

The Côtes du Jura

Extract from *Terroir*, author: James E. Wilson. Copyright.

Unusual Geology, Unusual Wines

Chances are you've never had a glass of *vin jaune*, nor seen its peculiar longnecked, hunched-shouldered bottle. This yellow wine is not unusual because of the geology, but the geology is unusual. There are Jura reds, rosés, and whites too, but *vin jaune* is the "signature wine."

Chances are also very good that the visitor to Poligny or Arbois came across the Saône from the Côte d'Or. It is immediately apparent that the terrain of the Jura side of the valley is not a mirror image of the Côte d'Or. The Burgundy side is long ridges of cap rock-slopes. Those of the Jura are low, mound-like ridges backed by a wall of massive limestones. One may stand among the alien rocks in front of this wall and ponder whether the "rootless mountains" could possibly have been shoved several miles northward from their original place in the earth's crust. The proof of this mountain-moving mechanism is the borehole shown in the cross-section Figure 11.2 where older strata have been thrust out over young valley fill of the Saône graben. Layers of salt and anhydrite in the Lower Triassic composed the breakaway zone and greased the skid-plane over which the thrust sheet was moved.

The line labeled FS (frontal scarp) on Figure 11.2 is the wall of massive Jurassic limestone. The line labeled OE (outer edge) is the outermost line of the thrust sheets. The area between these two lines is the quality viticultural zone.

The grape varieties are as curious as the geology. The white Savagnin Blanc (not Sauvignon Blanc) from which the *vin jaune* is made is found only in this small corner of France. The Trousseau and Poulsard, the red grapes, are equally unfamiliar varieties.

The Côtes du Jura are almost like a land that time forgot. In fact, viticulture nearly became extinct as a result of the phylloxera devastation followed by World War 1 and an exodus of the labor-force after World War II.

The province in which the Côtes du Jura are located has a puzzling name, Franche-Comté. Origin of the name should stir Gallic admiration. Reynald III, a count of the 12th-century kingdom of Burgundy, refused to pay homage to the Emperor of East Germany, a holdover of Charlemagne's Holy Roman Empire. After 10 years of successfully defying subjugation, in 1127, Reynald was conceded to be a *franc-comte* or "free count" with his county known as Franche-Comté.

The landscape

The Côte d'Or and Côtes du Jura are alike but different somehow. The difference is the way the crustal beds are sliced - those of the Côte d'Or are sliced vertically. The Côtes du Jura are sliced horizontally. Vertical faulting of the Côte d'Or creates long scarps with classic cap-rock slopes. The Côtes du Jura are topped by a thick, blunt slice of limestone overlying thinner slices of wrinkled strata - the geology very much resembles the frontal scarp and "disturbed zone" of Glacier National Park in Montana in the U.S.

Vineyards of the Jura are on hillocks and ridges of the wine zone, see Figure 11.2. The small valleys cutting the Jura scarp are steep-walled, flat-bottomed "box canyons," in contrast with the sharp "V" combes of the Côte d'Or. In addition to plantations on the viticultural zone, vines are also draped along narrow slopes at the base of the frontal scarp and on the floors of the canyons.

The dark, multicolored shales and marls of the Liassic (Lower Jurassic) gave the name Black Jura to the Côte du Jura and to its soils, the *terres noires*. These soils have good structure and water-retention characteristics so that the vines are seldom under stress. Successively younger Jurassic strata toward the Alps become lighter in color giving the names Brown Jura and White Jura.

Climate

The climate is essentially a mild version of the continental zone. Although the high, blunt escarpment is in the back of the viticultural zone, it deflects upward the approaching Westerlies and cold, north winds, giving a favorable microclimate to the ridges and hills in front. The terrain offers many opportunities for southeast and southern exposures. The grapes are relatively late-ripening, exposing them to early frosts which are common. Warm, sunny days, however, generally extend well into autumn. Rainfall is adequate, averaging around 25 inches (630 mm) per year. On the limestone plateau, much of the rainfall quickly disappears into underground drainage, issuing as springs or full-born streams at the heads of many blind valleys or box canyons.

