

Wine Talk: April 2013

The newsletter of Living Wines: Edition 34

Autumn has arrived and so has a massive shipment of wines from our French producers. Our warehouse is groaning with stock! We have tons of Jean-Paul Brun's delicious Beaujolais wines. We have extra stocks of the lovely Mosse wines including plenty of their keenly-priced rosé which we love so much. The annual allocation of de Moor wines has just arrived and is disappearing rapidly. There is more Les Saulniers from Domaine de la Cadette and the great Bourgogne wines from Fanny Sabre. From the deep south we have three reds from Axel Prufer and his amazing Chardonnay in magnum.

In this newsletter we have articles about events, wines and the first of a two-part article exploring minerality in wine.

We have six special packs for you this month. The first is a pack of three magnums which are always a hit at special events. We then have a New Arrivals pack with 6 newly arrived wines from throughout France. And because another shipment landed just as we were finalising the newsletter we have made up a Very New Arrivals pack! Domaine Mosse is famous for its precise Chenin Blanc wines so we have assembled six different styles of wine all made from Chenin for you to explore the differences.

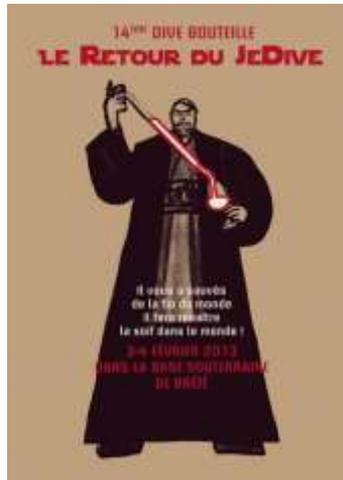
We currently also have a good range of Domaine St Nicolas wines. These wines are perennial favourites and just so well made. There is a six pack selection this month of the recent arrivals and a couple of wines we have been holding back for a while. And finally a six pack for people who like or need to drink low sulphur wines. We have a six pack from La Paonnerie in the Loire where none of the wines have had any sulphur added.

Remember that the special packs attract a 15% discount instead of a 10% discount, so if you order a special pack you really are getting a special deal!

There is a link to our order form for these packs and any other wines at the end of this newsletter. But there's no need to use the order form. Just send us an email listing the wines and/or packs you would like to order if that suits you better. We'll confirm the price by return email before processing your order.

News from Living Wines

La Dive Bouteille



For lovers of natural wines there is one trade event that must not be missed. It is the annual gathering of natural wine producers from France and beyond in the Chateau de Brézé in the Loire Valley just south of Saumur which occurs every year at the end of January or the first weekend of February.

The event is held in the tunnels and caverns carved out of the local tuffeau underneath the rambling chateau. One of the chambers where the tastings are held used to be the execution room!

Not only is this one of the largest events in the natural wine calendar, but four or five other smaller events are held in nearby Angers at the same time including the prestigious Renaissance (Return to Terroir) event.

We were able to catch up with over 20 of our current producers and meet up several new producers whose wines we have agreed to add to our portfolio (including some that are already heading this way)! We were also lucky enough to meet Julien Fremont, a highly-regarded apple cider producer from Normandy, who has agreed to

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supply us. It was a slightly circuitous route to find this cider – we first tried it at Festivin in Japan.

We spent the weekend working our way around the offerings squeezing past the crowds that made it difficult to move around in the narrow tunnels. The attendees were all trade people, importers like us, wine shop owners and plenty of sommeliers and restaurateurs. At each station there was a winemaker and their wines. There were no glossy brochures, no displays of medals gained, no marketing trinkets – just them and their wine!

Our overall impression was that 2012 will see some very good wines on offer despite the difficulties with the weather but supply will be limited. We will definitely try to get back next year and would recommend it to anyone in the trade in some way.

Rootstock Festival Sydney – 17 February 2013

And just a few days after returning from the Dive we went to Sydney to take part in the inaugural Rootstock festival. Producers from Australia, New Zealand and Italy had flown in for the event and importers such as ourselves had the opportunity to represent one of our producers. We decided to display the wines of Jura producer Philippe Bornard which have been so popular since we started importing them to Australia, and which fortunately we'd just received a shipment of.



The organisers were anticipating about 150 people to attend the tasting and the master classes. Soon after the doors opened every stand was swamped with eager customers anxious to try the wines. From our stand we could see the line snaking out the door as stewards tried to control the number of people in the tasting area.

By three in the afternoon we were running out of wine but the queue was getting longer! By three thirty we were trying to do 5ml pours, but with little success.

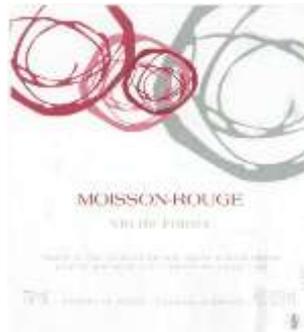
And for the entire day not one of the attendees asked us about medals awarded to the wines or how many points – they just didn't care. They were only interested in what was in the bottle!

