The terroirs of Bordeaux
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Jane Anson, November 2024

The video that you have just seen is from a friend of mine Ian Padgham, a filmmaker and digital artist who works with brands from Apple to Gucci to Disney. It sums up for me the words of one of Bordeaux's most poetic and deeply thoughtful winemakers. François Mitjavile of Château Tertre Roteboeuf in St Emilion.

'The grape', he says, 'is the conclusion of the soil'.

I am sure that everyone in this room would agree with that statement. Ian's video speaks to a simple truth that we all recognise – fine wine comes from grapes with a sense of identity, reflective of the place where they are grown.

Mitjavile uses another beautiful description of terroir as an 'aromatic landscape', where the contours of the land, and the content of its soils, can be read in the glass. Great terroir, he says, allows you to play the game of winemaking a little more dangerously than you otherwise might – pushing picking dates, for example, because you trust the terroir to have your back. Great terroir, in other words, is an ally.

The truth is that it's not an easy thing for a writer to speak to a room of producers who understand terroir at a deep level, who live it every day. And yet there is terroir as it exists in the vineyard, but there is also terroir as it signposts and speaks to wine lovers.

Burgundy has always understood this signposting aspect of terroir, which is surely partly why Aubert de Vilaine and his team fought so hard and so eloquently for *climats* to be recognised by UNESCO World Heritage as a cultural landscape, with the specific definition 'climats, terroirs of Burgundy'.

The concept of terroir signals quality, care, precision, and superiority - it is no coincidence that maps of the climats of Côte de Beaune and Côte de Nuits adorn the walls of wine merchants and wine cellars, even private houses, worldwide.

Bordeaux over the years has more often than not missed this signifier, shortcutting to different signposts of quality, finding other more visible ways to express luxury and superiority of taste, such as historical events, brand names, market price and economic power.

There have always been certain slices of Bordeaux that have risen above all argument. The sticky blue clays – or pelosols – of Petrus are perhaps the most famous example, or the sight of Château Ausone perched on the edge of the calcaire à asteries limestone plateau that greets anyone walking into the centre of St Emilion.

And yet other aspects of the region seem to almost delight in encouraging skeptical onlookers to say there is nothing to Bordeaux terroir beyond the invention of wealthy landowners. The size of the estates, for one, that inevitably takes them over a variety of different soil types, the conflicting and often elastic rules around classification, and the blending together of different grape varieties that are summed up in an often-used description of Bordeaux as perfecting 'the art of the blend'. All are seen, by some, to undercut the legitimacy of terroir. It means that one of the obvious signifiers of quality soils – that its wines have an ability to age upwards of 40 or 50 years – is often seen as resulting from investment above all else.

Given all of this, I want to explore several things today – how understanding of what did and did not constitute suitable terroir for winegrowing in Bordeaux was clear during the Roman era, at what point and why it was rejected when presenting the wines to the wider public, and how the reality of the complexity and quality of Bordeaux terroir has been hiding in plain sight all along.

To do so, we are not going to concentrate on the geological eras that created the land. These are covered in detail in my book *Inside Bordeaux*, and I owe a huge debt of gratitude to specialists such as Kees van Leeuwen and David Pernet for deepening my understanding of the subject.

Instead I want to concentrate on the people who shaped not only the terroir but our understanding of it over the centuries, and how they signalled their knowledge to consumers and the trade. So this means the Romans, the English monarchs, the French kings, an English-Dutch engineer called Humphrey Bradley – and much later, the German Luftwaffe. And I would like to suggest a hypothesis for why Bordeaux became disconnected from its terroir, and show why, in my opinion, a reassessment is long overdue.

The Romans

The knowledge of Bordeaux vineyards during the Roman era is still evolving, largely because very few Roman-era maps survive. The best known is the Tabula Peutinger, a 12th century copy of a 3rd century original almost certainly prepared by consul Marcus Agrippa during the reign of the Emperor Augustus around 201AD. Depicting the majority of the empire, Peutinger's medieval copy is now housed in the Austrian National Library in Vienna, covering a series of 11 parchment rectangles totalling 6.7 metres in length (it has also been digitised, and is worth visiting online https://www.hs-augsburg.de/~harsch/Chronologia/Lspost03/Tabula/tab_pe00.html).

