From its humble origins to a protected status, semantics have played a significant role in commonly held beliefs about terroir. A French word meaning land or soil, terroir originated from the Medieval Latin terratorium and terratorium (territory). The French phrase “good de terroir” or taste of the soil, originally implied a poorly made wine, but it really started to develop in the 1960s. From the very start, semantics have played a significant role in commonly held beliefs about terroir. A French word meaning land or soil, terroir originated from the Medieval Latin terratorium and terratorium (territory). The French phrase “good de terroir” or taste of the soil, originally implied a poorly made wine, but it really started to develop in the 1960s.

The AOC system, and those modeled after it (such as AVAs), was largely founded on terroir. From the very start, semantics have played a significant role in commonly held beliefs about terroir. A French word meaning land or soil, terroir originated from the Medieval Latin terratorium and terratorium (territory). The French phrase “good de terroir” or taste of the soil, originally implied a poorly made wine, but it really started to develop in the 1960s.

As evidenced by the 11th International Terroir Congress, a bilingual think tank held in different wine growing regions around the world, there’s a constant stream of research bringing us closer to the scientific basis of terroir. Terroir Congresses is one of the most important objectives. The next congress is planned for Zaragoza, Spain, in 2018. For more than 20 years, this group of scientists has convened to share our research and interests in terroir, says climatologist Gregory Jones, a professor of environment...
Kevin Pogue, professor of geology at Whitman College, Wash. “What’s most important about soil is its ability to transmit water or its hydrologic properties.”

For Jones, proof comes from observations that the same grape variety doesn’t produce the same quality wine in different climates. Whereas locations with a similar climate but different geology and soils can produce similar quality wines with flavors and aromas that are typical for the variety. Geologist Scott Burns, an expert in the soils of Washington and Oregon, who teaches at Portland State University, cites eight factors that influence the character of wine: variety, bedrock geology, climate, soil hydrology, physiology (orientation, slope, elevation), soil biota, vineyard management techniques and winemaking.

By its nature, the study of terroir is multidisciplinary. It combines the expertise and research of a dozen fields, among them geology, soil science, climatology, agronomy, microbiology, physiochemistry, ecology, sociology and economics. In his presentation at the congress, van Leeuwen quoted Warren Moran from New Zealand, who said, “Most scientists are victims of their own discipline.” As such, we look to identify the common ground where researchers across disciplines find a consensus. One factor that gets credit from several quarters is climate.

According to van Leeuwen’s 2002 study, climate bears more influence on terroir than soil, but the effects of both are mediated through their influence on water supply to the vine. For van Leeuwen, the key factors are prioritized in no uncertain terms as air temperature, vine water status and vine nutrient status.

“Research has shown that climate is the first and foremost factor influencing terroir,” says Dr. Kevin Pogue, professor of geology at Whitman College, Wash. “What’s most important about soil is its ability to transmit water or its hydrologic properties.”

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Sols (LAMS), believes soil fungi, called mycorrhizae, are the key to terroir expression. “It’s bacteria that enables the vine’s roots to assimilate nutrients. So it’s impossible to distinguish between wines from different terroirs if the soil is biologically dead.”

With the rise of organic and biodynamic viticulture, the winegrowing community is paying closer attention to the biological activity of the soil. For the most part, scientists and winegrowers have accepted that a vine takes up minerals from the soil through its root system as positively charged cations, and that different levels of cations are available in different soils.

For Pogue, the holy grail of terroir is determining how the synthesis of phenolics in the ripening grapes is affected by the varying concentrations of plant-available nutrients in different soils.

When asked, academics and professionals are more inclined to abandon the word minerality in describing wine than to relinquish their use of terroir, which brings us full circle and back to semantics. Given what we do know, few will argue with author James Wilson’s view of the relationship between soil and vine: “Vines don’t eat rock, per se, but sip on mineral concoctions dissolved from them.”

Deborah Parker Wong is the Northern California editor for The Tasting Panel magazine, and a long-time contributor to Vineyard & Winery Management. She earned her WSET Diploma in 2009.

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