

The spatiality of the terroir. The development of wine regions in the light of regionality in the case of Hungary

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Abstract

This study aims to examine the development of wine regions/PDO districts based on regionalism. To achieve this, we have thoroughly analyzed the historical development of wine regions from antiquity until the present. We have placed particular emphasis on those areas that were among the first to embark on the path of legally regulated development. Due to our involvement, we have focused primarily on the development of the Tokaj wine region and, through it, the Hungarian wine regions. The various types of national regulatory systems served as the basis for the European Union's origin protection system. Through a detailed analysis of domestic regulations, we have attempted to demonstrate that the system's immaturity has led to a rather annoying situation, which is difficult and incomprehensible for consumers to follow and understand. Moreover, even official bodies use the terms in a confusing manner. Terroir, as an important viticultural and wine-geographic concept, is linked to regionalism at the level of its local foundation, according to our approach. In the final part of the study, we extended the theoretical issues of regionalism to the interpretation of wine regions and PDO districts. The various region concepts can be used to interpret the development of wine regions and provide assistance in understanding their development. In our case, homogeneous regions specializing in grape and wine production have such a profound and pervasive impact on the functioning of the region that they clearly demonstrate the region-forming role of the sector.

Keywords: wine district, wine region, geographical region, PDO, PGI, terroir

Introduction

The geographical, spatial approach to terroir can be interpreted from two directions. One of them, and the one that is the primary focus of research, is the study of terroir itself. The description and approach of terroir units by natural factors or the social interpretation of terroir are popular research topics in the international literature. Much less frequently, the question is approached from the other direction of territoriality, i.e. from the point of view of geographically delimited wine regions and areas.

The main characteristic of geography is the spatial analysis of natural and social processes. The clarification of the notion of the countryside, the landscape, is constantly at the centre of the scientific debate. These two concepts have been joined by the study of the region, giving rise to the triple concept of territoriality. In social geography research, the interpretation of these concepts depends on the researcher's area of specialisation, which can lead to significant differences (Szabó, 2015). The spatial aspects of viticulture and wine-growing encompass the three geographical concepts mentioned above, and their study is therefore essential for understanding the sector's spatial processes.

In the course of the study, we will summarise the way and the process of the formation of the known wine regions and compare the state regulations that were

established during the 18th century. The main focus is on the steps taken in Hungary. Finally, an attempt is made to extend the theoretical background of geographical regions to wine regions and wine districts: is it possible to analyse the territorial organisation of wine production from a regional geographical perspective?

Theoretical background

The creation and development of wine regions

The wine region, as a traditionally used wine-growing area, has a history going back thousands of years. If not called 'wine region', the distinction of the best wine-growing areas dates back to the time and territory of the ancient empires. The earliest mentioned 'wine region' was around the city of Harran (now Turkey) in Mesopotamia at the end of the 2nd millennium BC (de Blij, 1983). In Homer's Iliad, the besieging Greeks bring wine from the island of Lymnos (Johnson, 2020), Herodotus calls southern Italy 'Oenotria' (=Grape Land) (de Blij, 1983), and Dioscorides, known mainly for his medical work, considered the wines of the islands of Chios and Kos to be of the highest quality. This opinion remained valid into Roman times. The authors of the Roman period, eg. Strabo, Plinius the Elder, ranked the above Greek islands first among the wines of the non-Italian area, and next to them the products of Cappadocia and the province of

Gallia Narbonensis, especially Massilia (now Marseille), were considered the best (Unwin, 1991). Plinius called the wines of Caecubum in Lazio legendary, while those of Falernum and Surrentum were outstanding (Johnson, 2020).

After the tumultuous centuries following the fall of the Roman Empire, the boom in wine production, due to its sacred role in Christianity, brought with it an increase in vineyards. According to the written records of the period, it is the ecclesiastical estates that are best known. Some archdioceses, bishoprics and monasteries acquired land that produced an outstanding harvest. In Burgundy, the Cistercian abbeys began to enclose the plantations, which were then given the name 'clos' (= closed) - the first being the Clos de Vougeot which is still world famous today, in 1330 (Alkonyi, 2004). It was the same people who were already using the scientific approach of their time to analyse the differences between the two, and who laid the foundations for the 'cru system' that is still in use today (Johnson, 2020). Certain French or German regions had already acquired a reputation that laid the foundations for the development of the wine regions that followed (de Blij, 1983). The first royal regulations were also made at this time. In 1395, Prince Philip the Fair of Burgundy banned the Gamay grape variety and ordered the planting of Pinot noir instead, a measure that was confirmed by his grandson Philip the Bold (Johnson, 2020).

However, the establishment of vineyards protected by law must wait until the first half of the 18th century. The boom in European trade brought with it the ambition of the monarchs to maximise the revenue from it. This required legislation to regulate the best wine-growing areas. Three European territories reached this stage virtually simultaneously: Tuscany (Italy), Porto (Portugal) and Tokaj (Hungary).

