Snow on Wine

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The True Dirt on Dirt

After hearing it from "expert" wine commentators or reading it in wine press, how many of us have believed and repeated that we could taste "Napa Valley Rutherford Dust", or Walla Walla "stones", or "River Gravel" of white Bordeaux in our wine? Well I'm guilty, but *scientific wine journals* on vineyard geology expose a **dirty little secret**. Generally the community of wine scientists believe what Alex Maltman writes in his article on the subject: "The notion of being able to taste the vineyard geology of wine – a gout de terroir – is a *romantic notion* which makes good journalistic copy, and is manifestly *a powerful marketing tactic*, but it is wholly anecdotal and in any literal way *is scientifically impossible*." He suggests that soil is part of *terroir*, but that it's effects are *indirect* and may be less important than widely believed.

Indirect effects, what the heck does that mean? And terroir is complex with many factors. Such as slope direction and steepness, elevation, multiple climactic factors (wind, rain, temperature) and latitude. To recognize differences caused by soil factors, all these other Terroir factors would need to be equal. So I went looking for sites with the same grape planted in two soils side by side, so that other Terroir effects should be equal.

Dehlinger winery (Sonoma, Russian River) came to mind. They have two soil types, side by side, same vineyard and winemaking technique, and same grape, dry farmed Pinot noir. Many years they make separate bottlings of notably different Pinot from the two neighboring soils. "Goldridge" soil produces Pinot that is fruit forward, aromatic and supple on the palate, and "Altamont" soil yields a brooding, denser, thick and firm Pinot. As Carmen Dehlinger explained, it is not the different soils you taste, but the *indirect effect* of soil moisture differences. More abundant easily extractable water stored in the Goldridge, in contrast to poorer water storage with slower release and thinner soil in the Altamont, causing stressed vines with lower yield, and smaller thicker skinned grapes than the Goldridge soil. So water availability to the vine is the *indirect effect.*

A different *indirect effect* was demonstrated by my geologist friend Dr. Jim Hoffman, in the Duoro river valley in Portugal. We were walking two vineyards which were near each other and had nearly identical slope, sun exposure, altitude, and microclimate, planted with the same grape clone. One produced high acid well structured wine and the other soft, flabby, low acid wine. Jim dug

into the soil and showed that in each vineyards it was soft granite (or schist). But in the high acid vineyard reflective flecks of mica were present. Mica reflected sunlight away, leaving the soil cooler through the night, helping preserve grape acids. The low acid vineyard had many pebbles of dark garnet, which absorb solar heat, radiating it back through the night, thus warming the vines resulting in low acid grapes. So here the differing *indirect effect* of the soil type is night temperature difference.

So you could say that although vineyard dirt is clearly a Terroir factor, the effects are indirect and less romantic than the popular fables we are often told by those selling wine to us. Believe those fables if you will, but the truth of science will set you free.

References:

1) Maltman, Alex, "The Role of Vineyard Geology in Wine Typicity", Journal of Wine Research Vol 19, 2008 – Issue 1.
2) Dehlinger Winery Newsletter, "The Influence of Soil", Fall, 2018.
3) Dehlinger web page, www.dehlingerwinery.com, "vineyard site", "soils".
4) Personal experience with James Hoffman, Phd, retired Provost at EWU and consultant for Winery Terroir.
5) Personal conversation with Carmen Dehlinger, director of Sales and Marketing.