The Peutigner scroll largely details the Roman road network, with way stations and distance but no physical proportions of the land, so no recognition of contours or even less soil types.

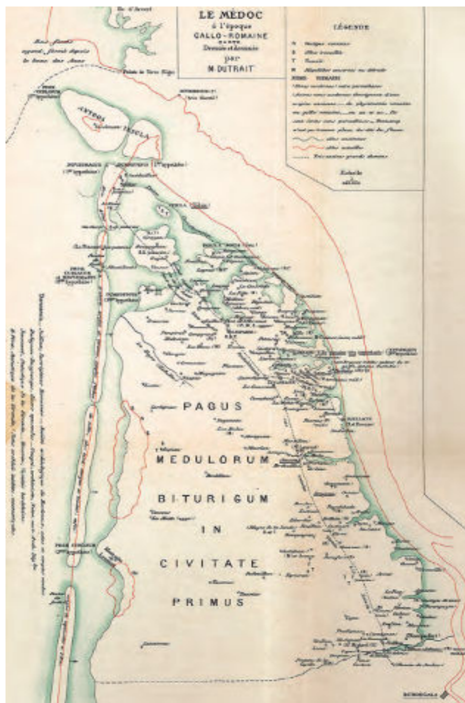
This is because where the Greeks saw geography as an extension of philosophy, the Romans were far more practical. What little Roman cartography survives is almost entirely in the form of land-surveying maps, topographical drawings and written itineraries used for military campaigns, commercial expansion, land division, engineering and architecture.

Roman mapmaking was practical and organisation-driven – a tool to understand their world. As such, the most useful tool for us to understand their process for planting crops comes from their writings, and from archeology, rather than their maps.

As I say, this is an evolving field. Currently Montaigne University in Bordeaux is carrying out a collaborative project called Aquitaviae to produce a dynamic map using geolocalisation to study the roads of ancient Aquitaine, much of it done through drone surveys of Roman pathways.

The aim is to trace the entire Roman era in the region from 52AD through to 507AD when the Battle of Vouillé near Poitiers marked the end of Antiquity in Bordeaux, with the arrival of the Francs. The aim of the project, that dates back to 2017, is to improve knowledge of the roads and their environment, and also to protect what has become an endangered heritage. It has not yet been explicitly linked to research on vineyard location and terroir, but that could be an important future step.

Of particular use for our topic, there is also an exceptional piece of work published in 2000 by a small group of researchers at the French National Centre for Scientific Research (CNRS), looking not only at archeological finds but also at books written by Columelle and Pliny the Elder in the 2nd half of the 1st century AD, and later by 4th century consul, professor and poet Ausonius with his *Ordo Nobilium Urbium*, (*The Order of Famous Cities)*, and Isidora de Seville, who was alive just after the fall of the Roman Empire.



It is through these authors that we learn about the grape variety Biturica – and where we can extrapolate that the Romans planted their vines largely on the oldest form of terroir that can be found in Bordeaux today – Calcaire à Asteries, and Molasses de Fronsadais – both types of limestone.

Initially the plantings were around the city of Bordeaux itself, and the northern reaches of today's Pessac Léognan, but by 275 AD, when the prosperity of Burdigala had grown significantly, Emperor Valerius Probus used his legions to fell the Cumbris forest that blanketed the highest parts of Saint Emilion region, opening the way for his legions and local citizens to settle there.

They were drawn to remain in Saint Emilion, as so many people have been

subsequently, by the beauty of the landscape, and the amber-coloured limestone that provided excellent building materials – and excellent soils for growing quality grapes.

The authors of the study reach the conclusion that limestone soils seem to have been given priority not just in St Emilion but further afield in the region.

Specifically, archaological digs have found the biggest concentration of viticultural remains – whether amphoras, pips/skins, winemaking tools, wine presses or entire wine cellars - in Cenac, Cadillac, Lugasson, La Réole, Loubens, Blasimon, Sainte-Colombe, Fronsac, Lussac, Saint-Cibard, Entre deux Mers, St Emilion and Libourne. The vast majority of these are limestone dominant – many also offer access to rivers, another key motivator – while almost no remains have been found in the Médoc (with the exception of Vertheuil), and very little in the Graves, Bourg or Blaye. As we know, the Romans valued the Médoc for its oysters, not its wines.