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The spirit in the room was amazing. Everyone was there to learn and to experience new wines, new grape varieties and new regions. Everyone wanted to soak up knowledge and new experiences.

We're already on board for Rootstock 2014 and are currently trying to coax at least one or two of our producers to attend. We're strongly urge anyone interested in wine to visit – many of the Australian producers there are very small and rarely attend wine events open to the public (Tasmania's Dirk Meure is a good example), the food is great and this year's dinner (more feast than dinner) was a triumph. But make sure you get in early – tickets sold out before the day of the event this year and a number of people who came on the day left disappointed.

Mosse Moisson Rouge



Every now and then we order a wine because of a quirky grape or unknown appellation and then we fall in love with it. We were attracted to Moisson Rouge because of the very rare grape from which it is made, namely the teinturier grape Gamay de Bouze.

Now what is a teinturier grape we hear you ask? It is a red grape that also has red juice. Red wines turn red because the skins are left in contact with the juice and the pigment in the skin colours the juice. The vast majority of red grapes have clear juice. However there are a small number of exceptions and Gamay de Bouze is one of them – the juice is red!

So this is not like the Mosse Moussamoussettes which is more like a sparkling rosé but it is not as deep and dark as an Australian sparkling Shiraz. It is definitely red end though and has a lovely mouth feel and a very savoury finish.

We like to drink it with just about any sort of food but it really shines with charcuterie and other earthy dishes, especially food that has been cooked over charcoal.

Le Petit Gimios Vin de Table Rosé



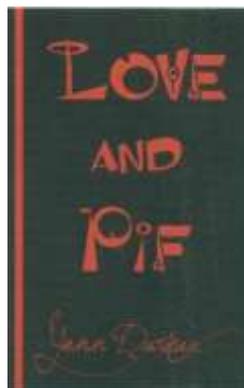
We are excited to have the wines of Le Petit Domaine de Gimios in our warehouse. Anne-Marie and Pierre Lavaysse live near Saint Jean de Minervois in the Herault in the Languedoc (actually they are from the hameau of Gimios within the commune borders of Saint Jean de Minervois).

Here they grow a bewildering variety of grapes and make a red wine as a ‘field blend’ of up to sixteen varieties.

This wine is made from at least the following grapes: Cinsault, Alicante, Grenache, Carignan, Aramon, and Muscat.

This rose is a very delicate pink that opens slowly in the glass but lingers on the palate for a long time. We love the mouth feel and we love the layers of interest contributed by the Carignan which thrives in this region and the very rare, native Aramon which is rarely found in wines these days

Yann Durieux Aligoté



We have long written about our fondness for Aligoté and now we have yet another in our stable. This one is for up-and-coming Burgundy winemaker Yann Durieux – a winemaker who is being currently acclaimed in the natural wine bars of Paris.

Aligoté is a white grape that rarely is given the opportunity to reach its potential because it always plays second fiddle to the more lucrative Chardonnay. For this reason vigneron rarely dedicate their best terroir to this grape. There are however some exceptions, the most famous of which is Domaine Ponsot.

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We already had some excellent Aligoté in our portfolio. Fanny Sabre's father loved Aligoté so he planted a vineyard in the highly sought after Pommard terroir. The result is an Aligoté of incredible finesse and elegance. (Unfortunately we don't have any at present!) Alice and Olivier de Moor are also fortunate to have a vineyard in great terroir where the vines are over 100 years old. Once again the wine is pure magic! Look out for it over the next few months on the wine lists of some of our customers, including Garagistes, momofuku seiōbo, Monopole and Cork wine Café. We've almost sold out but there is a small amount available retail in Sydney at the Oak Barrel.

And now to our new supplier Yann Durieux. He has a vineyard in the little known Hautes-Côtes de Nuits appellation. This may appear to be obscure but Domaine de la Romanee-Conti is his neighbour. They have established a vineyard here under the famous name, an expression of their faith in the terroir of this area.

And while he has vineyards of Pinot Noir and Chardonnay, it is the Aligoté that really excites us. This is a light, slightly cloudy wine with a low alcohol content (11%) and with a little residual carbon dioxide in the bottle giving it a slight spritz that soon disappears. This helps preserve the wine (carbon dioxide is great for ensuring that bacteria can't survive in the wine) without the side-effects of excessive sulphur.

However despite the low alcohol it soon opens up in the glass to reveal a drink of considerable complexity and length. It is a beautiful wine for pairing with food.

This is well worth a try. And we have no idea what the Love and Pif means! That should get resolved soon though.

The Oak Barrel, Sydney

If you live in Sydney and want to take a bottle of our wine home to enjoy it with your evening meal then a convenient place to buy one or a few is at The Oak Barrel. Their wine buyer, Julian Abouzeid, has assembled a nice selection of our wines for sale through their retail outlet. And he has some of the Moisson Rouge sparkling red and De Moor Aligoté that we mentioned above! He also has the only retail stocks in Sydney of De Moor Chablis.

