
Original Article

Global warming brings vines back to Polish land

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Summary. Poland is not a country that anyone would associate with wine culture and wine-growing landscapes, although this was not the case in the past. Until the end of the European medieval period, in the south and southwest of the lands of contemporary Poland, vineyards were a frequent feature of the cultural landscape¹ and wine, regardless of self-consumption, was a lucrative object of trade with the Scandinavian countries (without competing with the Mediterranean countries). The Little Ice Age and wars, followed by the partition of Poland among powerful neighbors: Russia, Prussia and Austria-Hungary, and a socialist policy of centralized planning, put an end to wine production in Poland. Today we are witnessing a renaissance of domestic wine production and the expansion of vineyards on an unprecedented scale. We are also witnessing the return of wine-growing landscapes to Polish soil. The reasons for this return to almost forgotten traditions are complex. This paper will attempt to outline them, but it is becoming increasingly clear that global warming is playing an important role in changing the world's wine map. Climate change is harming many crops, but the vine in Poland enjoys its favor.

Key words: *wine; viticulture; cultural landscape; viticultural landscape; global warming; geography.*

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- 1 In our article, we consider that the cultural landscape is the landscape transformed by man as a consequence of the development of civilization. It represents the evolutionary succession of the primary landscapes (natural landscapes differentiated by zones and floors) that existed on Earth until the Neolithic. The authors consider a wine landscape to be a cultural landscape in which the predominant form of land use is vine plantations, i.e. vineyards, where a wine culture has developed, or in which grapes and their products, including wine, are an important component of the diet of the inhabitants. Wine landscapes, because of their physiognomy, structure, symbolism and semiotics, are a very characteristic type of cultural landscape. They are also strongly influenced by nature (orography, climate, soils) and in their development numerous non-natural factors have inter- come (Makowski & Miętkiewska-Brynda, 2020; Myga-Piątek & Rahmonow, 2020).

Global warming returns vineyards to Polish lands

Abstract. Poland is not a country that anyone would associate with wine culture and wine landscapes, although this was not the case in the past. Until the end of the European medieval period, in the south and southwest of the lands of contemporary Poland, vineyards were a frequent feature of the cultural landscape and wine, regardless of self-consumption, was a lucrative object of trade with the Scandinavian countries (without competing with Mediterranean countries). The Little Ice Age and wars, followed by the partition of Poland between powerful neighbors: Russia, Prussia and Austria-Hungary, and a socialist policy of central planning, put an end to wine production in Poland. Today we are witnessing a renaissance of national wine production and the expansion of vineyards on an unprecedented scale. We are also witnessing the return of wine landscapes to Polish lands. The reasons for this return to almost forgotten traditions are complex. In this text we will try to outline them, although it is increasingly clear that global warming is playing an important role in changing the wine map of the world. The change in climate is harming many crops, but the vine in Poland is in favor.

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Global warming returns wines to Polish soils

Summary. Poland is not a country that anyone would associate with wine culture and wine-growing landscapes, although this was not the case in the past. Until the end of the European medieval period, in the south and southwest of contemporary Poland, wine was a frequent feature of the cultural landscape and wine, independently of self-consumption, was a lucrative object of trade with the Scandinavian countries (without competing with the Mediterranean countries). The Little Ice Age and the wars, followed by the division of Poland between powerful visinhos: Russia, Prussia and Austria-Hungary, and a socialist policy of central planning, put an end to the production of wine in Poland. Today we are witnessing a revival of national wine production and the expansion of wine on an unprecedented scale. We are also witnessing the return of wine-growing landscapes to Polish soil. The reasons for this return to almost forgotten traditions are complex. In this text we will try to outline them, although it is increasingly clear that global warming is playing an important role in changing the world wine map. Climate change is harming many cultures, but wine in Poland is in favor.

Palavras-chave: *wine, viticulture, cultural landscape, viticultural landscapes, global warming, geography.*

peoples (migration period) (Bradley et al., 2003).

From history: the well-known aroma of wine

The history of wine and viticulture in Poland is at least 1,000 years old. Wine must have been known in the lands of Poland for a long time. It was already known around the 5th century B.C. and later, between the 1st and 5th centuries A.D., it was associated with merchants' trips from the Mediterranean to Barbaricum to buy amber collected on the shores of the Baltic Sea. This later date of contact with wine is marked by the period of increased amber trade after the Roman conquest of the areas along the middle course of the Danube (Pannonia) and the simultaneous exploitation of several routes to the Baltic Sea (Wielowiejski, 1984). Some territories of present-day Poland were on the so-called "amber routes" and wine from the lands bordering the Mediterranean, although not traded, was part of the "provisions" of the merchants (Casson, 1981). It could also have served as a universal means of payment and as a beverage to gain the favor of the locals. It is not known whether an attempt was made at that time to introduce vine cultivation in Polish lands. However, it is certain that during the heyday of the Roman Empire vineyards were planted in the geographical latitude of Poland, in Britannia (*insula Albionum*) and Germania, favored by the temperate climate (Jones, 2004).

