



1/ The Saint-Elix oak in the summer (Theux).



# The Mark of the Oak Tree in Gascony: from Dugout Canoe to Brandy

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## ABSTRACT

From Spain, the oak conquered Gascony with its different complementary forms (common oak, durmast oak, pubescent oak, Pyrenean oak, cork oak, evergreen oak) becoming established in different areas. A treasure trove for Gascony, these oaks became indispensable partners in successfully providing for essential needs such as protection, nourishment, building, conquest, embellishment, etc. Without the oak, establishing the grapevine would have been impossible. The author draws attention to remarkable and specific populations as well as to veteran, isolated trees that are powerful symbols of hope and imbued with mythology. The area considered by the author is delimited by the triangle formed between the Atlantic Ocean, Gascony and the Pyrenees and corresponds to what was known at the end of the first millennium as the Vasconie, the land of the Princes Vascons.

**Keywords :** oak usages, Gascon history, *armagnac*, winemaking, traditional medicine, artisan crafts

## ***Introduction***

My aim is to show that oaks have been providential trees for Gascons since ancient times. The Gascons have always had a privileged relationship with vines, but oaks have provided them with a very wide range of resources and services, and have affected their lives to a huge extent.

The geographic area and historical period selected for this research is Gascony around the year 1000, when the power of its founding princes, the Vascons, who originated from the Pyrenees mountains and gave Gascony its name, was at its peak. At the time, Gascony covered a triangular territory, bordered by the Pyrenees Mountains (which was the major water source for Gascony when the forest covered their slopes), the Atlantic Ocean, and the Garonne River.

I was born in the heart of this province of Gascony, in an area known as Armagnac Noir (Black Armagnac), which long deserved this somber title, reflected in the description published in 1902 by Paul Duffard, priest and keen ethnologist; "...vast woodlands populated with oaks that stood here in the time of the druids; heathland covered in heather and prickly broom; marshes clogged with reeds and undergrowth; and roads impassable for horses in winter..."

This study pays homage to all the ancient oaks (some of which, unfortunately, succumbed to the great storm in 2009) as well as to their more modest offspring, especially the one that, thanks to a forgetful or crafty jay, grows high up on the stone wall of the church where I was baptized, in Panjas, deep in Armagnac Noir.



**2/ Oak forest in Monlezun.**

## ***Where did the Gascon oaks come from?***

The migration of oak trees from southern Spain, where they were trapped during the last Ice Age, is an astonishing tale. As soon as the climate started to become warmer, oaks spread towards the north and crossed the colossal ramparts of the Pyrenees, preceded by the jays and crows. Pedunculate, sessile, pubescent, Pyrenean, cork, and holm oak all played the role of bridgeheads, helping each other to consolidate their colonization of Gascony. There is an oak capable of adapting to any situation: pedunculate oaks in deep, well-watered soils along the Adour River and Leyre rivers; sessile oaks on the dry hillsides of the Gers, in Auscitain country; Pyrenean oaks in Chalosse, as well as on the acid soils of *les landes*\*; pubescent oaks in the limestone soils of the Astarac and Lomagne areas; holm oaks on the south-facing slopes of the Pyrenees and the Atlantic dunes; cork oaks, known as *corsiers* in Marensin (a coastal area of *les landes*) and *sûriers* in the Pays d'Albret (around Mezin and Nérac).

There are even a few indomitable oaks at higher altitudes than expected: sessile oaks grow at 1,600 m (5,200 ft) in the Bareilles forest east of Arreau and at 1,700 m (5,576 ft) on the slopes of the Pic de Céciré, near Bagnères-de-Luchon. Pedunculate oaks continue to compete with beeches in the Irati forest at 1,300 m (4,264 ft).

## ***The folks that followed the oaks***

Some time after the oaks, men and animals ventured up into the mountains. Cromlechs and rock engravings mark the presence of these early inhabitants. The history of the Gascon people started among the oaks. The first huts were built in the oak's branches, its trunk provided our first tools, and it was easy to climb from branch to branch to pick acorns, then down to ground level to "go from honey to boletus mushrooms and truffles"! These ancestral oaks provided shelter and food, and mediated between the material world and the human imagination.

The history of humans and oaks in Gascony represents a superb love story between people and plants that starts in the most remote areas of the Basque Country, through the grazed forests of pollard oaks around the Rhune Mountain to the improbable holm oaks on the Soulac peninsula, and the ancient specimens at the *airial* farmstead in Sabres not to mention the cork oaks in Mézin, the oak avenue at Garaison near Lannemezan, and the oldest paper mill in Gascony at Cahuzac, with its skillfully woven branches, etc.

