chosen for the relevance of their functions: either because they were in direct contact with the producers (e.g. a technician of the AOC Saint-Nectaire union), either they participated in the promotion of the cheese (chairperson of the ‘committee to promote regional products’ at the Regional Chamber of Agriculture of Auvergne). The images and texts of these promotional documents were subjected to a qualitative content analysis. Next, we identified the landscape elements associated with the cheese. Some of these were specific to certain stakeholders, while others were common to two or more stakeholders. During our interviews, the interviewees were asked to justify their choices of promotional elements and to highlight the links between the PDO and landscape elements.

**Analysis of Use of Landscape Elements by Cheese Producers on Cheese Labels**

To understand the relations between Saint-Nectaire cheese and its landscapes, we used the method proposed by Brossard and Wieber (1984), who broke down the landscape into three conceptual ‘boxes’ (Figure 2). Based on this theoretical model, we analysed the landscape elements used to promote the cheese. We also highlighted
‘landscape types’ that associate the product with very specific areas of the production region. We postulated that gaps exist between the landscape objects presented on the labels (Cadiou & Luginbühl, 1995) and those that were effectively present in the production zone.

The data were analysed in four sets of methods. First, we analysed a set of 180 labels used on Saint-Nectaire cheese using an approach similar to a pictorial analysis, in which the study of linguistic elements is deliberately minimised (see Michelin et al., 2007, p. 56 for examples of Saint-Nectaire labels). We focused on the type of habitat, the species of animals, the presence or not of vegetation, the type of relief, the real or symbolic place suggested by the image, the degree of modernity or the status of the landscape (degree of realism), and so on.

In a second step, a typology of labels was designed—based on a statistical analysis (multiple correspondence analyses and bottom-up ranking) of the descriptors used (composition of the picture, landscape objects, interpretation and general meaning of the picture). This method enabled us to highlight values relative to the production of Saint-Nectaire as well as ‘families’ of particularly distinct landscapes throughout the corpus.

The catalogue of elementary landscape objects (types of background, buildings, flora, animals, people, etc.) was used in 40 interviews which were held with stakeholders of the PDO Saint-Nectaire cheese production and processing (farmers who produce cheese, farm affineurs, and dairies). The labels were cut into small pieces, each of which showed one landscape element. Using these pieces of labels, each interviewee was asked to reconstruct the corresponding image as best he could, based on his knowledge of Saint-Nectaire and its production area. The interviews were then analysed in three ways: a study of the topics addressed and the values associating landscape and product; a detailed study of the discourse and arguments; and a synthetic study per category of actor interviewed.

In a third step, we developed a method for quantifying the landscape objects depicted on the labels and on the production area using statistical analyses (Principal Component Analysis and Agglomerative Hierarchical Clustering). This analysis enabled us to combine quantified landscape elements and to reveal typical landscapes on labels. We also used ArcGis 9 and topographic data (Digital Elevation Model, DEM, and Topographic Position Index, TPI²) as well as land cover data (Corine Land Cover of 1999). We quantified the types of land use and relief feature per landscape unit of the production zone, drawn from a classical landscape assessment (unpublished working document on a scale of 1: 100 000). Table 1 synthesises the correspondence between the variables and the label analysis and those derived from GIS data.

In the fourth and final step, we assessed the gaps between the landscapes that were used for advertising on the product, and the ‘material components’ or ‘characteristics’ potentially observable in the production area. This allowed a synthetic view of the landscape characteristics of the production area, and we identified those objective elements justifying the relevance of certain types of landscape or places of reference pinpointed in the first qualitative analysis. Figure 3 synthesises the quantitative approach adopted and the types of results obtained.
### Table 1. Correspondences between the variables of the analysis of labels and those drawn from GIS data