The climatic optimum of the Middle Ages and the baptism of Poland

The fate of the vine in the heyday of the medieval period was different. These were times of relative social tranquility, characterized by a warm and temperate climate, similar to that prevailing today in central Europe (the so-called medieval climatic optimum), in contrast to several previous, cold centuries (late Antiquity, early Middle Ages), which coincided with the restless times of the migration of

In Central Europe, and also in Polish lands, the medieval period was a favorable period for settlement, agricultural development and expansion of crops, and probably also for the introduction of new crops (fruit trees, vines) and their expansion. The initiators of this economic quasi-revolution and its centers of diffusion were the Benedictine, Cistercian, Dominican and Johannine orders (although the vine may have appeared somewhat earlier). The monasteries spread culture and scientific and medical achievements, founded schools, introduced new techniques and methods in agriculture and handicrafts, promoted horticulture and developed livestock and even aquaculture. Their influence on development is unquestionable (Strzelczyk, 1992).

Benedictines, Cistercians and Knights of St. John

The Benedictines and Cistercians established in Aquitaine and Burgundy played a role that can hardly be overestimated in the development of viticulture in medieval Europe (Dominé, 2009). Above all, they developed viticulture techniques and winemaking methods, and produced a variety of spirits in quantities that exceeded the needs of the liturgical functions performed by the abbeys and nearby churches, as well as their own consumption. Wine was increasingly popular in the lands of medieval France and Germany. These economic and cultural influences did not bypass Polish territory. The adoption of Christianity in Poland (the baptism of Poland in 966) considerably increased the demand for wine, of course, for liturgical purposes. Imperfect means of transport and storage methods lead the Poles to make their first attempts at vine cultivation.

Of the great European monasteries whose presence in Poland may have been associated with the introduction of viticulture and winemaking, the first may have been (as tradition has it)

royal gardens when the Royal Wawel Castle was built. The tradition of vine cultivation here continues to this day (Bosak, 2015a; 2015b; Stanislawska, 2017).

the Benedictines of Provence (Gronowski, s. a. p.²). Thus, although in the early days of their mission on Polish soil the Benedictines imported wine from abroad on a massive scale, they eventually switched to making it locally. The beginning of their activity in Poland dates back to the 10th century (Gronowski, n. a. p.). The oldest dating (before the year 1000) seems to correspond to the abbey of St. Martin in Ostrów Tumski^{3 4} , in Wro- cław⁵ . There is also much data in favor of the cities of Greater Poland, and the presence of Benedictines on the hill of Wawel (Kraków) is not excluded.⁶

Another wave of Benedictines arrived in Poland after 1039 (Gronowski, n. a. p.). At that time, three abbeys were established on the Vistula River with which, in addition to their missionary activities, viticulture is associated: Tyniec (near Krakow), Sieciechów (in the middle course of the Vistula) and Płock (at first, the village was called Winiary, a name whose root is related to the word *wine* in Polish) (Pacuski, 1992).

There is even more data linking viticulture with the arrival of the Cistercians. The first Cistercians appeared on Polish soil in the middle of the 12th century and during the period of dynamic development of the order they became one of the most important links between Poland and Western Europe (Lam- parska, 2012). The monks were newcomers from France. They founded several monasteries in the center of Poland (Lesser Poland, Holy Cross Mountains) and

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- 2 S. a. p.: no year of issue.
- 3 The oldest historical part of Wroclaw, which was established on what was then an island in the Oder River, near its junction with the Olawa River. There, the rivers, branching into numerous branches, formed islands (Ostrów).
- 4 Tumski, from Tum (German: Dom), a medieval name for a cathedral or collegiate church, currently in disuse.
- 5 Wroclaw (Latin: Wratislavia, Czech: Vratislav), a city in southwestern Poland. It is the historical capital of Silesia, mentioned by the Arab geographer Al-Idrisi in his work entitled *The Book of Roger*, 1154.
- 6 Archaeological research indicates that vines were cultivated near Krakow and (among other places) on Wawel Hill as early as the 9th century, which is related to the fact that the lands of southern Poland were then part of the Christian state of Great Moravia. Also, later, the vineyard found its place in the

in other regions of the country, and even on the Baltic coast (the abbey of Oliwa, near Gdańsk⁷). Around 1163 the Cistercians arrived in Silesia, where a few more abbeys were built, all with their vineyards (Szlak Cysterski w Polsce). Both the place of origin of the monks and their achievements in agriculture lead to the assumption that it was the Cistercians who introduced vineyards into the rural landscapes of Poland and contributed to their spread. Vineyards "were established within large clerical or secular estates, they were also founded by peasants" (Kwapieniowa, 1959, p. 354), at least in Lesser Poland and Silesia (Pobóg-Lenartowicz & Derwicha, 1995). Before the end of the 12th century, vineyards already existed in all districts of Poland (Kwapieniowa, 1959, p. 375).