Tuscany

The Tuscan wine-growing area was one of the most exciting and excellent wine-producing regions in Italy dating back to antiquity. It is no coincidence that the name "Chianti" was increasingly forged in the 18th century. In order to prevent this, Cosimo III Medici the Grand Duke of Tuscany issued two decrees regulating the area on 24 September 1716 delimiting the area that still forms the core of the Chianti Classico wine region (Meloni & Swinnen, 2018). In his decree of 18 July he created an organisation to supervise the newly created wine region with the task of monitoring and supervising the local wine trade and enforcing the protection of origin (Nesto & Di Savino, 2016). This makes the Chianti area the first official wine region in the world.

Porto

By the 18th century, the biggest market for Portuguese wine was Britain, which was a bottomless market for Port wines. This brought with it a boom in grape production,

with growers abandoning other crops and switching to viticulture. The regular overproduction caused the price of wine to fall by a tenth, not to mention the decline in quality, which necessitated reforms (Martins, 2000). In 1756, the Portuguese Minister General Sebastião José de Carvalho e Melo - later known as the Marquis of Pombal after his title - demarcated specific areas of the Douro Valley and created the wine region and its control body. The regulations established strict quality categories, grubbing up grapes from areas originally used to grow cereals and banning the import of grapes from other areas (Martins, 2000). The Douro Valley classifies not estates but the specific plantation that provides the raw material for its port. The characteristics of the vineyard, the age of the grapes, the load, the cultivation method and the variety are important, i.e. classification has no bearing on the value of the wine (Alkonyi, 2004).

The third, Hungarian, Tokaj regulation is discussed later.

Regulations

The early modern systems were superseded by the civilising society and the capitalisation of the economy in the 19th century. The bourgeois states that emerged developed their wine-growing systems in turn. These can be divided into two different types: The 'Latin system' (French system) and the 'Germanic system'.

The world owes the creation of the French system to Napoleon III, who wanted to dazzle his guests with the best French wines at the Paris World Fair. The resulting regime of 1855 in Bordeaux and its environs was not so much territorial as estate-based, as the Bordeaux wine merchants' marketing system had already established long before (de Blij, 1983). In Burgundy, on the other hand, the focus was on the place of production, with vineyards being classified according to the specific characteristics of the defined production area and the best vineyards being officially designated in 1935, but unofficially this was already the case (Alkonyi, 2004), and the system was completed in 1942. It can be seen that the two main French wine regions were regulated in completely different ways, making it necessary to regulate the system at national level. The first general law was adopted by the French government on 1 August 1905, the first step on the road to the AOC (Appellation d'Origine Contrôlée) system, which finally came into force on 30 July 1935. It covered not only the production areas but also the grape varieties, minimum alcoholic strengths, viticultural and vinification methods. In 1947, the INAO (Institut national de l'origine et de la qualité) was created, which is still responsible for the designation and certification of French wine regions (Unwin, 1991).

Before the establishment of the Germanic wine regime, Prussia developed its own system in 1868, which took into account the turnover of wineries from 1837 to 1860 and established eight classes of them on this basis (Ashenfelter & Storchmann, 2018). After the establishment of the

German Empire, it was necessary to create a unified German wine law, which, unlike the French one, was based on the sugar content of the wine rather than the geographical area. As a territory on the northern frontier of wine production, the main issue for German wines was low sugar content and consequently low alcohol content. Winemakers often added sugar to must, so the main task of German legislation was to distinguish between natural and artificial ways of adding sugar. Thus, the classification was based on the quality of the wine produced rather than on its geographical origin (Hallgarten, 1987). In addition to sugar content, the site-based approach was of course inevitable, since premium wines from vineyards that had produced outstanding yields for centuries could not be ignored. The contradiction was resolved by the new Wine Law of 1971, which then met the requirements of the European Economic Community. Eleven 'Anbaugebiete' (= wine district) were created, which were further subdivided into smaller areas. In addition, the vine varieties, the average yield and the cultivation methods were regulated. The system also incorporated the old classification according to sugar content (Unwin, 1991).

EU regulations on agriculture are based on the Latin system due to the typically strong French influence, but they allow member states to implement their own regulations. This has resulted in extremely diverse, even confusing systems. Italy, France, and Spain have the most designations of origin (Zappalagio et al., 2022). Germany is unique in its regulation of wines, with less than a third of the total, but traditional categories based on grape sugar content allow for an additional quality guarantee. Due to unique regulations, some countries operate much stricter systems than others; similarly, there may be differences within individual countries in terms of regions (Candiago et al., 2024). What is similar in all EU member states is that in the case of PDO regions product descriptions refer to both natural and social factors, whereas in the case of PGIs this is primarily done in relation to product quality (Zappalagio et al., 2022). The changing of this would fundamentally affect the system of protected designations of origin in the European Union (Zappalagio, 2019).