The Oak Barrel, 152 Elizabeth St, Sydney, NSW 2000 Tel: (02) 9264 3022

10 William St, Sydney

We love going to 10 William St for a drink and some snacks when we are in Sydney. Matt Young always recommends something interesting – and they have a number of our wines on their list. So we were delighted to read on Gourmet Traveller's Hot Plates weekly online restaurant guide that talented chef Daniel Pepperell has taken over the stoves and ramped up the food offerings. It sounds delicious and we hope to eat there soon!

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Pack 1: Magnum Madness 3 pack



Brooks, one of our Melbourne restaurant clients, recently held a month of pouring from magnums – Magnum March - so we thought we might offer everyone else the chance to indulge themselves and try some of our very best wines in magnums.

Magnums are great for displaying a sense of generosity. When we walk into l'Avant Comptoir in Paris and order a glass of Lapierre Beaujolais we know that it will be served from a magnum! And as one of our winemaker friends from the Loire keeps saying to us '*a magnum is perfect for two for lunch ... if one is not drinking!*'

Le Temps des Cerises Vin de Table Avanti Popolo 2011 (magnum) – Avanti Popolo is a lighter style of wine when compared to the Fou du Roi. Named after a revolutionary Italian cry of 'Forward People' this wine made from 100% Carignan looks quite light but has very good depth of flavour and just a bit of funkiness. Axel is a fastidious winemaker and refuses to add anything to his wine or take anything out of it. So no filtering, no fining, no added yeast, sulphides, and no enzymes or sugar. The vines grow on granitic quartz soils and the minerality is pronounced.

Terres Dorées (Jean-Paul Brun) Fleurie 2010 (magnum) – The cru of Fleurie is justly famous for the depth of flavour and sheer drinkability of the wines that come from there. Here is what the Chambers Street Cellars have to say about Brun's Fleurie. *"The nose is deep, stunning and very sappy, as it soars from the glass in a blaze of black cherries, raw cocoa, pomegranate, intense violets, wood smoke and plenty of fresh thyme. On the palate the wine is deep, full-bodied, plush and very pure, with great depth of fruit at the core, lovely soil tones, modest tannins and simply superb length and grip on the focused and palate-staining finish."*

Les Capriades Vin de France Rosé Pige à Filles 2011 (magnum)– The Rosé Pige à Filles in the 1.5 litre bottles is a pale pink Petillant Naturel which is a blend of organic Gamay (approx 90%) and Côt (Malbec) grapes. The wine is made without any dosage (the addition of sugar) and also without the addition of any sulphites. It is possible to detect a tiny bit of residual sugar but it is at a level that makes the drink even more alluring.

The RRP for this selection of 3 magnums is \$181 but the pack price is \$153.85 including freight.

Pack 2: New arrivals 6 Pack



We have selected six wines including new vintages of some old favourites from the large shipment (for us) that has just arrived at our warehouse.

Domaine du Moulin Cour-Cheverny Les Châtaigniers 2011 – We have a great deal of fondness for wines from the Cour-Cheverny appellation because it means they must be white wines and they must be made from the ancient Romorantin grape introduced to the Burgundy area by the Romans. This wine is made from grapes from Hervé Villemade’s two plots – one containing quite old vines and the other some younger vines.

Domaine du Moulin Vin de Pays du Loir-et-Cher Pivoine Rouge 2011 – This lively wine is made from the Côt grape variety (known elsewhere as Malbec). It has lovely, light tannins and a great mouthfeel. A beautiful wine for pairing with braised meat, or pasta with a ragout.

La Paonnerie Coteaux d’Ancenis “Simplement Gamay” 2012 – Simplement Gamay got its name because that is all that is in the bottle. No additives of any kind. It was fermented with the natural yeasts and no sulphur was added at any stage. It is just Gamay and very nice Gamay indeed from this excellent Loire producer.

Terres Dorées Beaujolais l’Ancien 2011 – It is great to have the l’Ancien from Jean-Paul Brun back in stock. This is a very good Beaujolais with lots of structure and great persistence. A wonderful wine especially considering the price.

Domaine Saint Nicolas Fiefs Vendéens Les Clous 2011 – Les Clous is a perennial favourite from this great domaine. The blend of Chardonnay, Chenin Blanc and Groslot makes for a perfect food wine of considerable charm.

Le Temps de Cerises Vin de Table Un Pas de Côté 2011 – Un Pas de Côté is a dark purple wine that has a beautiful, soft tannin structure with complexity coming from the blend of grapes used. This vintage is 40% Merlot, 40% Grenache and 20% of a blend of Cinsault, Aramon and Carignan (Aramon is a grape that is native to the region).

The RRP for this selection is \$204 but the pack price is only \$173.40 which includes freight.