The establishment of vineyards (*vinea, hortus vini*) and the production of wine in the early days of viticulture in Poland was carried out by professionals or "winemaking instructors" (*vinotores, vinegar makers*) brought from abroad. Their duties also included the training of the workers who were their subordinates. Over time, a group of vineyard workers separated from them and lived in separate villages, called Viniaras. In the second half of the 13th century, foreign viticultural instructors are no longer mentioned, notes M. Kwapieniowa (1959, p. 363). The instructors are there, but they bear Polish names: Winiarski, Winiarczyk - all names with a core related to wine (*wino* in Polish) - which shows the diffusion of knowledge of viticulture and viniculture in the country (Kwapieniowa, 1959, p. 367).

Distribution and extent of vine cultivation in medieval Poland

We can consider the cultivation of vines in medieval Poland and their relative generalization, as well as the

7 Gdańsk (Latin: Gedanum, German: Danzig), a city with a history of more than a thousand years, whose identity has been influenced by different cultures over the centuries.

production of wine, as an indisputable fact. This is attested by numerous documents: grants, confirmations, papal bulls approving the endowment of monasteries and churches, records of purchase, sale and exchange (of vineyards), city and court books, as well as purification documents and inventories of estates listing vineyards and mentions given by travelers and historians (Kwa- pieniowa, 1959, p. 355).

Despite the abundance of documents, it is difficult to reconstruct the extent of vine cultivation in medieval Poland. It can only be assumed that vineyards were planted on well-sunny and warm slopes of river valleys and hillsides, i.e., in those places that centuries ago were considered most promising and

are still considered as such today. Vineyards were often located at the foot of monasteries and castles, episcopal palaces and the churches to which they belonged. The map presented in Figure 1 shows the locations of historical vineyards, confirmed by documents and archaeological finds, and the most probable location of the most important wine-growing regions in medieval Poland.

Most of the vineyards were probably located in the southern part of Poland: at the foot of the mountains (Carpathian foothills, Sudetes), in the high plateaus of Lesser Poland, along the Vistula valley (localities such as Sandomierz, Czersk), as far as Płock and Toruń, and in Silesia, in the valleys of the Warta and Odra rivers (near the present-day city of Zielona Góra).