Perhaps even more importantly, the Romans knew where *not* to plant vines – something that has been under-emphasised in the story of early Bordeaux viticulture.

This aspect of Bordeaux history is right there in its vocabulary: the word *palus* – still in use today - comes directly from Latin, and means marsh. It is used to describe transitional lands alongside the river banks, and its original useage tells us plenty about the Roman opinion of this soggy wine-growing land – particularly useful because it is one of the rare instances in Bordeaux where the location of the vines are immediately clear from the name.

The Romans avoided planting on these lands, in contrast with later generations of Bordelais. They even had a saying *palus omni modo vitanda* which translates as "pitfalls are to be avoided by all means possible", essentially using the palus as a metaphor for things to avoid, and summing up the attitude that it should play no part in quality winemaking.

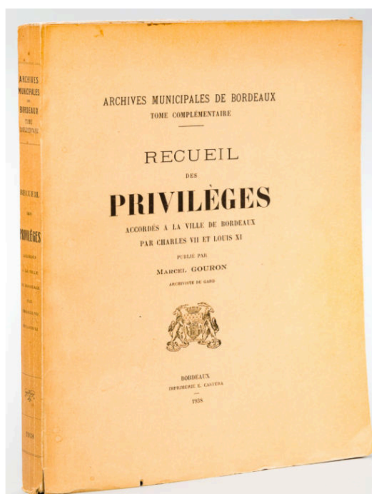
There were always uses to the palus beyond producing wine. The lower sections were planted with rushes and sapwood, both of which were used in the local viticulture. They were also used for fishing, and supported a thriving industry, including as mentioned the Medullis oyster in the Médoc. But they were not used for vine growing.

Medieval Bordeaux and Terroir

As with so much Romans knowledge, this good advice was forgotten later. The palus got a PR bump with the Phylloxera crisis, as when palus flooded, it became clear that the root louse could not typically survive in these wet, sandy soils – although they needed to be inundated with water for 50-75 days annually to have an impact.

But even before this, palus land began to be used for planting vines from the Medieval period onwards – we can even see it as a useful way to trace the Bordelais rejecting the idea of terroir as a quality indicator, seeing it instead through the prism of commerce.

It is at this point that we enter the low point of Bordeaux and terroir, and I'm afraid that at least at first, the English must assume some of blame – specifically with the Bordeaux Privilege that they granted in the century following Eleanor d'Aquitaine's marriage to Henry II.



When Bordeaux became a duchy of the English crown, the gap between those making wine and selling it grew wider**.** Inevitably, if wine is being made in one country with the primary aim of selling to another, and being sold largely by merchants who are several steps removed from the making of it, messaging and priorities change.

But perhaps more importantly, the grants and tax breaks that the English accorded the Bordelais from 1241, trying to keep them loyal to the crown - notably forbidding any sales of wines from the Haut Pays until after mid-November following harvest – meant that the vineyard land planted within the Bordeaux region expanded rapidly, as everybody wanted to benefit.

Even as late as 1696, a letter from Jean Baptiste Labat has the following description about wines arriving in the French colonies.

"The best French wines arrive from Bordeaux and nearby. We know that not all the wines loaded [on ships] in Bordeaux are from Grave or from Gravel (Graviers) and that those from the Palus have an infinite advantage; that is, these wet and fat (gras) places, that give thick and hard wines, so desired by the people of the north."

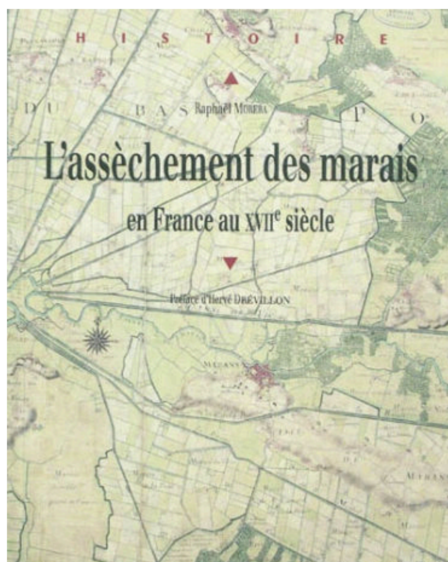
The Médoc

This quote, from 1696, shows that palus lands were still used for winemaking even after the draining of the Médoc wetlands and marshes, that had begun almost a century earlier – and highlights the clear divergence between the way Bordeaux terroir was spoken about, and its reality.