Pack 3: Very new arrivals 6 Pack



These wines are even newer than the wines in the New Wines pack! It is not often that we offer any wines from Alice and Olivier de Moor in a special pack because they sell so quickly. But this is a chance to try two bottles of their Chardonnay from Chitry which lies just outside the Chablis border but shares similar terroir. We also have a new shipment from Domaine de la Cadette which includes replenishment of their wonderful, precise Les Saulniers. And to top it off we have yet another shipment from René and Agnès Mosse including two bargains, their beautiful rosé and the much-sought-after Magic of Juju.

De Moor Bourgogne Chitry 2011 (2 bottles) – The Chitry is made from a vineyard that lies just outside the Chablis boundary so those in the know snap up this wine as it has similar characteristics to a Chablis but at a lower price. It is a pure Chardonnay and is classified as a Burgundy Village wine (the village being Chitry). The De Moors' Chitry vineyard is also in an area with plenty of biodiversity.

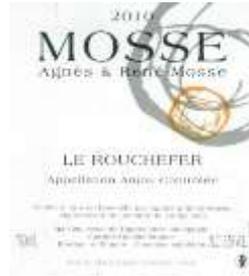
Domaine de la Cadette Bourgogne Vézelay Les Saulniers 2011 – Les Saulniers is a white cuvée made from Chardonnay. The Les Saulniers vineyard is a beautiful parcel of land situated on an old road once used by salt smugglers, who extracted contraband salt from the water at the nearby "Fontaines Salées". It has a liveliness and freshness that is very appealing for such an elegant wine. The finish is very long and interesting.

Domaine Mosse Vin de France Magic of Juju 2011 – This Chenin Blanc has been made by René Mosse using grapes grown organically by two of his friends. The vineyards are a mix of clay, gravel and shale. The wine was fermented in old fûts and then aged for 12 months. There is a tiny bit of residual sugar in this charming Chenin Blanc and a lovely hint of oxidative qualities that make the wine a perfect match for food. This wine has only miniscule amounts of free sulphur.

Mosse Vin de France Mama Rose 2011 (2 bottles) – Mama Rose is the latest rosé offering from Rene and Agnes Mosse. Like all of their wines it has been vinified with care and precision to produce a delightful and harmonious wine. It is made from Cabernet Franc and Cabernet Sauvignon that has been raised in stainless steel tanks.

The RRP for this selection is \$182 but the pack price is only \$154.70 which includes freight.

Pack 4: Domaine Mosse Chenin Blanc 6 pack



René Mosse is well known in the Loire Valley as a master of the Chenin Blanc grape. He makes many cuvées from this grape and they each have their own personality. The wines vary as a result of location, soil type, the age of the vines and when the grapes are picked. Unlike some grape varieties Chenin makes excellent dry wines and startling sweet wines. These are wines of considerable quality and finesse.

Domaine Mosse Magic of JuJu Vin de France – This Chenin Blanc has been made by René using grapes grown organically by two of his friends. The wine was fermented in old fûts and then aged for 12 months. There is a tiny bit of residual sugar in this charming Chenin Blanc and a lovely hint of oxidative qualities that make the wine a perfect match for food. This wine has only miniscule amounts of free sulphur.

Domaine Mosse Anjou Blanc 2011 – Anjou Blanc is made from grapes picked from younger vines in the Mosse vineyard. The vineyards lie on south-west facing slopes and the soils are composed of sand and gravel lying on a bed of schist. The grapes are left to ferment naturally in wooden fûts and undergo both alcoholic fermentation and malolactic fermentation.

Domaine Mosse Anjou Le Rouchefer Blanc 2010– The wine comes from a small parcel called Le Rouchefer of gently sloping, southwest facing land that extends over 1.66 hectares with clay and gravel (studded with quartz) sitting on schist. The wine is aged in old barrels for 12 months.

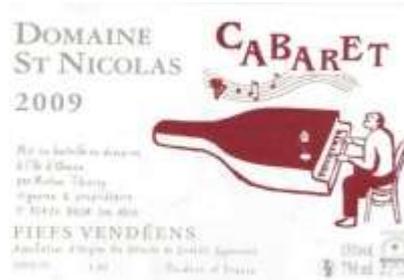
Domaine Mosse Savennieres Blanc 2010 – The Savennieres appellation occupies a small area (only 150 hectares) just south of the city of Angers. Some of the great wines of France are produced here. This is a dry wine style which contains 4.5 grams per litre of residual sugar.

Mosse Vin de France Les Bonne Blanches 2011 – The vines are from a 2.5 hectare plot called Les Bonnes Blanches where the vines are over 35 years old and the yield is very low. The alcohol percentage is 13.5 and there is a very small amount of residual sugar while still finishing dry.

Mosse Anjou Blanc Tenderness 2010 – This slightly sweet wine is made from grapes from the beautiful Bonnes Blanches vineyard. There are some very old vines here and the vines have very good exposure to the sun and beautiful soils to thrive in. This wine is made in the Sec Tendre style which means there is some residual sugar (around 10g/litre) but it is not a sweet wine.