Methodology

The topic is new, and no similar research or studies have been conducted previously on the formation of Hungarian wine districts and their regional connections. For this reason, we had to start finding and processing the articles related to the topic. First, we collected literature dealing with the formation of the earliest wine regions in other countries then we did the same for Hungary. This was difficult because there are not many studies on this topic. The examination of this issue plays a secondary role. Paperworks from the 20th century and earlier were written from a historical or ethnographic perspective, while modern works examine terroir from physical perspective.

The reason for this is that terroir did not exist as a concept during the decades of socialist economic policy. Thus, Hungarian terroir research had to start its investigations from scratch. This is in line with international trends but with a decade-long delay (Moroz, 2024). To understand the processes, we looked at the creation and development of various regulations. Since the Hungarian system is not known beyond its borders, we present it in much greater detail.

We downloaded all the product descriptions of the geographical indications from the government (boraszat.kormany.hu) website and created clusters from a terroir perspective. Accordingly, we examined the depth and approach of the product descriptions in terms of their specific or figurative references to terroir from the mention of the word to the context. Ultimately, our goal was to establish clusters that clearly refer or do not refer to terroir in the case of geographical origin protection. We consider this to be a critical point in the emergence of geographical regionality in the formation of specific wine-growing areas. To do this we performed simple word searches and sentence analysis. The product descriptions are structured according to a specific pattern so it was sufficient to focus the search process on specific sections and points.

Results

The development of the Hungarian system

The Hungarian wine region system also dates back to the early modern period. The area referred to as a 'szőlőhegy' (= 'wine hill') in the documents is often not a 'hill' in the literal sense but merely a part of the settlement's land planted with vines (Kozma, 1995). The earliest territorial and quality regulations were also directed towards them. One such regulation is that of Nagy-Somló wine hill from 1511, an early modern, territorially based regulation of one of the emerging wine regions (Kiss, 2005). The territorial development of Hungarian viticulture and wine-growing was halted by the Ottoman Turkish expansion. The only positive result of the Ottoman-Turkish invasions was the creation of the Tokaj wine region. The vine-growing population that had migrated from the Syrmia region was looking for a similar topography and hydrography and found it in the mountainous area where the Tisza and the Bodrog rivers meet. The rapid development of the area and the advantage of the grape's ripening soon made it a focus of interest. The European sweet wine market absorbed the produced goods, forcing the owners to regulate the system. The economic boom led to the merging of local regulations, when the market towns of the area drew up a common vineyard register in 1641 (Alkonyi, 2004). Joint commercial action and lobbying also soon appeared (Beluszky, 2003). The largest landowner in the area, Prince Ferenc Rákóczi II, issued regulations in 1700, which were

extremely strict in their definition of the wine-growing area, but did not yet regulate production and technology. This period brought the development of the area very close to that of the western countries and took the first steps towards the conscious use of terroir and 'wine region' (Feyér, 1981).

The scientific and economic study of the area began in the 18th century, when Mátyás Bél, in his work 'The Life of the People of Hungary around 1730', first assessed the quality of the vineyards and classified them into groups but we do not really know his criteria. His references indicate that the sweetness of the wines and the location of the vineyards were the main factors (Bél, 1984). The quality of his work is also characteristic of the fact that it was the basis for the censuses that have been made since then, such as the work of Antal Szirmay in 1798 or the authors of the Album of Tokaj-Hegyalja (Szabó & Török, 1867), which differs only slightly from its predecessor.

The economic role of wine, which was slowly elevating Tokaj-Hegyalja, culminated in the decree of 11 October 1737 by King Charles III of Hungary, who established and closed the Tokaj wine region. The decision required lengthy preparation, which was carried out by a committee of the Council of the Governor. The boundaries of the wine region were established and commercial and technological regulations were introduced. Wine could only be made by local residents and only the 136 litres capacity barrel of Gönc was allowed. The introduction of grapes and wine from other areas into the wine region was prohibited (Bányai et al., 2012). Tokaj joined Tuscany and Porto with this act among the earliest regulated wine regions.

In 1880, 33 wine regions were designated on the basis of the statistical survey by Károly Keleti, but these were located within administrative boundaries and also had no origin protection function, serving only as a data set (Mészáros et al., 2019). This change was caused by the destruction of the phylloxera, after which all the wine regions in Hungary were established for the first time in the course of the vineyard reconstruction, and were regulated by the Ministerial Decree No. 83432/1893, issued on the basis of Article XXIII of the Law of 1893 on Commerce. The 22 wine regions thus established were soon joined by the 23rd, when four years later the plantations in the lowlands which were growing by leaps and bounds due to the destruction of the phylloxera were recognised as separate wine regions by Decree No 53850/1897 (Pókecz Kovács, 2013).