## ***A source of food and healing***

Oaks belong to the family *Fagaceae* (from the Greek word *phagô*, to nourish). And indeed, the acorns are as sought after as the blackberries that grow at the base of the tree or the honey made by the wild bees that live in it. In years when other crops failed, acorns were dried, ground into meal and mixed with cereal flours. The oak was king when wild berries and vegetables formed the base of the human diet and, afterwards, in times of need, acorns helped to offset shortages (for example, as a coffee substitute).

Acorns, are not only nourishing, they are also considered to be a fertility aid; this is

\* Editor's note: *les landes* refers to a specific ecosystem composed of low-lying heaths and marshes, typical of certain areas in Southwest France and whence comes the administrative name of the department, Landes.

reflected linguistically since the same words in Latin, *glans*, *glandis*, mean both “acorn” and “penis tip”.

When the first animals were domesticated, they were brought to graze beneath oak trees – preferred to beech by the local shepherds. Local records confirm these customs, as well as the transhumance of sheep and pigs from Béarn. In the absence of transhumance, pedunculate oaks were planted at regular intervals to meet the needs of the villagers. These plantations, known locally as *plantades*, are still alive today: the best example is just on the outskirts of the village of Ibos, on the road to Pau. In years when crops failed, grazing animals in the *plantade* was prohibited and the acorns were reserved for human food.

The tradition (today successfully revived) of raising black Gascon pigs, one of the oldest breeds in France, is closely linked to oak trees. The production of Bayonne ham took root in the Adour valley thanks to the combination of three factors: extensive oak woods, the mild climate, and sources of salt water.

Pheasants, turtledoves and wood pigeons also grow fat on acorns. The wood pigeon migration routes lead to Gascony and its acorns which in turn has led to the tradition of pigeon hunting and the building of *palombières* (hides for pigeon shooting) – in oak trees.

Oaks are associated with other treasures such as boletus and chanterelle mushrooms, not to mention truffles! Indigenous durmast truffle oaks have been found in Montferran-Savès. The truffle market in Seissan, near Auch, becomes better known every year. Plantations of truffle oaks recently started operating successfully on the hillsides near Saint-Clar and Tournan in the Gers. Mycorrhized oaks have even been planted at Château Garreau in Labastide-d’Armagnac to promote the growth of boletus mushrooms.

If you are invited by locals to taste these specialties in their homes, you will surely notice the salt chest made of oak, displayed proudly in the corner by the fireplace, smoked to a lovely patina and polished by the rough fabric of all the trousers that have sat on it over



3/ Oak is king of the *airial landais*.

the years! Perhaps an ancestor, sitting on the chest, will tell you a story – one of the many that I have heard over the years. For example, about the many medicinal uses of the huge oak tree beside the house; how it provides shelter for carts and farm machinery, as well as perches for guinea fowl, chickens, and children. Or about how oak bark cures skin diseases and heals nasty wounds and throat infections. Note that only bark from young branches is used for medicinal purposes, while bark from adult limbs is reserved for tanning. At one of these farms, you may notice that a dog with new-born puppies in the yard is wearing a cork-oak-bark medallion, thought to hasten the end of the lactating period.

Perhaps your host will take you out to his vineyard, which traditionally has a few peach and walnut trees, as walnut wine and peaches preserved in wine are recommended for their fortifying properties. Or he may offer you a taste of *armagnac* (brandy). This grape spirit, aged in oak barrels, combines the health-giving qualities of both of its precursors. Oak toughens and wine cleanses.

## ***Construction materials***

Traditional, half-timbered houses, especially those in the Landes, have been dated on the basis of analyses carried out by Béatrice Szepertyski. Wood-core samples taken from the timber frames of these farm buildings indicated that they were built as long ago as the 18<sup>th</sup> or even the 12<sup>th</sup> century! These farms were built in the *airial* clearings, when the ancient deciduous forests of Gascony were felled, and not during the more recent colonization of the heathland. “An *airial*, both an architectural unit and an element in a subtle ecological balance, includes sots (pig pens), an oven, a well, a barn, off-ground chicken coops, water troughs, and houses. The kingpin in this balanced environment is certainly the oak tree: is it not the tree of the sun, protector of the earth and of houses?” (Daney, 1992).