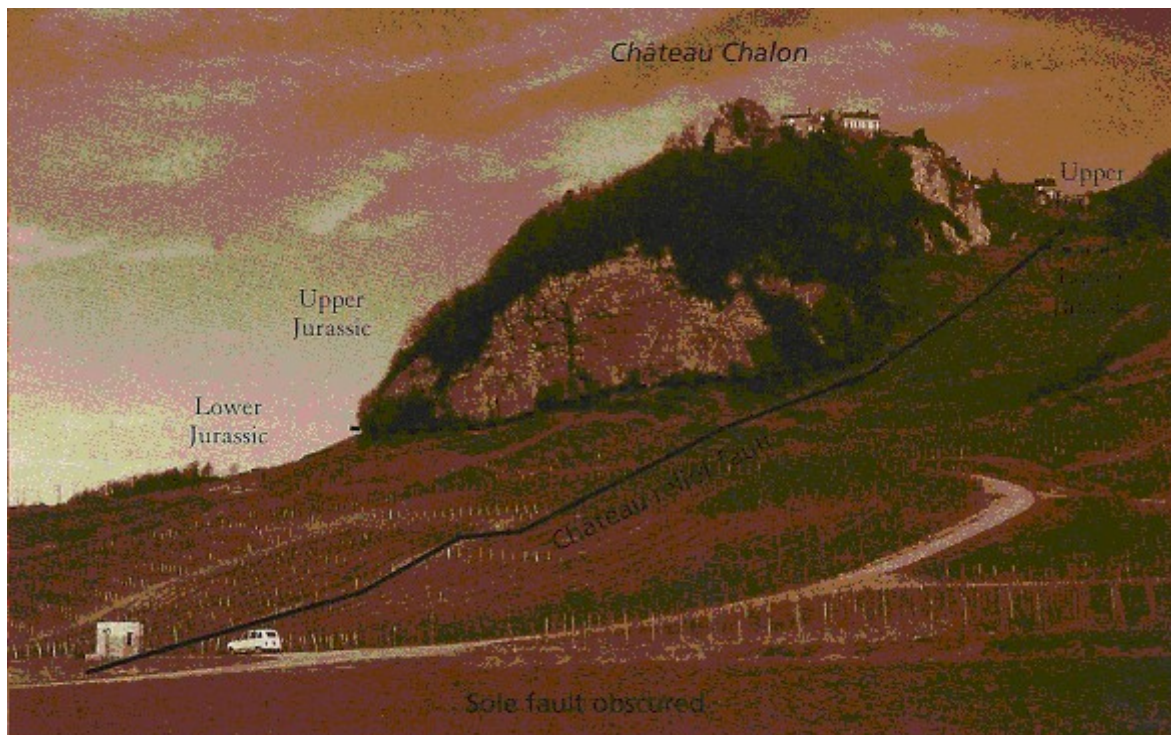
Unique grapes, unique wines

The red Poulsard, commonly referred to as the Arbois, goes by several other synonyms depending on the particular village: Ploussard, Plessard, Mâche, or Meythe. The grapes are pale red and yield a wine of about the same shade almost a rosé. The wine has a freshness to the nose and a delightful bouquet. The other unique red, the Trousseau, is a very productive vine, and the grapes are well-colored. The wine, however, has an astringency which diminishes its character, but it keeps well. Jancis Robinson thinks the Trousseau is an incarnation of the Bastardo of Portugal, which is logical enough when one remembers that this area was once under the control of Spain. The grape could indeed have been imported from the Iberian Peninsula during that period. Comparing the Trousseau with the Poulsard, Robinson says that Trousseau is the iron fist for the velvet glove of Poulsard - a happy combination, as the two grapes are frequently blended.

The Savagnin Blanc, the *vin jaune* grape, is isolated to the northern Jura. According to Desmond Seward, the Savagnin's ancestor may have been the Traminer of the Alto Adige. (Recall from Part One Professor Dumay's theory of grapevines coming to Gaul from northern Italy via the Brenner Pass and the Upper Danube Basin.)