Decades of socialist economic planning have been a period of constant trial and error. The wine laws of 1955, 1959, 1970 and 1982 regularly changed the framework of the wine region. In '55 there were 17 wine regions, 14 in 1959, 15 in 1970, and 16 in 1982 (Kozma, 1995). This mutated again after the change of regime: the 1997/CXXI Law now provides for 22 wine regions, which is still the same today, although the names have changed. The law was not yet compatible with EU sectoral legislation, mainly

because of structural differences (e.g. taxation, budgetary relations, subsidies, regulatory matters); this was changed by Law No. 2004/XVIII of 2004, which was adopted after accession and adapted the national legislation to the European Council Regulation (EC) No. 1493/1999. This was not the last wine law, it was amended by Law 2016/LXXXVIII and then by Law 2020/CLXIII, but they left the wine region classification unchanged.

Looking back at the history of Hungarian wine laws and regulations we can say that they were primarily influenced by Germany. There are historical reasons for this, as the most important trading partner of the medieval Hungarian Kingdom was already the Holy-Roman Empire, while in the early modern period the Hungarian state became part of the Habsburg Empire thus strengthening trade and legal ties even further (Bányai et al., 2012). Hungarian wine labels bear a strong resemblance to German ones, as they contain the same information about the place of origin, variety, and sugar content. Today, they play an important role in indicating the level of protection of origin (Gál, 2020).

The EU regulation has brought about significant changes to both the territorial and qualitative aspects of wine. Council Regulation (EC) No 479/2008, which regulates the Community wine market, has transformed the rules of production by introducing a two-step process and, as is appropriate to the subject of this study, the protection of origin (Fig. 1). At the same time, the above-mentioned PDO and PGI categories were created, while the names of the 22 wine regions and the 3 wine districts had to be treated as acquired rights (Brazsil & Sidlovits, 2009), like the new PDO districts, they had to be covered by the protection of origin descriptions.

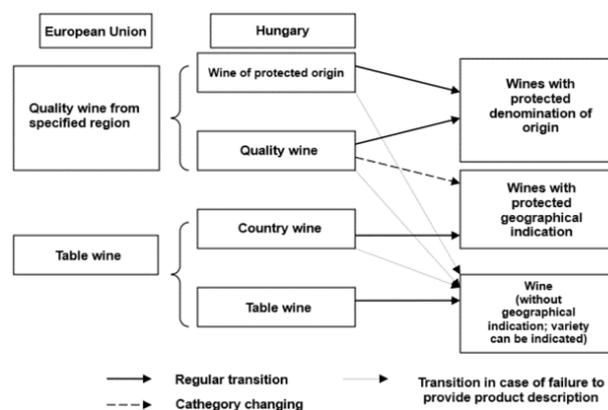


Figure 1: Changes in wine categories in the light of European Union regulations (Source: translation based on Brazsil & Sidlovits, 2009)

The initial, first-round protection descriptions soon proved to be inadequate to reflect the changes in the wine industry that started after the millennium. The need to revise and tighten them soon arose. The resulting revised wine region regulations tightened up the wine technology

side of the regulations in line with developments, and experience has shown that this has been ongoing ever since. The territorial changes have resulted in an increase in the number of PDO areas.

In addition to the 22 PDO areas inherited from the 22 wine regions, which were established as an acquired right, smaller, mainly site-based, partly variety- and technology-

dependent PDO areas have been created in succession (ec.europa.eu/agriculture/eambrosia/geographical-indications-register, 2024). At the time of writing this paper (August-September 2024), Hungary had 32 registered PDO areas and 6 registered PGI areas, in addition to 5 PDO areas with transitional authorisations.