<table>
<thead>
<tr>
<th>Label variables</th>
<th>GIS variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Types of land cover</td>
<td>Types of land cover: Corine Land Cover (CLC) data</td>
</tr>
<tr>
<td>Meadows and crops</td>
<td>Meadows (code CLC 2.3.1), arable land (code 2.1.1), permanent crops (code 2.2), heterogeneous agricultural zones (code 2.4)</td>
</tr>
<tr>
<td>Summer mountain meadows</td>
<td>Meadows and natural meadows: (code CLC 3.2.1) moorland and scrub (code CLC 3.2.2)</td>
</tr>
<tr>
<td>Water</td>
<td>Inland wetlands and surfaces under water:</td>
</tr>
<tr>
<td></td>
<td>(codes CLC 4.1.1./4.1.2/5.1.1/5.1.2)</td>
</tr>
<tr>
<td>Erosion/bare ground</td>
<td>Bare rock (code CLC 3.3.2)</td>
</tr>
<tr>
<td>Rock</td>
<td>Sparse vegetation (code CLC 3.3.3)</td>
</tr>
<tr>
<td>Wooded</td>
<td>Forest of leafy trees (code CLC 3.1.1) coniferous trees (code CLC 3.1.2) mixed (code CLC 3.1.3), forest and bushy vegetation undergoing change (code CLC 3.2.4)</td>
</tr>
<tr>
<td>Buildings</td>
<td>Urban area (codes CLC 1.1, 1.2, 1.3 &amp; 1.4)</td>
</tr>
<tr>
<td>Forms of relief</td>
<td>Topographic Position Index</td>
</tr>
<tr>
<td>Valley</td>
<td>Canyon (code 1), gentle slope, small valley (code 2), U-shaped valley (code 4) and crest, hill in a valley (code 8)</td>
</tr>
<tr>
<td>Plateau</td>
<td>Plateau (code 5), rounded crest, hill on plateau (code 9)</td>
</tr>
<tr>
<td>‘Rounded’ relief</td>
<td>Weak slope (code 6)</td>
</tr>
<tr>
<td>Relief with angular forms</td>
<td>Mountain streams, springs (code 3), steep slope (code 7) and mountain summit, pointed crest (code 10)</td>
</tr>
</tbody>
</table>
Assessing the Relations between Objective and Subjective Qualities with Differential Cheese Price

To show the possibilities Saint-Nectaire has to valorise local public goods like landscape elements through achieving a higher price for their product, a two-step process was chosen. First, 16 producers were surveyed in the two main production areas (Cézallier and Sancy) to determine the changes in farm-gate cheese prices. A number of the interviewees are members of the Route des Fromages that was set up by the Association des Fromages d’Auvergne. This association centres its advertising on the quality of the welcome tourists receive and on the production areas. The other interviewees only adhere to the union of Saint-Nectaire producers, and thus pledge to respect the requirements of the PDO.

We postulate that if private goods (cheese here) and public goods (landscapes, for example) complement one another and are rooted in the production areas, they generate positive externalities. These can be valorised on the market of quality products and services by a higher price. This price differential that translates the encounter between a supply of specific products and a particular demand can be deemed a ‘rent’³ if the costs of production are equivalent to those of similar products (Mollard et al., 2006).

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Figure 3. Data processing chart. *Legend:* LU: Landscape Unit; DEM: Digital Elevation Model; TPI: Topographic Position Index; CLC: Corine Land Cover.
Second, consumers of these same producers were interviewed to assess their purchasing behaviour and their preferences concerning the consumption of landscape public goods. They were relatively well-informed consumers, since tourism facilitates the access to the area. The questionnaire was designed with a team of geographers, agronomists and sociologists. This allowed us to translate into images and words the different modalities of important landscape characteristics found in the production area. Consumers were asked to choose photos they associate with the main types of landscapes present inside the Saint-Nectaire production area (typical landscapes in the heart of the production area are the high plateaus of the Cézallier, the valleys of the Cézallier and the Sancy Mountains), as well as outside the production area (a typical landscape is the Puys mountain range). Other photos included the main types of meadows more or less in relation to cheese production (uniform natural meadows with partial blossoming, uniform natural meadows with many flowers, natural meadows with a heterogeneous aspect, natural meadows with a heterogeneous aspect and presence of other natural elements such as streams and bushes). The interviewees were also asked to rank the words characterising relief, vegetation, and farming activity. Open questions included in the interview enabled to ensure the coherence of the obtained answers.