The RRP for this selection is \$249 but the pack price is only \$211.65 which includes freight.

Pack 5: Domaine St Nicolas Fiefs Vendéens 6 pack



Thierry Michon is the talented winemaker and passionate advocate for biodynamics behind the Domaine St Nicolas domaine in the recently elevated AOC of Fiefs Vendéens on the Atlantic Coast. His wines are always pure expressions of the terroir of his seaside vineyards with their gnarled, ancient schists. He loves Pinot Noir which despite many claims to the contrary is widespread in the Loire Valley – but it is unusual to find it this far west.

Domaine St Nicolas Fiefs Vendéens Gammes en May 2011 – The Domaine Saint Nicolas Gammes en May is a light, refreshing and delicious pure Gamay red wine. It is great for summer drinking served slightly chilled. Thierry Michon does not always make a pure Gamay, but the quality of the fruit in 2011 is, again, exceptional.

Domaine St Nicolas Fiefs Vendéens Les Clous 2011 – The 2011 vintage of Les Clous is one of the best yet. It has a little more Chardonnay than usual. It is beautiful wine made from a mix of Chenin Blanc and Chardonnay with a little Groslot Gris in this vintage. Both the Chenin Blanc and the Grolleau Gris play a subtle but noticeable role in this beautiful wine that goes so well with food.

Domaine St Nicolas Fiefs Vendéens Reflets 2011 – This was the first wine we ever tried from Domaine Saint Nicolas and we were hugely impressed with the quality. We didn't realise that it was Thierry Michon's entry level wine! It is dominated by Pinot Noir in this vintage but also has some Gamay, Negrette and Cabernet Franc blended in as well. It is an elegant wine with good structure.

Domaine St Nicolas Fiefs Vendéens Cabaret 2009 – This is a wine that is typical of the Loire region. It is made from pure Cabernet Franc that has been aged in barriques for a year. This is a particularly good example of a Loire Cabernet Franc. It is a great food wine which is drinking very nicely now.

Domaine St Nicolas Fiefs Vendéens St Jacques 2011 – This silky cuvee is named after Thierry's grandfather and is a blend of Pinot Noir (85%) and Cabernet Franc (15%). It was aged in barriques for 18 months prior to bottling. The wine has only recently been released because Thierry likes them to gain some age in the bottle prior to distribution.

Domaine St Nicolas Fiefs Vendéens Haut des Clous 2008 – Chenin Blanc lovers should not miss out on this beautiful example of the Loire's favourite grape. The schist terroir here lends added minerality and complexity to this wine.

The RRP for this selection is \$211 but the pack price is only \$179.35 which includes freight.

Pack 6: La Paonnerie 'No added sulphur' 6 pack



Agnes and Jacques Carroget hail from Domaine de la Paonnerie which is in the Loire Valley between Angers and Nantes. They practice biodynamic agriculture in their large vineyard (around 22 hectares) and they vinify with natural yeasts and with either no or very little sulphites added. This selection is of wines with no added sulphur at all. There may, of course, still be traces of the sulphites created naturally during the fermentation process.

La Paonnerie Coteaux d'Ancenis "Simplement Gamay" 2012 (2 bottles) – The Coteaux d'Ancenis "Simplement Gamay" 2011 is made from 100% Gamay Noir a Jus Blanc. The wine is fermented with natural yeasts and is neither filtered or fined. This is a light, lively delicious red wine that goes beautifully with food such as lamb chops or roast chicken or a robust cheese.

La Paonnerie Muscadet Coteaux de Loire Rien que Muscadet 2011 (2 bottles) – The la Paonnerie Rien que Muscadet 2011 is made from 100% Melon de Bourgogne which is sourced from the emerging Muscadet Coteaux de Loire appellation. This wine is billed as "Just Muscadet" - nothing more, nothing less. The wine relies on the vibrant fruit obtained due to the biodynamic practices in the vineyard.

La Paonnerie Anjou Villages La Jacquerie 2011 Sans Soufre – The la Paonnerie Anjou Villages 2011 Sans Soufre is a blend of 66% Cabernet Franc and 34% Cabernet Sauvignon picked from the Clos de la Jacquerie which the Carroget's own exclusively. The grapes are picked when the Cabernet Sauvignon has reached the desired level of ripeness. This is a lively, vibrant wine that is very gluggable!

La Paonnerie Vin de France Voila du Gros Lot 2011 – The la Paonnerie Vin de France Sans Soufre Ajouté "Voila du Gros Lot" is made from 100% Grolleau Gris (also called Groslot in the Loire) grown in granitic soils. The wine is fermented with natural yeasts and is neither filtered nor fined. This is a light, lively delicious white wine that is perfect for sipping at any time and is also a great match for a wide range of foods as it will not overpower them.

The RRP for this selection is \$189 but the pack price is \$160.65 including freight.