Oaks also provided the roof timbers for our market halls and churches. It is said that a thousand oaks from the vast municipal woods were felled to provide the outstanding roof timbers of the Saint-Girons church in Monein in Béarn.

The Gascons also needed to defend themselves. Heavy oak palisades provided fortifications around the towns in Gascony during the Hundred Years’ War. Centuries later, on orders from Napoleon, oak timbers were taken from the hillsides in the Gers to strengthen the defenses of Bayonne, Saint-Jean-Pied-de-Port, Socoa, and Navarrenx.

Amazingly, some more unusual constructions have stood the test of time:

- lines of thick oak stakes, set deep into the clay, and used to support piled beams and planks, were discovered in the port of Bordeaux when archaeologists were exploring the ancient harbor that dates back to the first century of our era;

- a 300 m/984 ft dike, consisting of 3 rows of oak pillars and canal braces filled with compact masonry, and built to divert the Adour from Cap Breton and Port d’Albret towards Bayonne. This immense project was launched by Louis de Hay in 1572. Oak is rot-resistant provided it remains submerged in water. This is why oak from the Adour valley is still sought after today to make pilings for dikes in Holland and in the city of Venice.

## ***Transportation***

Very early on, people wanted to be able to move about freely and fords were



4/ Dugout canoe, Abbaye de Flaran (Gers).

inconvenient. Using oak beams they built roadways and constructed bridges over rivers. For centuries, it was easier to travel by water than overland, so it is no wonder that the Adour and Garonne rivers and their dense network of tributaries throughout Gascony are still revealing their secrets today. The oldest dugout canoes date from the Mesolithic era (8,000-9,000 years ago) and the most recent are barely a century old! The canoe found at the Lacaussade dike in 1995 (near Riscle-Gers), now kept at Flaran Abbey (Gers), is absolutely intact (6 m/19.7 ft long). Others may be seen in collections at Arthous Abbey (Landes) or the lake-site archaeological museum in Sanguinet (Landes).

Various types of craft were perfected over time: *galupes*, *bachets*, *chalands*, *couralins*, and *tilholes*. All are flat-bottomed, essential for travel on the shallow upper reaches of the Adour. The boat-builders' guild was active until 1930, sourcing oaks from the *barthes* (Adour flood plains). The boats would glide downstream to the port of Bayonne, loaded with wheat, honey, animal skins, and, from relatively early on, with wine and brandy. On the Garonne River, these flat-bottomed boats are known as *gabarres*. Although *galupes* and *gabarres* have almost disappeared (except for river tourism), the smallest of these boats, the *couralin* (a name derived from the Gascon word *couarou*, heartwood), is still used by fishermen.

For the needs of the French navy, Colbert sent Louis de Froidour to Gascony to prospect the woods and forests. Our finest oaks thus sailed the seas around the world. Furthermore, the woodsmen in the Pyrenees foothills knew how to train an oak – by planting it with beech – to obtain properly curved timbers needed in shipbuilding. Often naval orders insisted that the oak be sourced from the heart of Gascony (near Auch) but in 1760 the bullock drivers

from Labastide-d'Armagnac refused to obey orders to transport 1,680 ft<sup>3</sup>/47.6 m<sup>3</sup> of oak from Auch to Bordeaux to build ships for the coastal defenses. The same reluctance to carry wood to the naval shipyards in Bayonne was reported in Baigt in Chalosse and later in Lannes. Was this an example of the typically Gascon rebellious spirit?

### ***Everyday tools and gadgets***

In Gascon farms in the 19th century daily life involved around twenty separate crafts. A farmer's skills included winemaking, cereal farming, animal breeding, forestry, mechanical repairs, woodcutting, carpentry, cabinet making, and maintenance. To carry out these tasks efficiently, a large range of tools, fitted with handles or attached to a base to multiply their strength, were made from oak wood. Oak wood was also used to make workbenches, vices, anvil blocks, turning benches, cog wheels, grape-crushing cylinders, and winepress screws. Wooden ploughs, harrows, and rollers were made to work the land. "To make the latter, the trunk of an *escos* (pollard oak) was chosen, leaving the branches to serve as fuel for heating and cooking. Because (these pollards) were cut back repeatedly, they grew much faster than normal trees. The trunk became extremely hard and dense. A roller made from this rock-like wood would easily break clumps of clay in the soil." (Roland Dumas, Panjas, Gers; personal communication.)