Results

A Tenuous Link between the Dairy Farmers and the Landscape Characteristics

A wide diversity of meadows is shown on the farmers’ photos in terms of appearance of the sward (from a uniform carpet of grass to a mosaic scattered with broadleaf weed and half-shrub), size and morphology of the fields (vast upland meadows at the ends of narrow valleys), harvesting methods (grazing or hay), and the type of grazing animals (Montbéliarde or Frisonne dairy cows, Salers suckler cows). About one quarter of the photographs also show equipment and buildings in use (milking room, round-baller, stalls) (see Figure 4). The producers seem to deliberately present the modernity of the conditions of production as an asset. The systematic counting of the diverse elements of the landscape present in these views highlights the importance of ‘natural’ elements in the meadows such as rocks, streams, yellow gentian (not eaten by cows) and trees (see Figure 5).

As the analysis of the breeders’ discourse supports and explains their choices of emblematic elements, it is possible to go further in the identification of landscape elements aimed for and promoted by the producers. Grazing animals, the flora in the meadows, and the hay drying on the ground all convey the same message: the good quality of the animals’ food, even if the meaning differs from one farmer to the next, for example, green feed, from the mountains, diversified, with certain specific types of plants (e.g. gentian, legumes), packaged and preserved in good conditions, produced on the farm or locally.

Backgrounds distant from the farms and often not grazed by dairy cows are deliberately presented by the producers: mountain crests and summits of the Sancy Mountains, upland meadows for beef cattle or dairy heifers. Producers say they would like to highlight the mountainous character of their production conditions (altitude, relief, landscape aesthetic).
On the farms producing Saint-Nectaire cheese, the particular production conditions, which are considered by the producers as significant and linked to the quality of the product, are not always present. According to the studies on the farms, the smaller farms or those raising their replacement heifers are closer to fulfilling these conditions than others: they have a very large proportion of the grazed-only meadows, which are distinguishable by the strong presence of yellow gentian and rocks (compared to mowed meadows). Moreover, some photographs taken by the farmers show a high diversity of the flora in the less-intensively mowed meadows.

Landscape Elements Put Forward by Local Stakeholders

The establishment of links between product and landscape implies a process of selection and of a Goffmanian ‘mise-en-scène’ of elements that, in the minds of institutional actors, have an ‘effective semantic’ (Goffman, 1959; Bachelard, 1957). In this particular case, we will see that this establishment of links contains certain elements that are common to all (or most of) the institutional stakeholders, as well as certain elements that are specific to a few stakeholders.

*Elements common to most stakeholders.* Despite the diversity of the emblematic landscape elements mobilised, certain elements are common to most stakeholders. These elements seem to form one or more archetypal images endowed with a strongly evocative force, a Bachelardian poetic image (1957). It is thus necessary to identify these elements and the main characteristic of the suggested links between them and the cheese, on which this semantic effectiveness is based.
One of the links is created by the name ‘Saint-Nectaire’. This name brings many different historical events and places to mind. For instance, we are reminded of Maréchal Senecterre, who is believed to have been the first to introduce this cheese to the court of Louis XIV, or the village itself with its 13th-century church. These historical elements give the name Saint-Nectaire a cultural base which, by association, also characterises the cheese. This repetition of the name of people who rubbed shoulders with the most powerful (king, church) amplifies the cheese’s aura. It also attests to a strength lasting through the ages, defying time: there is no doubt about its permanence. In return, the perpetuity of the tradition is now evident and renewed by the production of the cheese.

The frequent evocation of volcanoes, summer meadows, *burons*⁴ (without mentioning their current uses) relate to the natural space (sometimes anthropised, but to a very small degree). The image of the mountain thus constructed conveys values of rusticity and force, softened by the curves of volcanoes covered in vegetation right up to the summits. Even though cows are not always shown, upland meadows are frequently described in terms of the variety of their flora (especially flowers), evoking a direct relationship between the flavours of these plants and the taste of Saint-Nectaire cheese. This cheese is thus something natural (even if dairy cows do not graze in alpine meadows nowadays).

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**Figure 5.** An example of ‘natural’ landscape elements: rocks, yellow gentian and trees (surrounding the AOC cheese!) (*Source*: Cemagref).
Traditional images conveyed by some institutional stakeholders. The images (photographs or text) drawn from the documents published by the Saint-Nectaire union put much emphasis on meadows and cows. However, there is a low diversity of images and therefore of types of meadows and cows. Equipment and buildings are absent. The most common features are rocks, streams and trees in the meadows. These landscape references are found next to a more detailed presentation of cheese-making processes.