It is reported that the *vin jaune* was created by the Black nuns of the abbey at Château-Chalon, a religious order reserved for ladies of the nobility. According to the story, in the 14th century one of the Abbess' vignerons ordered her laborers to pick the grapes as late as possible. The overripe grapes produced a must extremely high in sugar. *Vin jaune* was born. Fermentation by the nuns was done in vats hewn from the limestone on which Château-Chalon is located. The religious order was dissolved in 1790, and the abbey destroyed, but the winemaking process has continued - except for the rock-hewn vats.

Wherever *vin jaune* is produced, one bureaucratic idiosyncrasy is that just before the harvest, a commission visits each vineyard to check the quality of the grapes, sugar levels, etc., and fix its yield. If everything is not up to standard, the appellation designation may be denied for that year.



Photograph 11.1 Frontal scarp Château-Chalon

The blunt frontal scarp of massive Jurassic limestone is surmounted by Château-Chalon. The vineyards in front of the scarp are on imbrications from the sole fault on which these strata have ridden

Traditionally, harvest of the Savagnin for *vins jaunes* is delayed until after the first frost. Aging after fermentation goes on for six years in the same cask without topping-off to replace evaporation. Yeasts and fermentation products form a crust that prevents oxidation. In the six years, however, the wine loses a third of its volume. After this long period of aging, the amber wine has become like a light sherry, with a pleasant bouquet and a distinct nutty taste. It is bottled in the distinctive *clavelins*, with the long neck and hunched shoulders. It has learned to live alone, unattended, and will easily keep another 100 years.

The Savagnin is also the principal grape of another "cottage-industry" wine, the *vin de paille* of L'Etoile. The term *paille* has a double meaning: the first is that the grapes traditionally "were dried on straw (*paille*) mats until they were almost raisins. The name also describes the golden straw color of this sweet, liqueur-like wine, which is quite high in alcohol. L'Etoile also makes *vins jaunes*, as well as conventional style whites from the Savagnin and Chardonnay.

The appellations and soils

Within the general A.O.C. of the Côtes du Jura appellations have been granted for Arbois, Arbois-Pupillin, Château-Chalon, and L'Étoile. South of L'Étoile, the viticultural zone extends some 20 miles (30 km) but gradually narrows and produces no exceptional wines.

From almost 46,000 acres (18,600 ha) in pre-phylloxera days, the area under vine is now less than one tenth that amount. The grower and merchant Henri Maire, who himself plants 20 percent of the current 3600 A.O.C. acres (1450 ha), has been a tireless force in rejuvenation of viticulture in the Jura and the promotion and marketing of its wines. Henri Maire is now a household name for all Jura appellation wines.

Although only 1700 acres (690 ha), Arbois and Arbois-Pupillin produce half of the A.O.C. wines of the Côtes du Jura. The Arbois district was approved in 1936, and the enclave of Arbois-Pupillin in 1970. Red and rosé wines made from the Trousseau grape are the principal products of these appellations. This grape does well on *terres noires* while the Poulsard prefers deeper, rich, well-exposed soils. Some white wines from the Savagnin Blanc are also produced. One of the first cooperative wineries in France was opened in Arbois in 1906.

Château-Chalon is the smallest of the four appellations at 125 acres (50 ha), mostly in the protected cove of the blind valley -of the Seille River and along its terraces in the viticultural zone. The appellation is reserved for production of the famed *vins jaunes*. The appellation includes the valley villages of Menetru-leVignoble, erby, and Voiteur - all within hailing distance from the château on top of "the rock."

The 160-acre (64-ha) appellation of L'Etoile has good southerly exposures on the knobs and elongate hills. It is known for its white wines, especially *vins de paille*. The area also makes *vins jaunes* and other conventional style whites, bath still and sparkling.

A thrust wedge of Middle Jurassic, *Calcaire à entroques*, the principal bedrock of Burgundy's Côte de Nuits, caps a small round hill on which sits the château at L'Etoile. The star-like cross-section of the fossilized head of the entroques ("sea lily") gives the name L'Etoile (star) to the village.