Gascony had a large number of mills: not only water and wind, but also tidal, mills at the mouth of the Adour. "Their functions (flour milling, fulling mills for wool and paper, sawmills, and oil presses) varied according to local resources and needs. In all cases, the floor of the mill race was lined with enormous oak trunks. This prolonged immersion was intended to harden and, at the same time color, the wood. Watermill gears, lock gates and farrier's shoeing stands required similar treatment. Similarly, oak statues in churches have withstood the test of time with the same treatment. The trees used to make the choir stalls in the Auch Cathedral (a jewel of Renaissance art) spent several years underwater in the Gers River." (Quereilhac, 1987)

We cannot do anything without oak wood: a hollowed trunk makes a good vat and cloth is dyed in it with oak ash, considered to be the best; heartwood planks are used to make washboards used at the spring; and cork is used to make beehives, floats for fishing nets, and stoppers for *cuyons*, flasks used by shepherds to carry beverages. When shepherds in Bigorre graze their sheep on land to be fertilized, they set up a mobile pen made of wooden barriers that they move every day. Every night, they sleep in a portable hut made of oak wood, called a *burguet*, which provides both bed and shelter.

"When we take the young heifers out to graze for the first time, they are bursting with energy. We prepare fetters using young shoots from the oaks that grow in the meadows. They must be thinner than a man's finger and we cut them in the spring when the sap is rising. It takes practice to twist them and make eyelets on both sides to attach them. When we take a pair of bullocks to market, we harness them with a *jouète*, a piece of oak about 10 cm/3.9 in in diameter and long enough to rest on the necks of the two animals. We then insert two *trabouns*, oak twigs as thick as a man's thumb and twisted in the fire, into the two holes at each end. The *trabouns* fit around the bullocks' horns and hold the harness in position." (Gilbert Lizé, Monclar-d'Armagnac; personal communication)

Oak is the champion for household purposes. It is used for winemaking containers (barrels and vats of various sizes); laundry vats; salting vats; barrels for storing gunpowder, salt, fish, oil, flour, etc. Children also use it to make tea sets for dolls with



acorns and cupules becoming miniature cups and glasses. My grandfather used dried oak galls to make toys: a forked oak stick, a gall pierced on three sides, a piece of thread 50 cm/19.5 in long, and a large piece of elder wood with the pith removed made a primitive noisemaker.

Oak wood sometimes found unexpected uses: on the hills around Lelin-Lapujolle in 1956, there was so much snow that some clever folks used oak staves from dismantled barrels as skis to move around when walking was impossible. Oak is also used in bullrings: the *talenquère*, a wooden fence 1.4 m/4.9 ft high behind which men could find protection from the cows and bulls, is, of course, made of oak. The bullrings in Estang and de Manciet, classified historical monuments, were built of oak donated by the villagers. In Vielle-Soubiran the ring was constructed between two ancient oaks which provide welcome shade for the audience during summer contests!

Traditionally, a Gascon girl's dowry consisted of an oak table and a carved chest where she stored her sheets, towels, and table-cloths, all made of linen. When money was needed for a wedding, to repair a roof, to buy a tractor, etc., the farmers drew on their savings by felling two or three oak trees. Occasional expenditures like these were made possible thanks to the trees. Our grandparents thought of oak trees as an investment that could be called on in case of need.

Perhaps, as our Gascon farmer was making the wedding chest for his daughter, he would set some planks aside for his own coffin. Some cabinet-makers and carpenters can identify the origin of a piece of oak immediately. The nicest specimens, from Mormès and Le Houga, are recognizable by their veining, color, aroma, and grain – as though the Armagnac soil nourished the trees better than any other!

### ***Superstitious or simply fond of marvels?***

A special oak log, larger than all the rest, was always set aside for Christmas. It took two people to set it on the firedogs and a large bundle of vine cuttings to set this huge block of wood alight. If the log took three days to burn, we were assured of good luck for the coming year. I remember that the charcoal produced from this oak log was carefully collected by my grandmother. She always used a piece of it to draw a cross on the door posts of the rabbit hutch and sheepfold, while the rest was ground to powder and dissolved in water for the poultry, to protect them. Our neighbor's wife used to protect her young poultry by collecting pollen from the vine flowers, waving it symbolically over the traditional Saint John's day fire, and mixing it with their food.