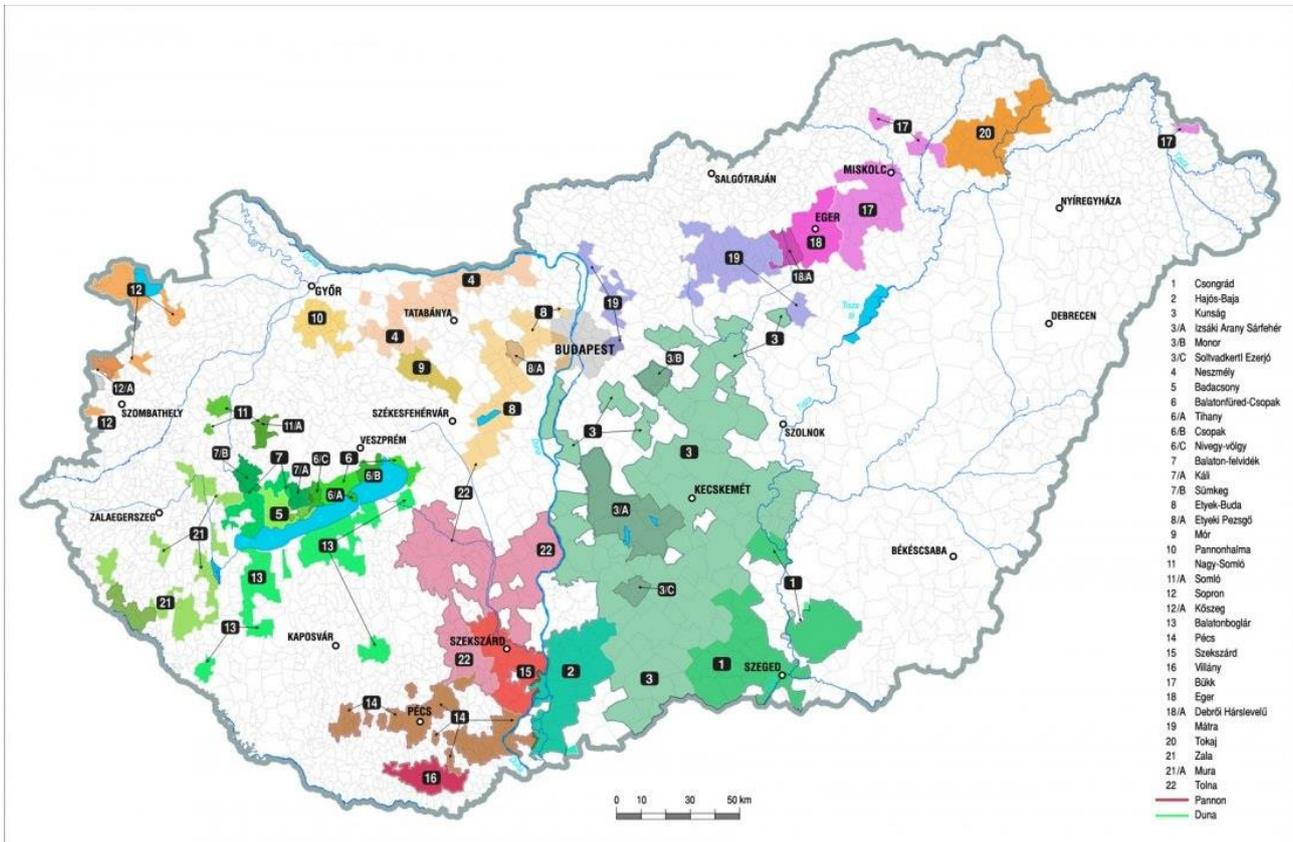


Figure 2: Hungary's PDO districts (Source: based on HNT map)

The latter category means that the documentation has been submitted but not yet finalised by the competent EU organisation. In other words, in addition to the 22 wine regions/PDO areas that existed initially, there are more 15 PDO areas and 6 PGI areas in Hungary (The official maps of every Hungarian PDOs and PGIs are available on the homepage of VINGIS The Hungarian Geographical Information Vineyard Register. The official descriptions of protected origins are available on the homepage of the government's wine homepage – see them in bibliography.). These are the following (see Fig. 2):

PDOs: Csupak, Debrői Hárslevelű, Duna, Izsáki Arany sárfehér, Káli, Monor, Pannon, Soltvadkerti Ezerjő, Somló, Tihany + Etyeki pezsgő, Kőszeg, Mura, Nivegy-völgy, Sümeg
PGIs: Balaton, Balatonmelléki, Duna-Tisza közi, Dunántúl, Felső-Magyarország, Zemplén

For the original 22 PDOs, they were created on a territorial basis, in line with historical tradition, corresponding to the inherited wine regions. For the new units, however, it is possible to make a distinction. Of

course, territoriality is present everywhere but its emphasis changes leaving room for technological regulation and - sometimes - quite strict varietal restrictions. It is mainly the small PDO areas where the territorial basis is 100% strict. These are the Csupak, Füred, Káli, Kőszeg, Mura, Nivegy Valley, Soltvadkerti Ezerjő, Somló, Sümegi and Tihany districts. Here, the regulation is based on a specific rock type and climate, which makes it possible to produce a wine that differs from its environment and the basic PDO area.

The second most important reason is the role of the grape variety used for wine-making. In these districts, in addition to territoriality, there is a very strict restriction on the varieties, limiting the number of grape varieties that can be used for production. In addition to the PDO areas (Csupak, Debrői Hárslevelű, Füredi, Izsáki Arany sárfehér, Káli, Mura, Nivegy-völgy, Soltvadkerti Ezerjő, Tihany), the Zemplén PGI area is also included here, which in fact allows the use and marketing of other grape varieties in the same area as the Tokaj PDO area.

Technological regulations are present in all districts, mainly in terms of yield limits and fermentation times. However, some of the newly created PDO regulations clearly highlight some technological restrictions: very strict ageing conditions, harvest restrictions, vinification regulations. The area of Csopak, Egri Bikavér, Egri Csillag, Füredi, Kőszegi and Sümegi can be considered as such districts.