To underline this, I will just bring in one important geological fact. There are of course palus lands along the Dordogne river on the Right Bank, but most of them lie on the Left Bank, along the Garonne.

The reason dates to around one million years ago, when a geological fault occurred that traces pretty much the eastern banks of today's Garonne river and Gironde estuary, shifting the level of the Right Bank upwards. The terrain to the east of this fault became, and remains, higher than that to the west: it is also older, as the lower ground along the Left Bank continued to evolve with deposits from the two rivers, and incursions from the sea. It is one clear reason why the history of winemaking in Bordeaux developed as it did, and why its terroirs are so distinct between the two banks.

And it is why Henri IV, the first monarch to tackle land drainage seriously, enlisted engineers and entrepeneurs to focus most clearly on the Left Bank, and specifically the Médoc peninsula.



Henri himself knew this part of Bordeaux, as he was frequently there between the years 1586 to 1588, just before he became King of France in 1589 as first monarch of the house of Bourbon – the only French king to reign as a Protestant until he converted to Catholicism four years later.

His Protestantism was important – it was because of allying with the Dutch during the Wars of Religion that he got to know their skills as engineers, and was able to confidently commission them to oversee the draining of France. Henri's son Louis XIII built on his work, and then his son Louis XIV, so these first three Bourbon kings, from 1589 through to 1715, had enormous impact on the terroir of Bordeaux.

The first edict for the draining of France came at the very end of the 16th century – and

Bordeaux was pretty much the epicentre of its early years. Henri appointed one man to oversee the work, giving the concession to a Dutch engineer called Humphrey Bradley (the English have tried to claim him, as his father was English, and he had been in England just before coming to France, draining the Fens of Norfolk, but he was born in the Netherlands, and sent to France at the request of the States-General of the Dutch Republic).

On 1 January 1599 Bradley was appointed *maître des digues du royaume*, or "master of dykes of the Kingdom", which essentially gave him a monopoly of all dyking and land reclamation work throughout the country. It meant that land drainage was supported by the central political authorities of France, and financed by entrepreneurs and capitalists, because the 1599 edict allowed them to expropriate property with very little say given to the local community.

He began working almost immediately with a local entrepreneur, Conrad Gaussen, alongside the Maréchal de Matignon, who was the representative of the King in Guyenne, and land owner of vast swathes of marshlands around Lesparre. These three men, along with later figures such as Jan Adriasssz Leeghwater who was particularly important in Pauillac, transformed the landscape of Bordeaux through a series of polders to control the dunes on the ocean side of the Médoc peninsula, dykes, jalles and esteys along the Gironde Estuary and windmills throughout the interior to pump and drain the marshland, and divert water into the Estuary. The Médoc became known as 'Petite Flandre', or 'Little Holland'.

During the 1600s and into the 1700s, millions of hectares were drained, and planting in the key appellations of Pauillac, St Julien and Margaux followed, with a particular boom from 1700 to 1750. There had always been vineyards on the higher parts of the Médoc since the Middle Ages – the land around today's Calon Ségur and Lafite for example – but the gold rush of planting came at this point, with the early 18th century maps created by the king's engineer Claude Masse shows the extent of the work, with much of today's vineyard established.

And it was at this point that the gravel terraces – today classified into six terraces from T1 to T6, were revealed. They range from Terrace 1, the oldest of the six, that heads up to a height of around 40 to 45m in Listrac, down to Terrace 6, very close to the river that peaks at around 5metres in height and is almost non-existent in terms of vineyard plantings in the Médoc, although it becomes more important down in the Graves.

The impact is well known. Twenty industrialists bought the best gravel outcrops in Pauillac, from Ségur to Pontet, and built châteaux using limestone from quarries in Blaye and Plassac. To serve all these new estates, Pauillac had 10 cooperages in 1680, and 19 by 1750. So many vines were planted that by the time of the French Revolution there was a serious grain shortage, since all the polyculture farms had been replaced by wine estates.