### ***Intertwined destinies for vine and oak***

Oaks are usually accompanied by a band of loyal helpers, which all contribute in different ways to the making of wine and brandy. Over the centuries, acacia has replaced oak for vine stakes, hazelnut and chestnut have been used as barrel hoops, and various varieties of alder trees have provided wood to heat brandy stills. Rushes, so plentiful in ponds around the Armagnac area, are used to seal the heads on the barrels. Oak has thus become devoted exclusively to the cask itself, with the added benefit that it enhances the content. By definition and according to the AOC (Appellation d'Origine Contrôlée) regulations, *armagnac* is a grape spirit aged in wood – and not just any wood – it must be Gascon oak! According to Joseph de Pesquidoux: "Our split-oak staves have their own



5/ *Armagnac*, matured in oak casks, changes color with time.

specific aroma. They smell of damp soil and marauding beasts, a sort of animal odor that gives the brandy a wild aroma even after five years in the barrel.” It is said that the best blends come from wood and vines that grow side-by-side.

Thus, some privileged producers, who own both forest and vines, invite their cooper to scour their land for a strongly rooted oak with solid branches and no frost damage or knots, to be felled preferably during a waning moon. The fast-growing trees of the forest fringe were never used for this as their wood makes leaky barrels. Comparative ageing tests using wood from different origins have demonstrated that the quality of the brandy varies in function of oak provenance. Factors such as the proximity to rivers and the type of soil where the tree grew have an impact on the types and diversity of the aromatic substances released from the oak into the spirit.

Oak trunks are cut into logs just over 1 m/3.3 ft long, then split into 2, 4, and, finally, eight sections. 5 m<sup>3</sup>/176 ft<sup>3</sup> of stripped logs produce 1 m<sup>3</sup>/35 ft<sup>3</sup> of finished wood, used to make seven traditional *pièces* (barrels) of roughly 400-420 l/88-111 gal. (Divine proportions considered the best size for *armagnac*-ageing barrels due to the ideal ratio between the surface area and volume.) The split logs are piled carefully in layers in alternating directions, so that water can drain off. The aromatic compounds present in each *pièce* also depend on two stages in the cooperage process: the natural seasoning of the staves and the degree of toasting of the barrel, during the bending operation to shape the staves into the finished barrel. Toasting leads to the development of compounds likely to enhance the aromas of the spirit and also produces tiny cracks that expose deeper layers of the wood, releasing different volatile substances. The wide range of aromatic substances produced (from toasted almonds to carnations, as well as smoky verbena) result in a finer *armagnac*. They add nuances to the supple oak tannins and rich aromas that gradually bring softness and complexity to offset the strength of the spirit. Note that oak chips (alternatives to barrel-ageing) are only permitted in winemaking. Their use is strictly prohibited in producing *armagnac*, which must be aged in the barrel.

The ageing cellars, with their masterpiece roof timbers, provide a superb setting for

time and oak to work their alchemy. The multiple uses of oak in the cellars reminds one of nested Russian dolls. The oak provides several protective layers for the grape spirit, from immediate contact to more distant uses. The barrels, made of oak, are supported by pieces of wood, known as *tins*, made of oak heartwood and they may be stacked on several levels, right up to the roof of the building, made of oak, supported on a careful assembly of beams and laths also made of oak!

## **Oak and art**

While oak stimulates the sight and touch of cabinet-makers, and the taste of coopers and cellar masters, it also pleases the ear, as shown by the amazing work of José Le Piez, who taps on oak wood to detect the resonances specific to each oak log.

Another extraordinary piece of art was conceived by Ernest Pignon. Ernest, who was so impressed by the ancient oaks in the forest of *les landes* that he delved into botany and biology to create his famous Arbrorigènes: plant sculptures that embrace tree trunks and are nourished by water and light. Truly an artistic creation derived from a combination of biotechnology and ancient myths.

## **Conclusion**

The most ancient brandy in France – *armagnac* – was born in Gascony (an ideal location with plenty of woods and vineyards) and nowhere else. During a fabulous period around the year one thousand, learned men from many cultures (Moslem, Jewish, and Christian) shared their knowledge and worked to spread it from East to West. Their fantastic translation work offered new perspectives to the whole world. *Armagnac*, the result of experiments in distillation, is thus also a lesson in tolerance.

But, without oaks, the vines would have come to nothing!

And what would people have done without oaks and vines?

**Photographers.** Title page: Chantal Armagnac (acorn flour). Photos 1-5: Chantal Armagnac.

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