Out of the way for most English-speaking tourists, but if the many pleasures of the northern Jura beckon, Arbois and Château-Chalon are delightful places to start. The wines of Jura are little known outside France, but it is worth the diversion to meet them on their home ground. You will surely be able to say you have had a glass of *vin Jaune*.

Historical sketch of the Jura

The romans were first drawn to the northern Jura by the thermal salt-springs of Salins - les - bains and lons le Saunier. Wine came later, developing as an adjunct to the all important salt trade. Sometime after the Romans, the thermal springs of Salins were operated by the Comté de Chalon, who rented them from the monks of St Maurice d' Agaume in Switzerland. A combination of salt and wine as gifts to the religious authorities was a rich persuasion indeed. Eventually the Comte purchased the property which later passed to the Chalon family who founded Château-Chalon.

Comte Reynald may have won the stand-off with the German Emperor, but for 550 years the nationality of his "free county" bounced back and forth like a volley ball between France and Austria (Austria was a German principality until the 12th century when it formally became Austria.) To start things off, the German Emperor, Fredrick 1 (Barbarossa), married Reynald's heiress, thus Austria quickly gained control of the "free county." For a century and a half, the countship passed through several male and female titles - the Austrians were not subject to the French Salic Law of Succession which did not recognize royal title acquired through female heredity. For the next 100 years, Franche-Comté was under the French crown. Ceded back to Austria in 1482, the county, for the next two centuries, was a possession of the Austrian Habsburgs.

In the early 16th century, Franche-Comté became a neutral buffer between Austria and Burgundy. During this period both the county and viticulture prospered greatly. Eventually Franche-Comté was ceded to the Spanish Habsburgs. This was perhaps when the Trousseau grape of Iberian kinship was introduced.

Franche Comté being predominantly Catholic, suffered from depredations by Protestants from Austria and Switzerland during the Wars of Religion. Henry IV of France, in his efforts to bring Catholicism to dominance in France, violated the neutrality of Franche-Comté. The Peace of Westphalia, tenuous as it was, confirmed the sovereignty of the area to the Habsburgs. This left Franche-Comté in a precarious position between the Spanish Habsburgs and France. The French were greatly concerned at having the powerful Spanish in the Low Countries on the north and in Franche-Comté on the east.

During the Thirty Years War, after two decades of nervous hesitation, France eventually entered the war on the side of the Protestant Princes of Germany. By the Peace of Nimegen, in 1678, France was awarded Franche-Comté. The volleying ball came to rest in the royal court of France where it has remained. Although having been under German (Austrian) and Spanish rule, Franche-Comté, like Alsace, always had a French heart.

In 1790, the Revolutionary government divided Franche-Comté into the modern départements of Haute-Saône, Doubs, and Jura, of which the viticultural region Côtes du Jura covers parts of the last two.

The scientist Louis Pasteur was a native of these parts and did much of his 19th-century experimentation and study about fermentation of wine in Arbois. The results were discovery of the role of yeast and bacteria in changing the sugars of grape juice to alcohol. In his experimentation to verify the effects of bacteria on fermentation, Pasteur would take unfermented juices to the high Alps and expose them to relatively germ-free atmospheric conditions. The juices would then be exposed to the ordinary air of the Saône Valley where fermentation would begin.

It is with justifiable pride that Arbois has preserved the house and personal vineyard of this father of scientific enology. Although Pasteur's career placed him in several prominent French universities, he enjoyed coming back to the restful little

cottage in Arbois which he considered his home.

A less well-known scientific hero of wine from this area was the botanist Alexis Millardet. He was among the first to graft French *vinifera* scions on American rootstocks to control phylloxera. Only a few years before the phylloxera crisis, he had participated in the invention of Bordeaux mixture (copper sulfate and lime) as the control for downy mildew.

Figure 11.2
The Côtes du Jura,
viticultural zone and
geologic cross-section
 The more restricted A.O.C.s
 of Etoile, Château-Chalon,
 and Arbois-Pupillin
 indicate the best vineyards
 within the regional Côtes
 du Jura appellation
 (geology of cross-section
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 kind permission B.R.G.M.)