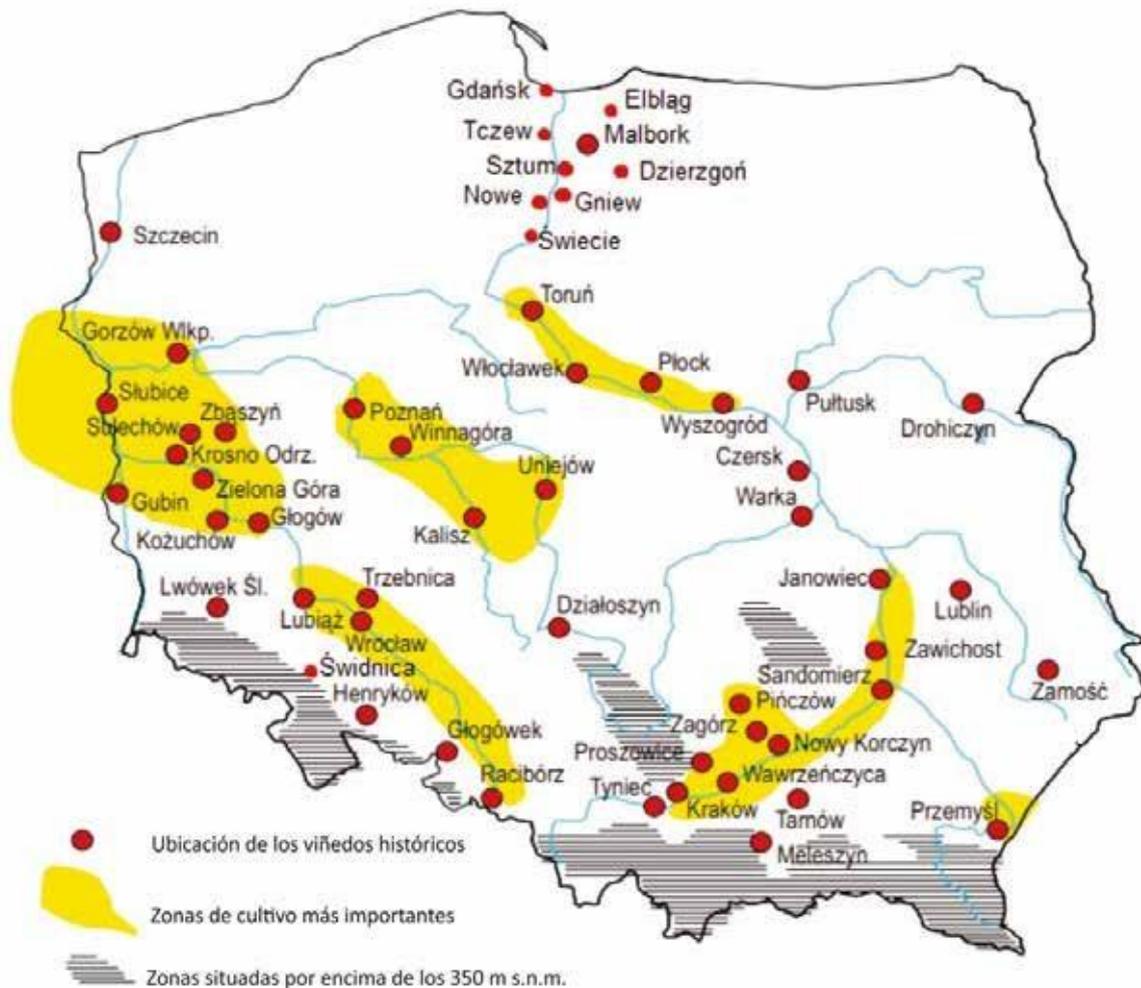


FIGURE 1. Historical wine-growing regions of Poland
 SOURCE: Myśliwiec (2013).

The spread of vine cultivation is also evident in the wine-related place names of medieval origin, such as Winna Góra, Winnica and Winna, as well as in the coats of arms of the cities with the image of a vine, of which there are dozens in Poland. Over time, vineyards have become an important and striking element of the landscape, although the landscape has never been similar to that of the wine-growing regions of southern Europe. It is worth noting that the widespread cultivation of vines, wine production and the growing ability to cultivate vines from generation to generation were added in the late Middle Ages to an already well-established wine-growing tradition of about 400 years.

In the late Middle Ages (15th-16th centuries), when vineyards had become an almost organic part of the landscape in many regions of Poland and wine production and consumption enjoyed a centuries-old tradition, the previously mild climate began to harden. What followed was a small ice age, a climatic cooling of long duration compared to the lifetime of human beings (and the half-life of the vine), which lasted in Europe (it was also felt in other regions of the Earth) for about 300-350 years (Intergovernmental Panel on Climate Change [IPCC], 2001).

The beginning of the end of medieval vine cultivation in Poland

Climate cooling has had an enormous impact on the economy of the entire northern hemisphere and of Europe in particular (Mannion, 1997; Myga-Piątek & Rahmonow, 2020). Due to the cold (the average annual air temperature dropped by about 1° C), the area of some crops, including food crops, was reduced and it was no longer profitable to establish new vine plantations, or even to maintain and care for existing ones, almost everywhere in Central Europe (Jones, 2004). Grape harvests were smaller and smaller, and the wine produced was less

palatable than wines from the south (Jones, 2004).

from Europe (from Hungary, Italy, France and Germany) who came to the country in an ever-increasing flow. In addition to the cold winters and rainy, freezing summers, in the 17th century the country was devastated by prolonged wars and the impoverishment of the cities, which were the main market for wine. Vine cultivation and wine production in Poland began a gradual decline and vines began to disappear from the landscape, giving way to other crops (cereals), pastures or wastelands. By the end of the 18th century, the Toruń vineyards and the large vineyards of the monasteries near Kraków had survived. Before 1900, the vineyards of Wielkopolska were destroyed, presumably as a result of phylloxera. Vineyards around Zielona Góra⁸ (southwestern Poland), decimated by phylloxera, survived until World War II, but on very small areas (Bosak, 2013).

World War II and, to an even greater extent, the post-war period, eliminated the remnants of vineyards from the Polish landscape. The wine-growing areas of southeastern Poland became part of the Ukraine. The Warka vineyards ceased to exist and although the wine-growing areas around Zielona Góra, known since the Middle Ages, were incorporated into Poland, viticulture was practically abandoned after the expulsion of the German inhabitants of these areas, who were familiar with vine cultivation. However, remnants of the winemaking tradition have survived in Polish lands.