As shown in Figure 3, the connections between the newly created PDO districts are clearly visible along the main organizational principles. The Csopak district has the most complex principle, as its product description includes all three approaches. When describing the regulations, consideration was given to the geological characteristics of the restricted area, the unique climate caused by the proximity of Lake Balaton, the local specificities of the grape varieties traditionally grown here and the technological background of it. For most districts, it is the area and the use of grape varieties that make them unique. The technological aspect alone is only present in the Eger PDOs, which produce red and white cuvées where the method of wine production is very strictly regulated including the number and proportion of grape varieties that can be used, very strict yield limits for quality reasons, the storage vessels that can be used for fermentation, and the length of fermentation. We find no

examples of joint regulation of grape varieties and technology in the new districts. However, even among the original 22 wine regions, this is only relevant in the case of the Tokaj PDO, which produces sweet wine specialties.

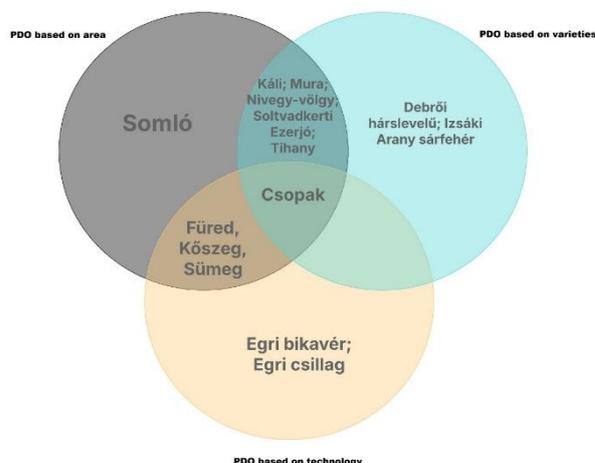


Figure 3: The organizational principle of the newly established PDOs (Source: own editing based on protected of origin descriptions)

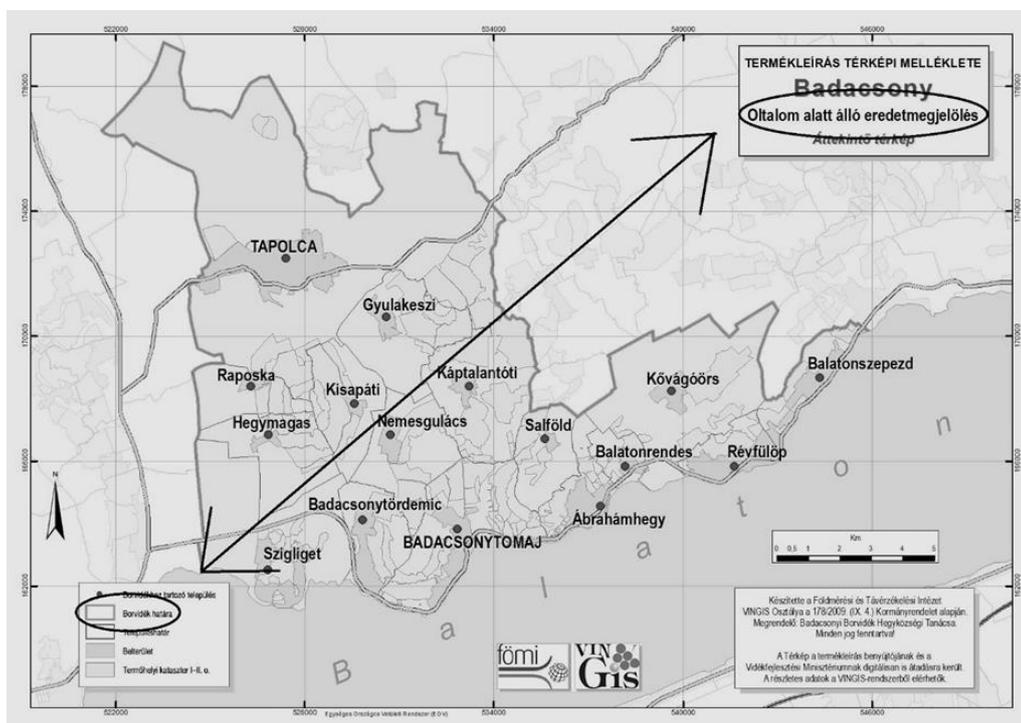


Figure 4: Conceptual confusion on the official OEM district map (example): Oltalom alatt álló eredetmegjelölés ('PDO') vs. Borvidék ('Wine region') (Source: own editing based on vingis.hu/eredetvedelem)

These descriptions of protected of origin essentially represent different levels and degrees of communication of the terroir of an area. However, the concept is difficult to examine and define (van Leuween et al., 2004). Perhaps

this is why the word appears specifically in the descriptions of protected of origin of only three OEM regions (Badacsony, Káli and Kőszeg), while the others merely refer to it by listing and highlighting natural or

social factors. This corresponds to the interpretation of terroir which means placing different degrees of emphasis on these two aspects. However, from the perspective of regionality (Charters & Michaux, 2014), a more definitive formulation would be very important. In our opinion, Hungarian wine production which prides itself on its uniqueness, should represent terroir much more strongly and the first step in this direction should be to clarify the product descriptions.