Pineau d'Aunis grape variety

Pineau d'Aunis is one of those grape varieties that some people decry but others are passionately devoted to. Our considered opinion is that there are absolutely no inferior grape varieties – there are just inferior wine makers. There is always a winemaker who can make a great wine regardless of the grape used.

And so it is with the obscure Pineau d'Aunis. First we will explore where the name came from. The first thing you notice is that the Pineau sounds very much like Pinot, however it is not related directly to the better known red grape. However, there is a similarity and that might explain why the names have similar derivations.

If you have a look at the photo below you will notice the similarity between the shape of the bunches of grapes and a pine cone.

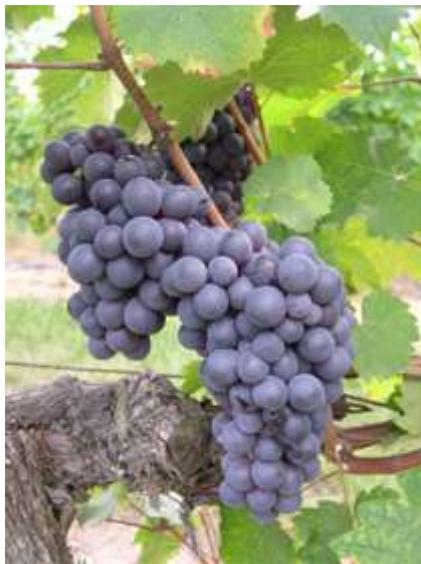


Photo courtesy of www.vinsdeloire.fr

Pinot Noir bunches have a similar shape so the word for pine in French 'pin' is included in both names. But what about the d'Aunis? Well it is thought that the vines were brought very early to the Loire by salt traders who traded along the Atlantic seaboard and who sailed up the Loire as early as the 9th Century. One of the areas it was planted was just east of Saumur in the commune of Dampierre in the grounds of the Prieuré d'Aunis.

There are a number of vineyards around Saumur, in the Coteaux du Vendômois and in the Touraine that possibly pre-date phylloxera however in the 1950s and 1960s there was a rush to rip out traditional vines and replace them with the Cabernets to tap into international markets.

Luckily there were some who knew that this grape had an affinity for the terroir of the Loire and the only problem was overcropping. It gradually began to be restored to its rightful place even though the vines did not always get planted on the best slopes as these had traditionally been reserved for the revered Chenin Blanc.

More recently, growers such as Puzelat and Villemade in Cheverny have led the revival of the grape variety and have been producing some amazing wines with it.

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For example we have for some time now imported the fresh and vibrant sparkling Domaine du Moulin Bulle Rosé which is made from both Pinot Noir and Pineau d'Aunis in equal parts.



This refreshing drink that can be approached at any time of the day, any day of the year. It is good as an aperitif (it is low in alcohol at only 11%) and matches a wide range of foods.

Appellation: Coteaux d'Ancenis



Coteaux d'Ancenis is one of the most recently elevated AOC appellations having been elevated to AOC status in December 2011. It is situated in the Loire Valley to the west of the city of Angers and east of the city of Nantes and covers 24 communes on both sides of the Loire River.

The communes are Ancenis, Anetz, Barbechat, Carquefou, Le Cellier, Couffé, Ligné, Mauves-sur-Loire, Mésanger, Montrelais, Oudon, Saint-Géréon, Saint-Herblon, Thouaré-sur-Loire, Varades, Bouzillé, Champtoceaux, La Chapelle-Saint-Florent, Drain, Landemont, Liré and La Varenne.



The production of white, red and rosé wines is permitted. Unusually for the Loire Valley all wines are made from a single variety with white wines only made from Pinot Gris (locally known as Malvoisie) and red and rosé wines only made from Gamay.

The vines must be planted to a density of at least 6000 vines per hectare with the space between rows being less than 1.6 metres and the space between the vines in the rows being between 0.9 metres and 1.1 metres. As with most French appellations, irrigation is not permitted.

'-age' words in French winemaking

Egrappage

The term egrappage refers to the practice of separating the grape from the stems and stalks before crushing the grapes. Winemakers who practice egrappage are usually looking for ways to reduce the level of tannins in wines especially the tannins derived from the stalks as opposed to those in the skins and the seeds.

Minerality in wine: Part 1

Introduction

Minerality in wine and the role soil plays in contributing to minerality was the topic of a Masterclass at the recent Rootstock natural wine festival in Sydney. It was interesting to participate in this event and to see how different people viewed the topic through completely different 'lenses'.

Vineyard managers were concerned about the interplay between soil and living matter that might contribute to minerality in their vines. Winemakers were interested in the interplay between the natural fermentation process and how it reacted with minerals in the grapes they were fermenting. Others were interested in the sense of place represented in the vineyard and what needed to be done to nurture the soils. Renowned Italian winemaker Fulvio Bressan made an impassioned plea to everyone present to stop using irrigation in any form. We even found time to discuss briefly what was meant by minerality – once again different people had different views.