Signs of rebirth

Among the changes in various spheres of life that took place in Poland after 1989 was the wine craze. Poland's opening up to the world and accession to the European Union, the remarkable increase in the number of tourist trips abroad and the

8 The name of the city of Zielona Góra (literally, Green Mountain), located in western Poland, is an allusion to the green hill occupied by a vineyard, a reminder of the extensive vine plantations of this region of Poland, which were gradually restored.
Global warming brings vines back to Polish land

The arrival of foreigners in Poland, as well as the appearance of new products in stores (including wines, in a previously unknown selection) and wine shops, played an important role in this regard. Specialized literature on wine played an important role in the creation of wine fashion: dozens of interesting articles (e.g. the monumental work *Wino* by A. Dominé, 2009), specialized magazines, also in internet version (such as *MagazynWina* and *Czas Wina*⁸), wine sections in culinary magazines, and wine fairs combined with wine tastings and wine days, such as the XIII International Wine Fair Enoexpo, sommelier courses, etc. Wine has become fashionable, as has Mediterranean cuisine and the Mediterranean lifestyle, of which wine is a part⁹, and this is not an insignificant factor.

This interest in wine began to translate gradually into increasingly daring attempts to grow vines and make wine from grapes, especially as new grape varieties adapted to drier climatic conditions appeared in garden stores (Kobyłka, 2014). The rich history of viticulture in Poland has also become a topic of interest for amateur winegrowers, readily available on internet blogs, wine store websites and specialized websites, as well as for various regional winegrowers' associations. And moreover, considering that the natural actual conditions and, in particular, the climatic conditions for vine growing in Poland are not optimal, but in many places they are acceptable, good or even very good, these are presented with good prospects for the future if the observed climatic changes continue.

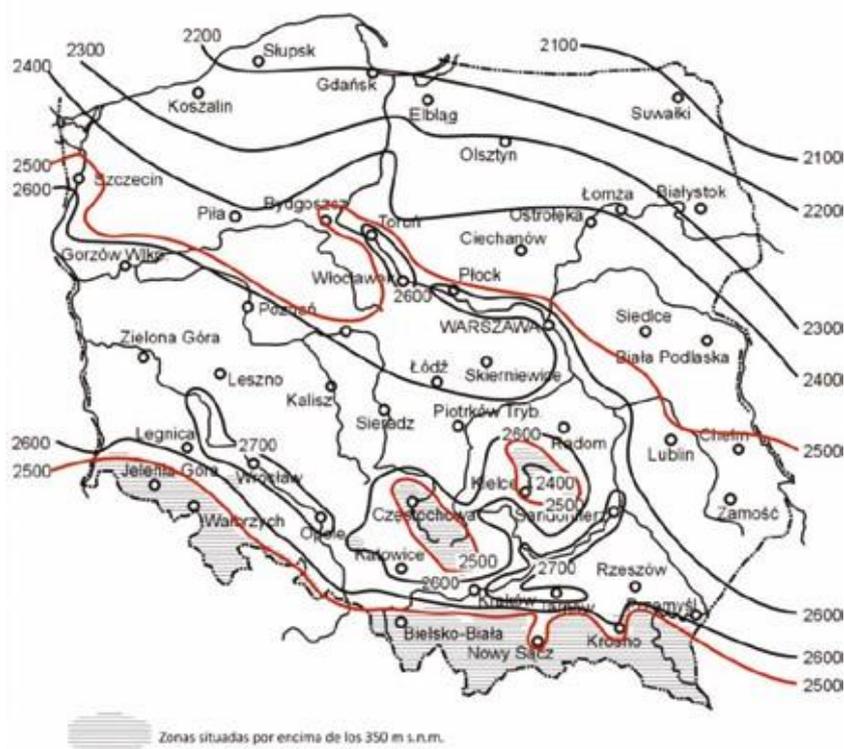


FIGURE 2. Conditions for vine cultivation in Poland

NOTE: the lines on the map represent average sat values (sum of annual average daily air temperatures above 10 degrees Celsius). The areas suitable for viticulture have sat values higher than 2,500 degrees.

SOURCE: Myśliwiec (2013).

⁸ <https://magazynwina.pl/> and <https://czaswina.pl/>

⁹ Mr. Roman Myśliwiec, the doyen of the resurgent Polish winemaking industry, even speaks of cultural changes related to the growth of the Polish wine industry. te popularity of wine, in an opinion cited by Kobyłka (2014).

A factor totally independent of wine fashion, and in a favorable perspective for the development of viticulture, is the global warming that has been felt throughout Europe for several decades. A good climate, in every sense of the word, has begun for viticulture and wine production in Poland. It is also a climate conducive to the return of lost landscape features. Global warming of the climate has already caused the average air temperature to rise to a level comparable to conditions during the medieval climatic optimum in Europe, when viticulture developed at an unprecedented rate, not least in Poland (Jones, 2004). The climate, for the first time since the Middle Ages, seems conducive to the cultivation of vines in Poland and offers the opportunity to revive an important winegrowing tradition that has not been forgotten after all. This laboriously neglected tradition seems to be a factor favoring the return of lost landscapes.