For instance, a brochure of the union presents the cheese (‘product of the soil of Auvergne’) by specifying the different manufacturing and maturing processes. How the milk is produced is mentioned only very briefly. In several brochures, the Regional Chamber of Agriculture, whose mission is to promote all ‘Auvergne cheeses’, emphasises the specific flora of mountain areas: “meadows rich with a varied flora, on fertile volcanic land irrigated by numerous streams”. Research on the sensorial qualities of cheese confirms and specifies the effect of the types of meadows grazed by animals on the characteristics of the final product. The botanical composition, and notably its diversity, is one of the important factors that influences the qualities of the cheese (Verdier-Metz et al., 2000). Other research on meadows has also shown that there are links between the appearance of the meadows, their botanical diversity, and their management (Orth et al., 2006; Kuen-Ho & Pauleit, 2007).

Tourism stakeholders associate architectural heritage and cheese. Postcards, guides and regional books which explicitly evoke Saint-Nectaire cheese in their titles and captions frequently emphasise conditions of cheese production which no longer exist: hand milking, use of gerles,5 burons, herds of Salers cows with their calves, and so on. The mountainous and isolated nature of summer meadows is also a dominant feature: rocks, streams, trees and yellow gentians. By contrast, today’s farms with huge barns, tractors, meadows surrounding the farmhouse and silos are not shown, or very rarely. Nor do we see pictures of farm dairies or information on the cheese produced industrially.

The stakeholders of tourism very often present Saint-Nectaire as an essentially rustic cheese, with an irregular rind, often placed on a bed of straw. In promotional documents it is associated with summer meadows. When cows are featured in the pictures—less frequently than summer meadows (Vazeilles et al., 2002)—they are often Salers and sometimes Montbéliardes but never Holsteins.

Cheese labels highlight diverse landscape types. Statistical analyses of the content of the cheese labels reveal several types of landscape elements that are more or less correctly associated with the Saint-Nectaire production area (see Michelin et al., 2007). They also help us to understand the symbolism intended in the arrangement of landscape elements on the labels. The intrinsic values of these images are situated at the intersection of the natural and the cultural: agricultural landscapes are favoured, which explicitly reflects the relations of reciprocity established between humans, their productive activity, and the land.

Identifiable landscape types, veritable ‘postcards’, are also revealed by the analysis. To identify the importance of the place displayed in the settings represented on cheese labels, we need to ascertain the degree to which these images are anchored in the production area. In analysing these landscapes that could be qualified as
‘profiles’ or ‘landscape models’ (Luginbühl, 1993), we highlight both the elements proposed, for the consumer to associate the cheese with the production area, and the underlying advertising logic.

First, we found two landscape types qualified as real or realistic, easily identifiable and corresponding to precise places in the production area. These are localisable types, even though they convey a strong symbolic message relative to the notion of know-how and to the presence of a longstanding cheese-making tradition.

The ‘Cézallier type’ consists primarily of images featuring objects such as burons and villages, meadows and leafy trees. It reflects a link between product and territory in so far as it concerns one of the traditional areas of farm production of Saint-Nectaire cheese (along with the Sancy Mountains). These labels are therefore firmly anchored in the territory and, in modern and realistic semiological terms, connect the notions of the productive action, visible landscape actions in the area, and the industry as it is today (see Figure 6).

The ‘Sancy type’, is composed of hilly terrain associated with landscape elements such as flora, minerals or water, but also elements relative to agricultural activity (buildings, animals, etc.). Sometimes discrepancies may appear, such as the representation of cheese production outside a buron, which is in reality the traditional way of producing Cantal (not Saint-Nectaire) cheese, or images of manual milking, which hardly exists at all anymore (see Figure 7).

Second, two types of landscape, qualified as symbolic yet localisable, are identified. Less anchored in the reality of the Saint-Nectaire production area, they represent the fact that a product belongs to Auvergne, primarily so that it may be more accessible for the consumer.