The point of difference seemed to be a problem with the definition of minerals. Geologists define minerals as the things that they see in rocks such as feldspars and quartz. They know that these are never transmitted into grapes and hence into wine. They are just too big – a feldspar, for example, can be 5 centimetres long!

However we know that when we analyse grape juice or wine we find elements in there that can only come from the soil. We also find that these elements have combined with other elements to form salts or other molecules which give the wine a unique flavour. And this is the difference. Those who study organic matter in soils and the transfer of elements into plants talk about mineral ions which are charged particles that can travel through the walls of plant cells given the right conditions.

It is these 'minerals' that we taste in some natural wines that makes us feel like we are 'sucking rocks'. And sucking rocks has its own problem because rocks do not have a mineral taste in their own right. We will explore this idea later in the article.

Geology 101

It all starts with rocks! There are two main types – igneous and sedimentary. These terms help us explain how the rocks were formed – igneous from molten magma and sedimentary from deposits in rivers, lakes, seas and caves.

We also like to know whether rocks are recent or ancient therefore we divide the history of rocks up into periods or eras such as Precambrian (over 550 million years old), Devonian (around 400 million years old) Permian (290), Triassic (250), Permian (200) and Tertiary (5 to 65) plus a few others.

The most primeval, the most primitive is the igneous rock granite. This was formed deep, deep below the earth's surface from molten magma and cooled slowly as the

surface was worn away and the subsequent rock was exposed. So, granite is an igneous rock (formed from molten magma) with very large crystalline structures (as a result of the slow cooling) made from minerals such as feldspar (KAlSi_3O_8 – $\text{NaAlSi}_3\text{O}_8$ – $\text{CaAl}_2\text{Si}_2\text{O}_8$), mica and quartz. A feldspar can be 5 cms long and 3 cms wide. We need to remember this when we consider using the term ‘minerality’ with respect to wine!

The Massif Central in France is a huge pile of granite with intrusions of basalt from the late Tertiary period. The most sought after land in the Beaujolais is granitic and there is a long-established affinity between the Gamay grape and granitic soils. In Tasmania we don’t plant Gamay even though we have mile upon mile upon beautiful mile of granitic soils on the East Coast.

The other major types of igneous rock are dolerite (intrusions closer to surface of the earth hence cools quicker than granite therefore smaller crystals) and basalt which is lava from volcanoes and other fissures that cools rapidly and hence forms very small crystals.

The second major type of rock is the group of sedimentary rocks such as sandstone, chalk, limestone, mudstone, coal, tuffeau and chert.

The finest wines of Chinon in the Loire Valley are raised in soils derived from the local tuffeau which was formed from sand and marine fossils. In the Coonawarra we see limestone sitting on a sandstone base and this soil and Cabernet Sauvignon seem to get along very well together. Riesling also benefits from sedimentary soils and sandstone in Kitterlé and limestone of Zinnkoepflé are particularly famous (however in nearby Brand and also Schlossberg the soil is granitic).

Most vines in France are planted on rocks that are Triassic or younger. And of course the centre of France is dominated by Jurassic rocks named after the Jura Mountains. Much of the Jurassic rock is limestone and the best known limestone is the Kimmeridgian limestone that dominates the vineyards of Chablis, the Cote d’Or, Sancerre, Alsace and Vezelay. Even the northern part of the Cognac region sits on this Jurassic limestone¹.

Champagne benefits from the chalk of the Cretaceous period (the same chalk that forms the white cliffs of Dover). This chalk was laid down as sediment in massive seas that covered this area.

This is different in the southern hemisphere where much of the Jurassic rock is igneous and much of this is shallow-intrusive igneous dolerite.

There is also another type of rock called metamorphic rock, which is always igneous or sedimentary rocks. Metamorphic rocks are formed when pressure and heat transform either igneous or sedimentary rocks into rocks such as gneiss, slate, marble, schist, and quartzite.

¹ Wilson, James E *Terroir. The Role of Geology, Climate and Culture in the Making of French Wines.* Mitchell Beazley 1998

We look to the Ardennes for metamorphic rocks from the Palaeozoic period that have been heated and stressed to change shale into slate or schist, sandstone into quartzite and limestone into marble.

Of course the schists of Saint Chinian seem to be perfect for the grape variety Carignan and in Fiefs Vendéens some great Pinot is produced from the sandy, schist soils there.

Soil from rocks

Vines do not survive growing on pure rock. The rocks need to be broken down to form soil. Rocks do weather through the action of wind, water, pressure and natural chemical reactions to form smaller particles and these rock particles combine with plant matter and micro-organisms to form soil.

So when the huge feldspar minerals that can be found in granite break down they form smaller compounds based on their primal elements of sodium, potassium and silicon among others. These, in turn, can form ions which are charged atoms or molecules. The charge is present because there is a mismatch between the number of electrons and the number of protons. If there are more electrons than protons the ion is negatively charged (and it is called an anion) and if there are more protons it is positively charged (and is called a cation).

