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# ROCK STARS PLAY THEIR PART

VINEYARDS are made up of soil, subsoil and often the fractured bed rock protrudes from the earth. There is considerable diversity of bed rock, which contributes to create the myriad of factors that add up to a wine's terroir. It is the study of geomorphology: the study of landforms, mountain, hills and valleys that inevitably involves looking at rocks.

The topsoil, where the roots are most active, consists of weathered fragments of bed rock or it may consist of colluvial material thrown down from upper slopes or have been washed into its current location by a stream or river (alluvial soils). As well as these sources of sediment, vineyards can also be covered with wind-blown material which is described as "loess" or ancient debris deposited by retreating glaciers known as moraines.

For vines to grow, the soil must have some degree of fertility, but not too much. Soil is generally made up of clay, silt, sand, stones, rock and organic material. Silt, simply put, is particles that sit between the size of clay and sand, while loam describes an ideal mixture of clay, silt and sand.

Equally, rocks play an important part in separating one region from another, especially in Europe. In Bordeaux, for example, merlot performs better on the deeper clay soils of St Emilion and Pomerol which sit high (for Bordeaux) on a limestone escarpment, while cabernet sauvignon prefers the low lying river estuary gravel beds that were formed over countless centuries as rivers emptied into the Atlantic Ocean. In central France the bed rock changes from sedimentary limestone to plutonic igneous granite as you drive south from Beaune to Beaujolais and the grape variety changes from pinot noir to gamay. Over time vignerons have trialled and adapted the variety to suit the earth. Granite crops up in Australian regions fairly often, especially in Victoria. Driving over the Great Dividing Ranges at the top of the Macedon Ranges you can see weathered granite protruding everywhere, especially if you call into the aptly named Granite Hills Winery. Further north, Bailey's of Glenrowan, is on red granite soils and the prestigious Beechworth wineries such as Giaconda and Castagna are on old decomposed devonian granite.

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Schist is a metamorphic/volcanic rock that is similar to slate. Both igneous and sedimentary rocks can change into metamorphic rocks when they are put under great pressure or are heated to incredibly high temperatures. Both slate and schist (an ancient Greek word for split) can be fractured easily and split into flakes. Schist is found in regions such as Muscadet and Cote Rotie. In Priorat in northern Spain, grenache reaches great depth and intensity grown on local slate soils called llicorella, which has small amounts of mica and quartz running through it. But probably the most famous of all slate soils are found on the steep slopes of the Mosel Valley in Germany where the rocks soak up the sun during the day and then radiate the heat back to the vine in the chilly evenings.

Volcanic rocks sit under the extrusive igneous category and create an interesting growing environment that has recently received attention with the release of Master Sommelier John Szabo's book Volcanic Wines: Salt, Grit and Power. Some have expounded that these soils give the wine a more austere, savoury and mineral note, together with being more powerful and intense on the palate. It is also thought that the soils increase the acid levels in the wines. There are a number of renowned wines coming off these sub soils to prove the point. On the island of Santorini the volcanic soils consist of a cocktail of pumice, black lava and ash, which produce intense, acidic and racy assyrtiko grapes. While phylloxera cannot survive in these "aspa" soils, neither do any nutrients in such harsh environments. The island receives no summer rain and the vines exist on morning dew which the volcanic soils hold on to and release to the vine. In Soave the region is split into halves. On the western side is marine-based limestone hills that run north to south. On the eastern side around Ronca the soils are volcanic, rich in minerals and with outcrops of black basalt. It is said that the volcanic soils produce more structure and fleshy wines with spice, riper preserved fruit and nuts from garganega grapes. While the limestone soils gives more acidity with white flowers and green apple aromas. To demonstrate the difference Soave winery

Pieropan produces one wine off each soil, its Calvarino vineyard is on basalt while La Rocca sits on limestone.

The most common volcanic rock found in Australia is basalt. In Tasmania basalt is found in the north-east area around Pipers River, while Jurassic age dolerite is found in the Coal River Valley. Both basalt and dolerite produce more structured pinot noir. Dolerite is similar to basalt and the soils tend to be stony and shallow, so are fairly poor. Dolerite wines constantly display darker red fruits, more depth and intensity.

Coming back to Italy, the south is littered with volcanic wines. In Campania there is the region of Greco di Tufo, a white grown on tuffaceous volcanic soil. Tuff or tufo soils consist of cooled ash that has been blown out of the volcano when it was active. The greco grape gives mineral-driven, firm, dry wines. But probably the most famous grape to come from these volcanic soils is the red aglianico from Taurasi, the so-called “Barolo of the south”. These deeply coloured wines have high levels of tannins and acidity which need a number of years in bottle to soften. Around 60km south of Taurasi and you enter the region of Basilicata and, again, the aglianico shines, albeit from a different clone, this time on the slopes of the extinct volcano Vulture.

Italy is a hot bed for volcanic wines. Around the active Mt Etna in Sicily you find seriously good red wines made from grapes such as nerello mascalese and its blending partner nerello capuccio used to make Etna Rosso. So getting to know your rocks is part of the enjoyment of wine and as you sip you can contemplate grape origins “and ponder the impact of the soil in the glass”.