As can be seen, the relative laxity of EU regulations allows for the creation of an unlimited number of PDO regions. In our opinion this is a dead end, because the regions created in this way are so small that they will be unable to appear on the market due to a lack of sufficient quantities of wine produced. Their visibility is also minimal with only the most knowledgeable wine consumers aware of them. The historical role of most of them is insignificant even on a centuries-long scale and they have no international recognition or reputation. Due to their small size they do not have the financial resources to market themselves to the public.

As can be seen above, the Hungarian system of origin protection is close to being opaque. The traditional name of wine-growing region was replaced by the acronym OEM ('Oltalom alatt álló eredetmegjelölés'=PDO; Protected Designation of Origin), but the colloquial and research preference for the name "borvidék" (=wine district) has remained unchanged. The confusion is also illustrated by the discrepancy between the title and the explanatory notes of official maps (Fig. 4), where the title of the map uses the new nomenclature and the explanatory notes the old one. A similar problem is encountered with the new OFJ (=PGI; Protected Geographical Indication) category for the former wine region. This nomenclature confusion also affects communication and marketing about wines which traditionally favours the term "borvidék" because consumers are unfamiliar with the levels and names of designations of origin.

It can therefore be seen that the social aspect has recently begun to complement the geographical aspect. In other words, an extended interpretation of terroir is playing an increasingly important role. This is currently happening in a rather informal way, as the word terroir is described in only three of the descriptions of origin (Kismarjai, 2023), in contrast to the extremely complex interpretations of terroir (Teil, 2012).

Discussion

The spatial planning aspect of the region and wine regions

Without entering into a full analysis of the concept (for details see Szabó, 2015), a region is a concept covering a territory: area, district, region, defined territorial unit. It can be seen that the concept in this interpretation is entirely territorial - similar to wine regions, wine

producing districts. In the scientific sense, a region is traditionally a geographical field of study, where the cohesive force is spatial connectivity or interconnectedness based on some other spatial factor.

According to Benedek (2000), a region is a social construct. This makes it similar to a wine region/OEM/PDO, as they are also created on the basis of social tradition and negotiation. At the same time, the creation of wine-growing regions, i.e. an artificial spatial structure, is essentially based on natural foundations. Terroir is the basis of the wine-growing areas (Vaudour, 2002). In this way, we can link the creation of wine regions/OEM/PDO districts to other regional concepts (Lengyel, 2003), i.e. the spatially delimited area must be interpreted on the basis of some kind of problem, which can take a number of approaches to wine regions, of which we believe the following three are the most important: (1) history, (2) climate, (3) rock and soil.

(1) History plays an inescapable role in the delimitation of wine regions (and PDO, PGI areas). If we look at the evolution of wine regions, we can divide them into two distinct groups. The first, described by Sommers (2008) as 'working' wine regions, is a group of wine regions that have evolved organically over a long period of time, even several millennia, their official designation as wine regions being in fact only the legal closure of the process. These wine-growing regions or wine districts can even stand on their own as regions. Examples are Burgundy, Tuscany, Tokaj or the Balaton PGI district, which can be considered as a single unit. The regional link between the 'official' wine regions is much weaker: they are created at the instigation of the government, usually at the start of an economic process, taking into account the importance of the wine-growing and wine-producing sector in the area concerned (e.g. the creation of the wine regions of the Hungarian Plain).

(2) Climate as a term is confusing, but the climate terms for smaller territorial units are generally unclear and misused (mesoclimate, microclimate), so I use it for simplicity. There are numerous OEM districts which have been described with emphasis on climatic characteristics. The relative proximity of Sopron to the ocean and the Alps, the Mediterranean climate of Villány or the particular climatic components of Tokaj, give rise to a 'region' based on specific weather and climatic elements. In the case of the PGI (= wine-growing region) districts in Hungary, this is incomprehensible because of their size, the areas being too large to speak of a uniform climate in relation to wine production. However, their socio-economic interconnections often make them a coherent whole (e.g. Bordeaux in France and Kunság in Hungary).

(3) The characteristic rocks of a PDO area appear in almost all the descriptions of the area of origin as an important element in the creation of the area. The parent rock and the soils it forms influence the type and quantity of nutrients absorbed by the grapes, thus shaping the extracts that accumulate in the berries. It is therefore

typical that areas with different types of rock like to distinguish themselves from one another, leading to the creation of separate wine regions or PDO areas.

It should be stressed that local identity plays a very important role in territorially organised units (Bangó, 2005). Just as it is present in Bavaria ("I am Bavarian"), it also plays an important role in wine regions. This has not changed despite the official change from wine-growing regions to PDO districts. The identity of the winegrowers is still linked to the wine region. The only exceptions to this are the small, very special PDO areas, such as the Sümegi, Nivegy Valley and Mura areas which deliberately emphasise their diversity. Here, the creation of the PDO itself was based on a separate identity. Of course, these districts have only a few producers but this personal network of contacts helps to create a social group that can be defined by geographical and territorial categories, i.e. a local identity (Palkó, 2010). The formation of a wine-growing district identity is an important stage in the development of a wine-growing district. This established sense of belonging within the region can be quickly reflected in marketing, which can also have a positive impact on sales (Dawson et al., 2011).