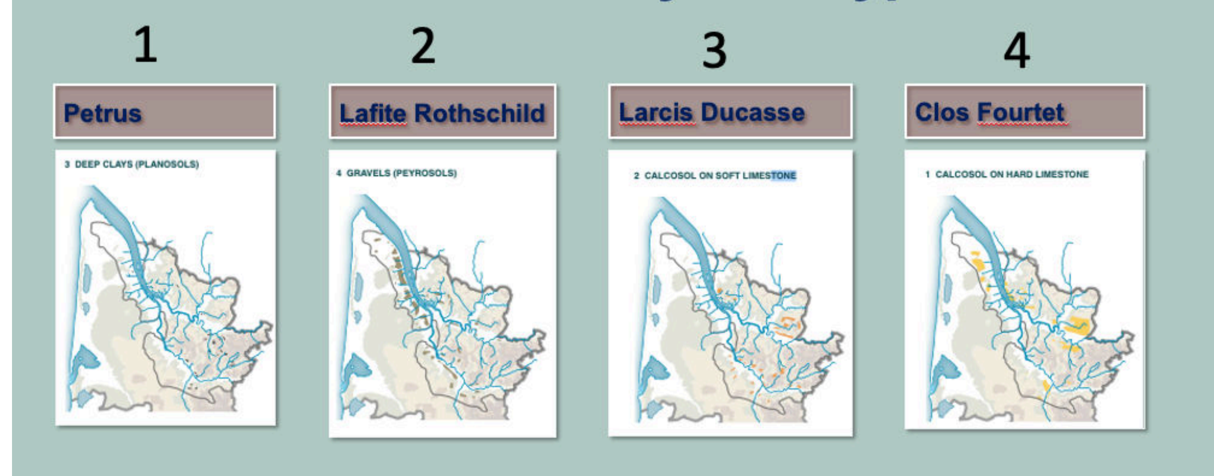
In doing so, they set the scene for the 1855 classification that would establish certain Bordeaux chateaux as being the most sought after in the world, while at the same time according them such fame that their very names helped to obscure the terroir that made these new wines so exceptional.

To put this another way, the existence of the famous 1855 châteaux is one of Bordeaux's greatest strengths – but it is also one of its greatest weaknesses in terms of signalling terroir. It is one of the great ironies of Bordeaux history, because they were in fact occupying land that was living proof of high quality soils and microclimate, but this aspect of their desirability was not clearly expressed to buyers and consumers. Indeed, it has been suggested that the fact the wines tasted so good made it unnecessary to talk about terroir.

That to me seems an oversight. In fact one of the reasons that I have become so fascinated by this topic is because, while researching for *Inside Bordeaux*, it became clear that, despite the overwhelming narrative that the 1855 châteaux were given their rankings as a result of the wealth of their owners, in fact every single one of the 60 Médoc estates has the original heart of its vineyard located on either Terrace 3 or Terrace 4, the two highest quality terraces where the gravel stones are the largest, and the combination of clay, sand and gravel create powerful and yet finessed wines, close enough to the river to moderate the temperature.

So, why has terroir been ignored in Bordeaux messaging?

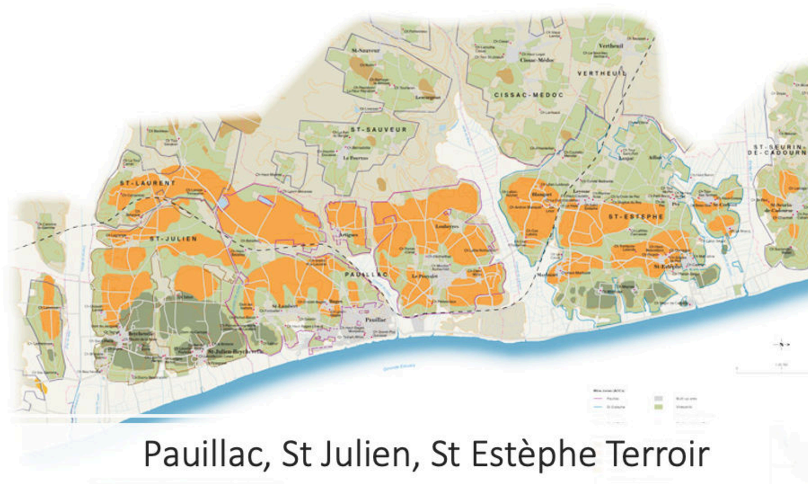
Perhaps the sheer complexity of taking this message out to market has played a role. In my opinion, one of the biggest problems for Bordeaux is that, where most fine wine regions have one dominant emblematic soil type, for example the pudding stones of the Châteauneuf du Pape, or Kimmeridgean soils of Chablis, Bordeaux has four. Of all the useful charts in *Inside Bordeaux*, this is perhaps the most illuminating on a practical level – you can find the highest quality estates of Bordeaux on deep clays (planosols), gravels (peyrosols), soft limestone (calcosols, specficially molasse a fronsodais) and hard limestone (calcaires à asteries, also a type of calcosols).