These smaller elements, ions and compounds can pass through the membranes of plants and eventually end up in the fruit. But plants tend to be very selective about what they let through and which part of the plant they allow them reach.

There are a number of essential elements or nutrients for vine health shown in the table below derived from a number of scientific papers. Note that three can enter the plant directly from the atmosphere whereas all the others need to have the right conditions in the soil to enter the plant.

Obtained from the air	Obtained from the soil
Carbon (C)	Macronutrients (200 – 2000 mg/l)
Hydrogen (H)	Nitrogen (N)
Oxygen (O)	Phosphorus (P)
	Potassium (K)
	Calcium (Ca)
	Magnesium (Mg)
	Sulphur (S)
	Micronutrients (5 – 50 mg/l)
	Iron (Fe)
	Manganese (Mn)
	Copper (Cu)

Obtained from the air

Obtained from the soil

Zinc (Zn)

Boron (B)

Molybdenum (Mo)

Chlorine (Cl)

These elements are readily found in the minerals of rocks such as granite and dolerite and sandstone and usually in limestone.

The concentration of potassium, nitrogen, phosphorus, sulphur, magnesium and calcium can range from 200 to 2,000 mg/l in grape juice. Boron, manganese, and iron are present at approximately 20 to 50 mg/l, while copper, zinc and molybdenum levels rarely rise higher than 5 mg/l. There can also be traces of lead, mercury and cadmium and metal-like elements such as arsenic. Sodium is only ever present in lower levels ranging from 10 to 300 mg/l although this can be higher if sulphur is added in the form of sodium metabisulphite ($\text{Na}_2\text{S}_2\text{O}_5$).

Not all of these are desirable. For example if calcium is present at high levels it can cause tartrate instability. Some of the heavy metals can de-activate enzymes which are so necessary during the fermentation process. Copper, for example, at levels above 9 mg/l becomes a metabolic toxin inhibiting alcoholic fermentation².

However it is more complex than that because iron (Fe) in low concentrations acts as an enzyme activator. But if it gets above about 5 mg/l it can cause a range of problems including assisting oxidation and causing wine to become unstable.

Some heavy metals such as iron, copper, zinc, manganese, aluminium, lead and arsenic can enter the grapes via translocation via the root system.

Of all of these it is nitrogen that is needed the most to create plant tissue and to manufacture chlorophyll ($\text{C}_{55}\text{H}_{72}\text{O}_5\text{N}_4\text{Mg}$). If there is insufficient nitrogen then the leaves show signs of chlorophyll deficiency and plant growth slows down. Too much nitrogen, however, leads to excessive growth making canopy management difficult. So nitrogen in spring is good – too much nitrogen in summer can lead to problems.

Potassium is vital for vine health and plays a role in controlling acidity and in the absorption of water by the vine. It is a vital component during berry development.

Magnesium is an essential component of the chlorophyll molecule and is vital for photosynthesis. Magnesium also activates enzymes required for plant growth.

As can be seen from this difficult balancing act, the presence of enzymes in the plant and the soil is another complicating factor that must be considered.

This section has been about the components of the soil required for vine health that are derived from rocks, however there is an even more important component of the soil and that is the micro-flora that help to transport these elements into the plants.

² Zoecklein, B.W., K.C. Fugelsang, B.H. Gump, and F.S. Nury. *Wine Analysis and Production*. Chapman & Hall, New York (1999).

If soil is lifeless due to the use of insecticides, fungicides and herbicides then the micro-flora will not be present in the soil to do their work.

Where does minerality come in?

So, the ideas mentioned in previous sections of this article seem to be at odds with what we all know. We know that if we suck on a river pebble it tastes strongly of minerals. And many expert wine tasters find similar flavours in wine. We all know that if we wander in the forest after a summer rain then we can pick up a rock and smell the minerals.

Well the answer is all to do with *petrichor* a term coined by two Australian researchers in the 1960s. Their research showed that the smell came from volatile oils released by the rain from plant matter that had adhered to the surface of the rocks – they called this matter *petrichor* after the term for the fluid that was supposed to flow in the veins of the gods in Greek mythology³.

In fact other researchers have shown that the minerals in rocks have no flavour. It is only when they break down and get absorbed by plants that they might contribute to flavour sensations when accompanied by other components, of which acid seems to be an important factor.

Many researchers have linked this perception of minerality to the presence of acid in the wine. Most wines described as mineral are from cooler climates where acid level are higher.

Conclusion of Part 1

So we have discounted minerals from rocks providing flavours in wine but are comfortable that elements, ions and compounds formed from the decay of these minerals can enter the vines and might be able to contribute to flavours.

We have also alluded to the importance of micro-fauna present in the soils that might assist the absorption of the elements from the soil into the vines.

In Part 2 of this article we will try to explain how this happens and what we are tasting when we taste rocks in our wine.

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http://www.livingwines.com.au/Catalogue/Order_Form_Current_2012.pdf

³ Bear, I. J. and Thomas, R. G., *Nature*, 201, 993 (1964).