![Figure 6. An example of ‘Cézallier type’ label.](image-url)
The ‘Chaîne des Puys type’ is composed of labels with a modern design that symbolically display nature devoid of any human activity. These are landscapes situated outside the area of appellation, although they are visible from it. They are nevertheless emblematic of the Auvergne region (see Figure 8).

The ‘Saint-Nectaire type’ presents landscapes on the eastern edge of the production area, where there is a very small proportion of farm production and landscape characteristics that are easily identifiable by an uninformed consumer (altitude and especially the volcanic substrate). This type is distinguished by references to the Saint-Nectaire village itself. It thus plays on the reputation of the name, which the consumer will be able to identify (see Figure 9).

Third, certain labels are dominated by symbolic elements, that may even be reflected in non-figurative images. A gradient of realism is identified:

- The ‘Auvergne landscape type’ will represent, for example, non-localisable mountainous landscapes which are strongly correlated with the landscape identity of this region (volcanic plateaus, cows of the Salers breed, etc.).
- The ‘unknown type’ comprises labels on which the product can be associated with high-altitude meadows, or with generic villages, not giving the image any territorial value but only providing indications that the cheese comes from a mountainous rural area.

The analysis of landscape types displayed on Saint-Nectaire labels highlights the diversity of landscapes associated with the product. The degree of closeness between the images and the actual production area reveals a plurality of settings, depending on the area represented and the values associated with them. They also reveal diverse

Figure 7. An example of ‘Sancy type’ label.
advertising logics. We can therefore assume that those labels that present a real territorial attachment reflect an ‘AOC logic’: it focuses symbolic landscape elements of the production area, which are related to the know-how and history of the cheese. The ‘brand logic’ can be found on labels that show landscapes representative of the

Figure 8. An example of ‘Chaine des Puys type’ label.

Figure 9. An example of ‘Auvergne type’ label.
Auvergne region as a whole. To give consumers the means to identify the product, the labels present ideas and symbolic references that are not necessarily linked to real places. The complexity of the status of the landscape is thus revealed through this gradient of realism which was identified through the analysis of the emblematic landscape elements found on the labels of Saint-Nectaire cheese.

We were able to identify three types of landscapes: Sancy, Cézallier and Auvergne. The Sancy type is distinguishable by the presence of very marked forms of relief, either valleys or hills. The Cézallier type is distinguished by the dominant presence of plateaus and summer meadows. The Auvergne type, more generic, can be considered as intermediary. It promotes hilly landscapes that are difficult to locate precisely. Only the first two landscape types are considered hereafter since the Auvergne type groups together symbolic images of the entire region that are not representative of a landscape specifically associated with the production of Saint-Nectaire cheese.

To sum up, we can consider, that gaps exist between the landscape elements on labels and real elements existing in the production area. But, these gaps are not in contradiction with reality (see Table 2 for the results obtained for the Sancy landscape type). The types of land cover with a high heritage and identity value, such as summer mountain meadows and wetlands present on 91% of the labels, are over-represented, as are hilly or angular topographical features. However, the discrepancies observed, especially between the frequencies of types of land cover found on the labels, and those obtained from GIS data, may be due to an ‘effect of perspective’. This effect is found on the images (screen effect of wooded vegetation, slopes over-represented even in the distance, etc.), which propose a tangential view, and not as in GIS data, where the view is synoptic. Thus, the landscape models found on the labels of Saint-Nectaire cheese remain meaningful in comparison with the actual landscapes. Due to certain characteristics of these landscapes (hills, wetlands, mountain meadows, burons, etc.), the quality of the product can more easily be equated with the quality of the landscapes.