So it's all about global warming?

Global warming is one of the most frequently cited causes, both in terms of the potential threats (now almost real) to Europe's traditional wine-growing regions and the prospects for the emergence of important new wine-growing regions in countries hitherto considered marginal for wine production. There is great concern that global warming could significantly alter the distribution of vineyards around the world. The research results indicate that in many regions with well-established wine-growing traditions and a wine culture, the distribution of vineyards around the world could be significantly altered by global warming.

firmly rooted (the Mediterranean basin) the observed climate change could prove unfavorable for viticulture and wine production, in contrast to many European countries previously considered too cold for viticulture and wine production, such as England, Germany, the Netherlands, Denmark, Sweden, Norway and, last but not least, Poland (Dickinson, 2012).

Global warming is causing the zone between 30 and 50 degrees latitude in the northern and southern hemispheres, known for vine cultivation, to shift to higher latitudes (Dickinson, 2012; Euronews Green, 2023). This makes English and Polish wines better and better, and the presence of vines in such non-wine-growing places as the Benelux or Scandinavia no longer surprises anyone. In the southern hemisphere, vines are increasingly migrating south. In traditional growing regions, vineyards are also moving to higher altitudes, where it is cooler, or to slopes with less sunshine. A good example of this is Argentina, where vineyards have spread to cold Patagonia and the Andes, where cultivation reaches 3,000 meters above sea level. In Poland, too, vineyards cross previously impassable frontiers, where the most northerly plantations reach 54 degrees north latitude (Figure 4).

In central and northern European countries, including Poland, varieties are being developed that cope well with the local climate. New vineyards, in new places, seem to open a new chapter in the history of wine and perhaps, in the not too distant future, will give Polish wines a place in the chapter of new wine discoveries.