Contrast Bordeaux with Chablis, for example, where the message to consumers is based not only on a single soil type, and a single grape variety, but also their exposition. Essentially the message is that steeper and more south-facing the slope, the riper and higher quality the grapes will be. Grand Cru are southwest facing, and Premier Cru southeast facing. Simple – and backed up by the fact that while Chablis as a whole has increased by 750% over the past 50 years, from 750ha to 5,600ha, its Grand Cru land has barely changed, so now just 2% of the whole.

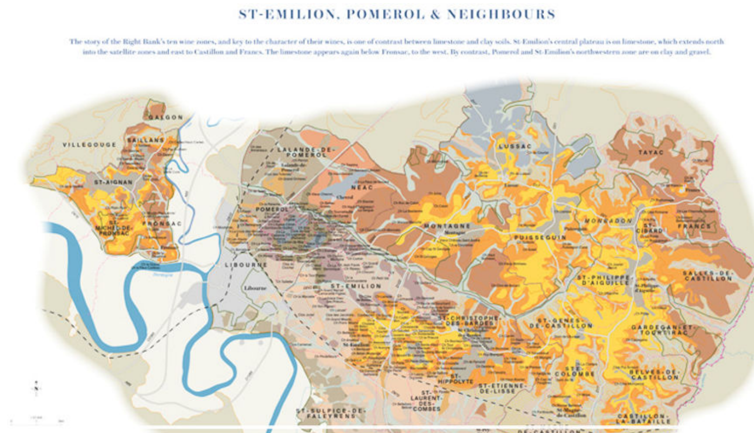
That indicates a region that has no intention of diluting the message of its terroir, while perhaps the biggest difficulty in the messaging of Bordeaux is the elasticity of the 1855 ranking – allowing classified properties to grow their footprint of vines while retaining their status, without advancing the narrative of how they retain typicity.

Conclusion
When you actually study the best châteaux, the story becomes very different.



Nearly all the renowned châteaux of Bordeaux are found on alluvial soils of gravel and sand – so soil type 2, gravels (peyrosols) in our four quality types. This is true for all

60 of the Médoc 1855-classification châteaux, most of the red Crus Classés de Graves, and for one of the (now former) Premiers Grands Crus Classés of St-Emilion, Cheval Blanc – its neighbour Figeac has some gravel, but its primary character comes from its clay.



Many of the best Pomerols also have this mixture of gravel and sand, while others (Petrus, notably) are on acid-rich sticky clays: our soil type 1, deep clays (planasols). St-Emilion makes many of its best wines on soil type 4, Astéries limestone (typified by Canon or Clos Fourtet) or type 3, Molasses du Fronsadais (La Fleur Cardinale, Larcis Ducasse), or a mixture of the two. For white wines, sandy-gravel soils yield the best sweet whites across most of Sauternes, while Tertiary-era limestones, particularly Astéries limestone, yields great dry whites in Graves and sweet whites in Barsac.

In Pessac-Léognan there's an interesting, and little-appreciated, split between red- and white-wine terroirs: whites do best on limestone and on colluvial sand and, more rarely, on the Quaternary gravel-sands, while reds do best on gravel. Ch Carbonnieux, for instance, has an almost exact split between the two. And it is worth remembering that the original name of this part of Bordeaux, still true for the appellation directly to its south, is Graves – the only appellation in France that is named after its soil type.

The complexity of the Bordeaux soils is why when you look at the 1850 edition of the local wine guide *Féret* you find dozens of red and white grapes growing in the vineyards, and why the post-Phylloxera adoption of rootstocks meant just a few varieties were selected, now able to grow in places that they could not have done previously, and further diluting the message of Bordeaux terroir.