Table 2. Difference between landscape elements present in the Sancy type landscape and those presented on the labels

<table>
<thead>
<tr>
<th>Land cover and forms of relief</th>
<th>% of total surface of labels</th>
<th>Degree of realism</th>
<th>% of labels representing them</th>
<th>% obtained from GIS data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pasture</td>
<td>15</td>
<td>- -</td>
<td>55</td>
<td>42</td>
</tr>
<tr>
<td>Upland pasture</td>
<td>34</td>
<td>+</td>
<td>27</td>
<td>29</td>
</tr>
<tr>
<td>Tree cover</td>
<td>19</td>
<td>-</td>
<td>68</td>
<td>26</td>
</tr>
<tr>
<td>Buildings</td>
<td>1</td>
<td>+/-</td>
<td>23</td>
<td>1.5</td>
</tr>
<tr>
<td>Wetlands</td>
<td>11</td>
<td>+ +</td>
<td>23</td>
<td>1</td>
</tr>
<tr>
<td>Plateau</td>
<td>26</td>
<td>+/-</td>
<td>41</td>
<td>21</td>
</tr>
<tr>
<td>Valley</td>
<td>39</td>
<td>+ +</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>Angular relief</td>
<td>26</td>
<td>- -</td>
<td>91</td>
<td>51</td>
</tr>
</tbody>
</table>

*Degree of realism for percentages obtained from the corpus of labels.
- - , +/- : far inferior to slightly inferior to the reality.
+/: +/- : more or less equivalent to the reality.
+, + : slightly to vastly superior to the reality.
Differences in Price for Saint-Nectaire Cheese

In 2006, the average selling price of Saint-Nectaire fermier (farmhouse cheese) is more than two euros higher than dairy (or industrial) cheese (€12.79 and €10.05 per cheese respectively). As Figure 10 shows, there is also a significant price difference between the independent producers of Saint-Nectaire fermier (i.e. not part of any specific organisation) and those who adhere to the ‘Route des fromages AOC d’Auvergne’ or ‘Cheese Road’ (€12.79 and €16.61 per cheese respectively). This price (€16.11) was the average price for Saint-Nectaire fermier that was provided by the Association des Fromages d’Auvergne. However, the sample of farmers that we interviewed reported a lower average price (€14.99). Nonetheless, there still is a substantial difference between the average price of Saint-Nectaire fermier supplied by members of the Association and the average price reported by producers who do not belong to the Association (€3.80 per cheese in 2006).

This price difference can be the consequence of different effects. On the one hand, it corresponds to a remuneration of the tourist reception supplied (requirements of tourist reception subject to monitoring) and on the other hand to the valorisation of externalities, notably the landscape. Mollard et al. (2001) have identified three main determinants of positive apprehension of the territorial origin of food products of a specific quality: the effect of proximity, the global supply of a territory and its diversity, knowledge of the territory. It affects positively consumers’ willingness to pay, which has been assessed with surveys of consumers (in the same farms).

For 41% of the surveyed consumers, the most characteristic image of the topographic features of the AOC Saint-Nectaire production area is the plateau of the Cézallier. The altitude, the wide open spaces, the burons (traditional shepherds’

![Graph showing price variations](image_url)

**Figure 10.** Average selling price of Saint-Nectaire fermier in and outside of the ‘Route des fromages AOC d’Auvergne’ (‘Cheese Road’) obtained by sampling, compared to the data from all producers of ‘Cheese Road’.
huts), the houses grouped together, the hedges and woods, and the meadows that have been mowed in the lower areas of the Cézallier were mentioned by the interviewees. Many comments highlight the ‘space’ shown by the photographs of the high plateaus: “space and meadows on the plateau”, “summer meadows”, “meadow zones for pasturage”, “Monts du Cézallier where you can find several Saint-Nectaire producers”, and “summer milk”. “The diversity of fields and woods” also seems to be an important feature for consumers, when discussing the lower plateau of the Cézallier.

As far as the grasslands are concerned, there does not seem to be any landscape preference for them. Some consumers emphasise that “any could have been suitable”. However, of the four photographs presented to interviewees, the photograph of uniform natural meadows that are totally in blossom is the one chosen most often, as it shows the “richness of the pasture” and “the quality”. Some consumers even affirm that “the diversity of the flora constitutes the particularity of the cheese from Auvergne”, and that “the flowers are the food for the cows and contribute to the taste of the cheese”. The association of the quality of the pasture and the food of the animals seems to be accepted in the mind of some consumers.

These different elements show that the consumers seek public goods that are specific to the production area, but which correspond more to the externalities of the location (landscape area made up of mountains and plateaus). The consumers seem less sensitive to the direct externalities linked to the act of cheese production (type of meadows in particular).