Nemes-Nagy (1997) argues that sociological and anthropological processes should be emphasised in regions because it is society that shapes the region. Research has confirmed the same in wine regions. In the development of these and of the terroir at their core, the whole human factor, from generational knowledge to the technology being used, is involved in creating the system. According to Demossier, terroir is 'a paradox of the complex interaction of local forces and globalisation' (Demossier, 2011), i.e. the 21st century terroir is a response to globalised agricultural production, producing something unique, which is the essence of a given wine region or protected area.

According to Szabó (2015), there are four main types of regions, which he pairs according to their level of organisation. Thus, homogeneous and functional regions emerge on the organisational side of society, and administrative and territorial regions emerge on the organisational side of society. From the point of view of the wine sector, the homogeneous region is more important, although, as we shall see, the organisational and territorial regions are not without precedent. In the case of homogeneous regions, the territorial unit is formed along the lines of a priority characteristic, while functional regions are formed by territorial diversity and interdependence. The author already raises the question (Szabó, 2015) of whether homogeneity is manifested in the natural or social sphere. In our opinion, we can speak of complex homogeneous regions in the case of a wine region (=PDO district). Like Faragó (2005), we believe that the natural characteristics of a region - in this case a wine region - its specific economy - in our case based on wine production - and its cultural specificity provide a framework and a boundary for the area. Therefore, we

disagree with Szabó's statement that there is no single region, that the term wine region (and wine region as such) is not appropriate, and that the term agricultural region should be used instead, since the social and economic characteristics of the area in question are characterised by the emphasis on agriculture (Szabó, 2015). This is clear in French or even Italian areas, but it is also indisputable in the case of our domestic areas around Lake Balaton or in Tokaj.

Apart from the nomenclature confusion of wine region/wine district/PDO/PGI district (i.e. when, which and how to use it), the size of the area planted with vines in a wine region is decisive and the economic activity based on it is of paramount importance in most of the municipalities in the region. Of course, one could ask whether there is a 'wheat region', but the added value of the wine-growing sector in a given area in terms of tourism and wine tourism is much more intensive and important than that of any other agricultural product. In addition, the educational and cultural role of the sector is also highlighted (for example the local festivals which have a strong connection with wines; or the territorial impact of the wine making vocational schools in the wine regions).

In far fewer cases can a wine region be considered as established from an organisational point of view. However, there are examples of this. The Danube wine region, created in 2002, can typically be seen as a region of territorial policy and development. It was about economic cooperation between the three lowland wine regions (Kunság, Csongrád, Hajós-Baja). Joint market organisation and marketing, joint representation of interests and lobbying were the tasks and objectives of the region (Szabó & Botos, 2003), which it achieved under the given conditions.

Conclusion

The region, the vineyards, can be closely linked to the geographical space, taking into account both its natural and social aspects. As the brief examples above show, the units that bring together wine-producing areas, whether they are called wine regions, wine districts or protected areas of origin, are following the path of regional development. Previously, this connection had not been identified in any Hungarian research. We believe that this is the key to the future of the traditionally important grape and wine sector. The fragmented pieces of the Hungarian system of origin protection are still searching for their place in the system that is not yet fully crystallised, as one might ask: how many more PDO areas can be created in the Hungarian domestic wine-growing areas? Just for comparison: Austria's 44,210 hectares of vineyards have 9 PDO and 3 PGI areas, compared to Hungary's 60,000 hectares of vineyards with 37 PDO and 6 PGI areas (datas from OIV Statistics). This can be explained by the more

fragmented terrain and more variable climatic conditions, but even so, the figures show an exaggerated difference.

Nevertheless, the more important point is that the potential of regional awareness is not yet fully exploited by the domestic wine sector. We believe we have succeeded in highlighting this aspect. Economic policy and organization must strive to ensure that a balance needs to be found between larger regional entities (e.g. Balaton PGI) and small, local organisations (e.g. Nivegy Valley PDO). As Hoover (1999) puts it, a region is more than the sum of its parts, it is an organic whole. To achieve this, appropriate steps must be taken to ensure that the national wine PDO system is not made up of fragmented pieces, but of valuable connections between the pieces. Unfortunately, the current more centralized economic policy management makes this difficult.

In this study, we attempted to link scientific concepts of regionality with the development of wine regions. We believe that this provides a strong foundation for next research. In the future, we would like to examine in greater detail the relationship between individual regions in Hungary and the wine industry, and to map out the various aspects of these regions' different paths of development.

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Conflicts of interest

The author declares no conflict of interest.

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