At the same time, there is a movement in Bordeaux today to isolate, identify and respond to the soils – not to change them, but to ensure their impact is maximized in the glass.

Individual estates have been making increasingly detailed studies of their land, discovering how terroirs differ across their vineyards, and informing much more than simply where to plant what grape with what rootstock, but also soil management, fertilisation, drainage channels, harvesting dates, plot selection, the orientation of rows, intraplot harvesting, heat mapping, tracking water stress… the list goes on and on.

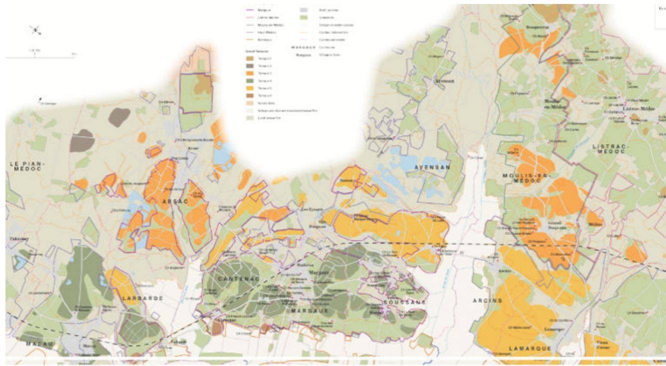
Many of the best known châteaux are specifically beginning to articulate this in how they speak to their customers. Château Montrose, for example, announced with the 2022 vintage that it will be focusing only on Terrace 4 for their main estate wine. Château Brane Cantenac has been doing this for at least a decade (also Terrace 4).

Together these initiatives provide an interesting sign of terroir entering the vernacular of Bordeaux, and its importance should not be underestimated.

At the same time, Haut-Bailly's new winery with its rooftop garden is another crucial signposting tool, and in my opinion the most important new winery in the region for decades. For those who haven't visited, the garden is planted with a wide variety of local species, from wild thyme to yarrow and grasses, chosen for their aromatic properties and also for their ability to adapt to climate change. The garden provides natural temperature regulation for the cellar beneath, but also subsumes the building into its surrounding landscape. It is literally and philosophically bringing terroir back into the heart of the conversation.

The maps I have recently produced - created with Kees Van Leeuwen and the publishing team from *Inside Bordeaux* (based, incidentally, on the skeleton of maps created by the Luftwaffe in 1942 when surveying the lands of Occupied France, yet another fascinating story of terroir here), will I hope go some way to further enlarge this conversation *(see one below, and two above).*

Not only do they overlay the underlying terroir with the position of châteaux, but their detailed use of contour lines is very helpful to understanding of the subtleties of, for example, the Médoc, where 5m difference in altitude is not as important as how quickly the landscape rises and falls, allowing for even low ridges to be steeply sloped and perfect for drainage.


Margaux, Listrc, Moulis Terroir

Unfortunately we are not able to taste these differences today, as no samples are allowed in the room. But if you want to understand the impact of terroir in Bordeaux, there are a number of wines that I can suggest you try. Petrus and Lafleur, right next to each other in Pomerol but on extremely different terroir (pure clay Petrus and gravel-clay-sand for Lafleur), or Lafite and Latour, both in Pauillac but at different ends of the appellation, and on different gravel terraces (4 for Latour and 3 for Lafite) – and at a different size to the two tiny Pomerol estates, showing that even at scale the best châteaux of the Médoc are unmistakably shaped by their terroir.

Above all, Bordeaux perfectly encapsulates one of the simplest and most current definitions of terroir – a cultivated ecosystem in which the vine interacts with soil, climate, and the vigneron who farms it. In Burgundy, the method of presenting wines to the world has always highlighted geology, and the hand of nature, whereas Bordeaux underlines that there is no terroir without somebody to nurture it.

And one final thought. As the climate becomes more changing and chaotic, have the ever-practical Bordelais, by putting the emphasis on the role of man in sculpting and cultivating terroir, and with their wider choice of grape varieties, given themselves room for manouevre in the fact of the coming challenges? I would suggest that they have - but I hope that they combine this with articulating why their terroir is in fact one of the richest in the world of wine.

Thank you for your attention.

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