**Conclusion**

We have shown the very large complementarity between private goods (Saint-Nectaire cheese) and the public goods (landscape), which enables the valorising of landscape elements and cheese. Geographic study emphasised the specificities of the production area: in particular, there are two very distinctive areas from a landscape point of view, and two landscape types (Cézallier type and Sancy type). Agronomic study has revealed externalities associated with cheese production (diversity for some meadows). Yet, are these ‘objective’ landscape qualities (see Table 3) emphasised by the institutional actors and sought out by the consumers? In fact, all of the institutional actors converge to emphasise the historical and cultural foothold of cheese, as the work of sociologists has shown. However, for the network of actors surveyed, the ‘subjective’ qualities of landscape emphasised are very different from each other, and therefore more or less coherent in relation to the objective qualities of the product. The analysis carried out in social geography highlighted the existence of symbolic labels. Some of them are rather more generic than specific to the production area. On the other hand, some networks such as the producers who are members of the ‘Cheese Road’ promote the specificities of the joint externalities (notably in the areas around farms). More coordinated and more coherent, their strategy enables them to extract an even higher added value from their product. The price difference can be attributed to several factors: first, we can’t exclude difference in specific organoleptic qualities which could be perceived by the consumers (Verdier-Metz *et al.*, 2000). Second, differences exist in landscape elements actually
Table 3. The material and representative dimensions of Saint-Nectaire cheese production and of the typical landscape elements

<table>
<thead>
<tr>
<th></th>
<th>Material dimensions ('objective qualities')</th>
<th>Dimensions linked to the representation ('subjective qualities')</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saint-Nectaire cheese</td>
<td>Organoleptic and sanitary properties specific to Saint-Nectaire farmhouse cheese (not included in this study, considered as common to all the producers, see Verdier-Metz et al., 1995, 2000)</td>
<td>Historical elements (cultural base, historical prestige: Maréchal de Sennecerre, Louis XIV), to the know-how (burons, gerles) and to the link with the volcanic soil</td>
</tr>
<tr>
<td>(private goods)</td>
<td>Two 'objective landscape types' (externalities of specific localisation):</td>
<td>Four 'symbolic landscape types' (externalities of more generic localisation):</td>
</tr>
<tr>
<td></td>
<td>Cézallier type (plateaus, villages, meadows)</td>
<td>‘Chaîne des Puys type’</td>
</tr>
<tr>
<td></td>
<td>Sancy type (mountains, flora)</td>
<td>‘Saint-Nectaire type’</td>
</tr>
<tr>
<td></td>
<td>Landscape elements actually linked to dairy production (or jointures) (few and variable):</td>
<td>‘Auvergne type’</td>
</tr>
<tr>
<td></td>
<td>uniquely grazing meadows, characterised by the strong presence of yellow gentian, large diversity of flora in reaped (low intensity) meadows</td>
<td>‘unknown type’</td>
</tr>
<tr>
<td>Landscape elements</td>
<td></td>
<td><em>Landscape elements linked ‘subjectively’ to dairy production: diversity of flora in summer meadows, Salers or ferrandaise cows</em></td>
</tr>
<tr>
<td>(public goods)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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linked to dairy production. Third, few consumers are able to appreciate these differences: these subjective qualities are very important to explain price difference but we can’t reach conclusions about the type of landscape elements which are the most important. Further research is still needed to investigate these matters. Nevertheless, we are sure that price difference could be variable according to the stakeholders’ ability to promote a coherent image which enables consumers to spot the strong cheese specificities.

Acknowledgements

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Notes

1 See also Filser (1996, p. 94): “The theory of the quest for variety explains that the benefits which an individual derives from a purchase are generated not only by the objective aspects of the product but also by the psychological condition of the buyer him-or herself.”
3 Some authors (Colletis-Wahl & Pecqueur, 2001) speak about “territorial quality rent”: this rent, specific to producers exists when a complementary supply of quality products and services encounters a strong and rigid demand for specific products.
4 Stone hut dating back to the 18th and 19th centuries, used to house shepherds on summer mountain meadows and to make cheese.
5 Wooden cylindrical receptacle used in the 19th and early 20th centuries to transport milk and curdle it.
6 We can’t speak about a ‘rent’ because production cost could not be measured between farms.

References