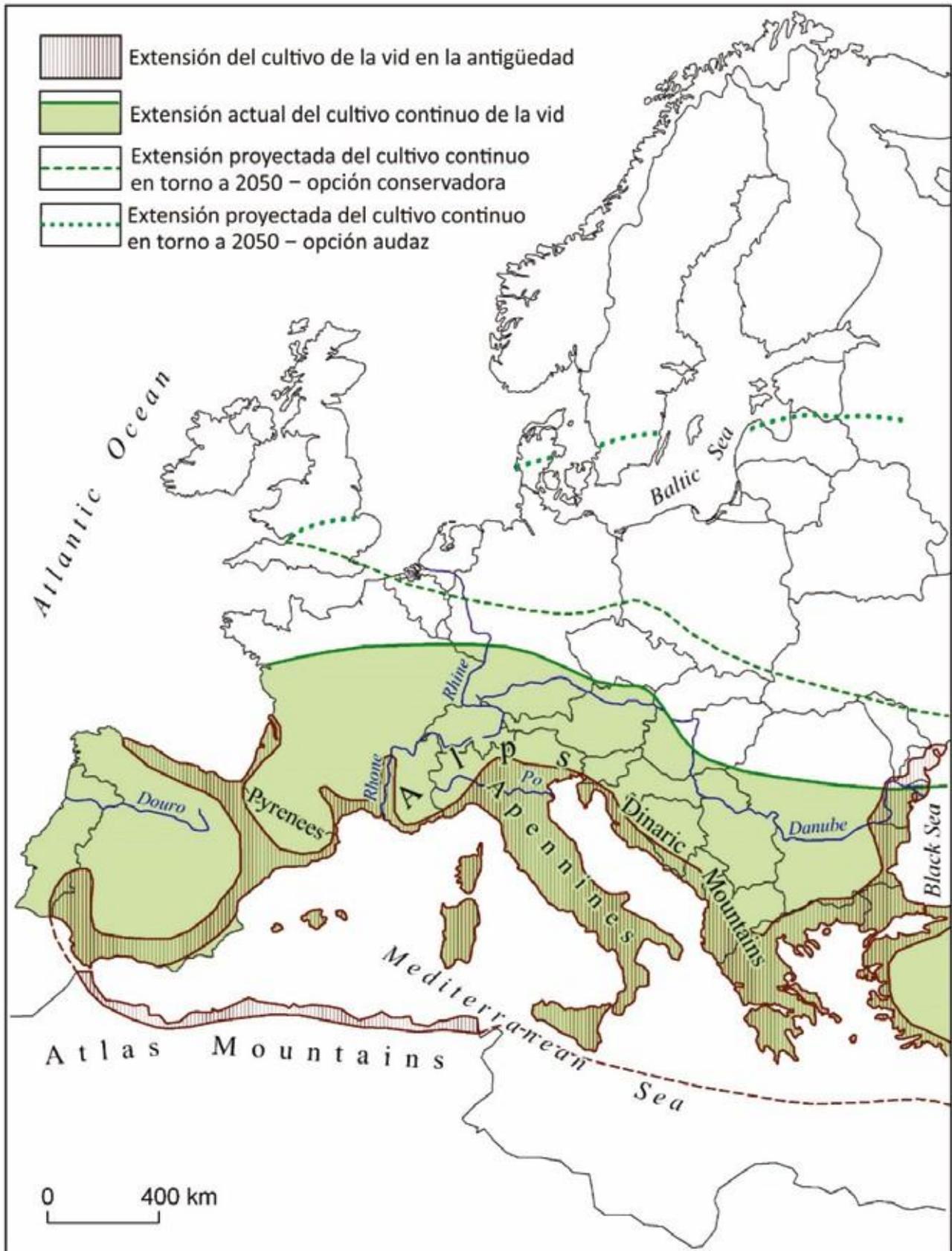


FIGURE 3. Past, present and projected extent of continuous viticulture in Europe.

SOURCE: authors' elaboration based on Myga-Piątek and Rahmonow (2020).



FIGURE 4. Areas where viticulture is currently practiced and the northern thermal limit of the current viticulture zone.

SOURCE: Myśliwiec (2013).

The return of the vineyards has already begun

The return of vineyards is being observed in many parts of Europe, hitherto marginal for wine production, from Poland to the British Isles to northern Germany (Jones, 2004). In Poland, the areas where large vineyards of several hectares are now being established overlap with the old (medieval) growing areas. They are managed by highly qualified specialists, and vine cultivation and wine production are of a commercial nature. This is best seen in the case of monastery vineyards, such as the one in Srebrna Góra, at the foot of the monastery.

camaldulite from Bielany in Krakow. The St. Dominicos winery in Sandomierz, on the Vistula, is in the start-up phase. Other large vineyards located in different parts of the country are in private hands. Some of them are in Pomerania, in northern Poland, where until recently no one thought of commercial viticulture and winemaking. Some of the important contemporary wine-growing areas are the area around Zielona Góra in western Poland near the German border, the Vistula valley running through the uplands of Lesser Poland (from the Sandomierz basin to Janowiec and Kazimierz on the Vistula), as well as the sub-Carpathian region and Lower Silesia (e.g., at the foot of the Ślęza massif, Figure 5).



FIGURE 5. Lower Silesia: new vineyards at the foot of Mt. Ślęza

PHOTOGRAPHY: Joanna Miętkiewska-Brynda and Jerzy Makowski.

In many places, when new vineyards are established, vestiges of old vineyards are discovered, mainly from the interwar period (1918-1939), and even old vines, on abandoned vines, growing on the edges of the forest.¹⁰

In numerical terms, small vineyards predominate, often between 0.1 and 0.5 hectares, established by amateurs in various regions of the country. The statistical data available on the area of vineyards in Poland are incomplete. The Agricultural Market Agency only registers wine producers who can legally sell their products and the area of their plantations. The others produce wine for their own consumption, tasting as part of wine tourism, etc. According to official data from the National Center for Agricultural Support (CNAA) (Białek, 2021), the largest number of winegrowers is in Lesser Poland (72), the west of the country (46), the Carpathian foothills (41), Lower Silesia (40) and the southeast of the country (38). The area of vineyards varies from several acres to several hectares, and in March 2022 there were 380 registered wine producers in Poland. By comparison, in 2010 there were only 21 registered producers. Data provided by winegrowers' associations speak of more than 1,000 registered producers.

The actual number of vineyards and more than 800 ha occupied by vineyards tends to double every 2 to 3 years. The actual figures may even be twice as high. Most of the vineyards were established in the 21st century.

People involved in the creation of vineyards and thus participating, more or less consciously, in the recreation of Poland's wine-growing landscapes, are guided by various motives. They often pursue dreams related to their fascination with wine and viticulture ("to have their own vineyard"), or take advantage of their experiences abroad (working in a vineyard abroad or visiting vineyards as part of wine tourism). Sometimes they draw on family traditions (as well as those of a nearby monastery or region), or they own land and try to manage it in harmony with the natural conditions and history of the area. For this purpose, they try to deepen their knowledge, attend professional courses organized by winegrowers' associations and collect experiences of Polish and foreign winegrowers (especially from countries with similar climatic conditions). The establishment of vineyards is often supported by local authorities and the above-mentioned associations, especially where a winegrowing tradition can be said to exist. It can also

¹⁰ From field observations made by Dr. J. Miętkiewska-Brynda in 2013 near Zielona Góra.

obtenerse financiación de diversos fondos de la UE (por ejemplo, el Fondo Europeo Agrícola de Desarrollo Rural). The restoration of the St. James Vineyard in Sandomierz is the result of the project "Return to the wine-growing traditions of the Sandomierz area", co-financed by the Sandomierz authorities, the Sandomierz Scientific Society and Switzerland, within the framework of the "Return to the wine-growing traditions of the Sandomierz area" project.

of the Swiss Cooperation Program with the new member states of the European Union (Swiss Contribution) (Towarzystwo Naukowe Sandomierskie, 2019). An additional factor stimulating the establishment of vineyards is the rapid development of national wine tourism, for which the landscape, with its hills of rows of vines, is particularly attractive.

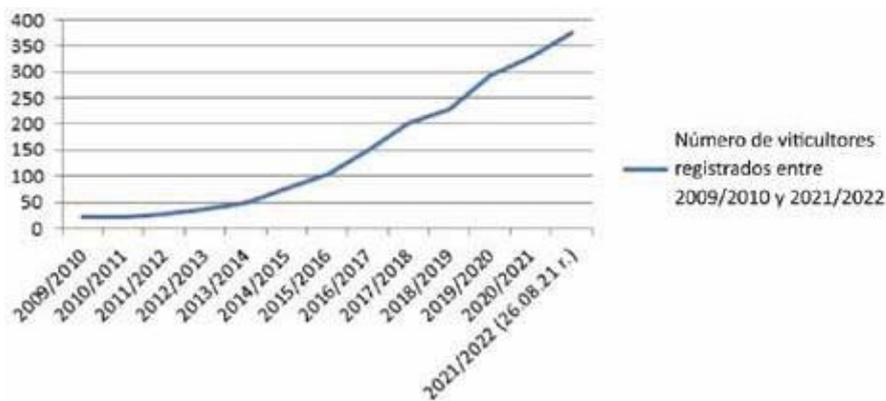


FIGURE 6. Number of registered winegrowers in Poland between 2009-2010 and 2021-2022
SOURCE: Białek (2021).

From the conversations and interviews conducted by the authors of this article, it is clear that those who are currently establishing vineyards in Poland are also aware, and this must be emphasized, that they are doing it for their grandchildren. Thus, vineyards do not create a "mobile" (Myga-Piątek, 2010, p. 26) or ephemeral landscape, but, as the object of generations, they become one of the relatively permanent elements of the landscape, not subject to seasonal changes, fashions, trends and whims. The climate, for the first time since the Middle Ages, is conducive to the cultivation of vines in Poland and offers the opportunity to revive an important wine-growing tradition that has not been forgotten after all. This tradition, laboriously unearthed, seems to be a factor in the return of lost landscapes.

Changes in land use - including changes in settlement and population distribution, forms of construction, communication and

By way of conclusions

the general evolution of the cultural landscape - are not infrequently due to periodic climatic fluctuations, wars (laws imposed by invaders), the development or decline of trade, changes in culinary tastes, and sometimes fashion. These are some of the factors of cultural landscape transformation cited in the literature, present in the discussions and fully shared by the authors of the article and identified by Myga-Piątek (2010; 2012).

In Poland, the changes in the landscape manifested by the return of viticulture and the revival of wine landscapes are conditioned by several other factors. Among them, the increased mobility of Poles, especially travel to Mediterranean countries, to countries with a wine culture and knowledge of Mediterranean cuisine, of which wine is an inseparable element, as well as the easy adoption of new cultural patterns by Poles.

From the 1990s onwards, one can even speak of a craze for Mediterranean cuisine and wine. This was accompanied by an increase in

The availability of wines from different countries deepened the interest in wine and the possibility of wine production in Poland. The traditions of grape growing and wine production in Poland were recalled, and textbooks and other specialized publications appeared. Expositions and tastings began to be organized.

A fertile ground for the growing interest in grape growing and wine production was global warming, a topic that did not leave the pages of the press and television screens. It has become clear that while climate change will make viticulture difficult or even impossible in many traditional wine-growing regions, in other places it will favor the expansion of the crop. In Poland, the vineyard began to be reintroduced by amateurs only a few decades ago, and it was a successful comeback. Today it is beginning to attract specialists even from abroad, from the wine-growing countries par excellence such as France or Spain. Vineyards are springing up in places where viticulture had been practiced for centuries and abandoned. This allows us to affirm that global warming is bringing vineyards back to Poland.

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conceptualization, project management (original draft), writing (draft review and revision/proofreading).

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