Terroir—towards a new perspective
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Abstract
Terroir is the idea that the geographical area in which grapes are grown—its climate, geography, soil structure and mineral composition, vine adaptations, and so on—is manifest in the physical composition of wine. This paper presents a new perspective on the concept of terroir. It does so by reviewing traditional understandings of the idea, and a recent interpretation by Warren Moran, which is elaborated upon in a case study of the Coonawarra wine region. Key themes characterising the growth of the Australian wine industry are examined to identify the primary influences on how the concept is perceived in Australia today. A balance is sought between the diverse ideas of terroir and a more flexible interpretation of the concept.

Introduction
Terroir is an elusive concept, and yet a beloved expression in the world of wine. Terroir is the idea that the geographical area in which grapes are grown—its climate, geography, soil structure and mineral composition, vine adaptations, and so on—is manifest in the physical composition of wine. For example, Charters (2006 p.106), writes that, ‘... it is possible to taste wines made by the same producer, in the same way, but from adjoining vineyards and notice differences between them. These variations, consistent from year to year, are put down to the distinctive terroir of the vines’.

While the veracity of such a claim is disputed in both winemaking and scientific domains (Wilson 1998; Robinson 2006; Van Leeuwen & Seguin 2006), terroir has become a highly durable cultural concept, deeply entrenched among elite wine consumers with a seemingly unquestioned status in the language of wine. Moreover, a terroir claim has become a sign of authenticity such that as the production of wine is globalised, so the concept of terroir has become an intrinsic element in the marketing arena. This is especially so with wines considered to be of premium quality, those that are produced under regimes that are labour-intensive and seek to achieve an excellence at each stage of production. Background research in support of this paper draws extensively on relevant literatures across academic, industry and popular fields. It draws on targeted interviews with key informants from the production, retail and corporate facets of the industry. And it draws on relevant government and industry data.
Figure 1 Above Cabernet Sauvignon (plate 57) and below Petite Chiraz (plate 61)
Courtesy State Library of South Australia
**Terroir: what does it mean?**

The word terroir is a quintessentially French word without an English equivalent, or indeed, in any other language. Loosely translated terroir means ‘land’ and broadly refers to the idea that an individual viticultural site of land can be identified and delineated on the basis of its natural characteristics (Moran 2006a).

The concept has its origins as early as the Middle Ages. Then it was the Benedictine and Cistercian monks who had vast landholdings across the Burgundy region of France. Through their highly disciplined ways, they were able to observe and study the influences that various parcels of land had on the wine it produced. Over time these monks began to establish the boundaries of different parcels, or terroirs, leaving evidence that can be seen today in a complex pattern of vineyards established across the Cote d’Or (Halliday & Johnson 1992).

Today terroir has, in the words of Auckland Professor, Warren Moran (2006b), been established as, ‘... part of the lexicon in the language of wine’. Indeed it has now been widely adopted for other kinds of agricultural products, in order to distinguish the characteristics of a place, or territory that the Oxford Dictionaries Online (accessed January 2011) defines amongst other things, as ‘an area of knowledge, activity, or experience’.

**The traditional perspective**

Despite the concept having a past which extends over the centuries its meaning continues to remain highly ambiguous, with terroir being nominated as,’… the most amorphous concept in all winedom... ‘ (Halliday 2004) Some believe it to be an obsession of the French, with Johnson and Robinson in the benchmark publication, The world atlas of wine (2007) writing that,... many Anglo-Saxons long mistrusted it (terroir) as a Gallic fantasy: a conveniently mystical way of asserting the superiority of French soil and landscape and the unknowable peculiarities that give French wines special qualities'.

In order to provide some clarity to its meaning therefore, a starting point could be the Oxford Dictionary. It refers to terroir as the ‘… complete natural environment in which a particular wine is produced, including factors such as the soil, topography, and climate’, noting that it is a French word meaning ‘land’ from the mediaeval Latin territorium’ (Oxford Dictionaries Online 2011). This is amplified by the prominent writer on wine, Jancis Robinson, in her Oxford companion to wine with the belief that the ‘...essential notion of terroir is that all its components are natural and that they cannot be significantly influenced by management .The main emphasis in nearly all recent French writings is on the soil, and especially its role and interactions with other elements of the environment in governing water supply to the vine... regardless of variations in methods of viticulture and winemaking’ (Robinson 2006).

To the French, how the concept is perceived is typified by the definition presented by Bruno Prats, proprietor of the famed Chateau Cos d’Estournel in the Medoc. He writes that, ‘The very French notion of terroir looks at all the natural conditions which influence the biology and the vine stock and thus the composition of the grape
The terroir is the coming together of the climate, the soil and the landscape. It is the combination of an infinite number of factors…” (Prats 1992)

In Australia, despite a general reluctance to adopt the broad nuances of the concept, where it does gain acceptance the perspective is similar. It is, in the words of winemaker Michael Hill Smith a concept that ‘... tends to be more applicable to the physicality of the site rather than the more nebulous aspects of the production process’ (Hill Smith, M. 2009 pers. comm., 12 October).

Interestingly, and somewhat controversially, it is when human influence is introduced as another dimension of the concept, that terroir becomes confused. But despite this, it has been seen to be quite logical. Thus, ‘man is unquestionably part of the concept of terroir, if only because without the intervention of the viticulturist and the winemaker, there would be no expression of terroir at all’ (Schuster 2007).

This perspective seems to be widely acknowledged across a broad spectrum of the industry (see for example Graham 2006, Jackson & Lombard 1983, Swinchatt 2009, Swinchatt & Howell 2004, Van Leewen & Seguin 2006, Winiarski 2009).

Figure 2. Moran’s six facets of terroir (Moran 2006a)
Courtesy Warren Moran
The Moran typology

One framework, which integrates the influences of the physical environment and those of human activity has been presented by Warren Moran MA (NZ), PhD (Auck.), FRSNZ, Professor of Geography and Environmental Science at the University of Auckland. Drawing on the writings of Vadour (2002), Moran uses a Venn diagram as shown in Figure 2 to represent six facets of terroir (Moran 2006a pp. 13-33).

One facet is ‘agro terroir’. This refers to a vine’s biophysical dependencies on the soil and the atmosphere and often some coarsely defined variable of the natural environment such as its geological pattern, and the wine produced there. Such logic is, however, seen by Moran to be a weak form of explanation because the claimed-for relationships often omit the numerous practices in viticulture and winemaking that intervene in plant-environment interactions.

A second facet is ‘vini terroir’. This refers to interventions—typically vinification or assemblage—to control or overcome the disadvantages of the natural environment. An example is how champagne is made. This involves a traditional process known as Methode Champenoise. After primary fermentation and bottling, a second alcoholic fermentation occurs in the bottle. This latter stage is induced through the addition of yeast and sugar.

Another facet is ‘territorial terroir’. This is seen to be a well-defined wine production space, appropriated by a group of producers, and on which legal rules ensure, even guarantee, a product of quality. The history of control of strategically significant land in the Coonawarra region of Australia is an example, discussed later.

Then there is an ‘identity terroir’, where Moran distinguishes between land as an economic asset and place as a cultural experience. Identity terroir can be understood in many different forms according to people’s separate experiences of it, such as the way territory can capture past events ‘to create a sense of place’.

A fifth is ‘promotional terroir’ with wine labelling as its most obvious manifestation. For example, wine produced in the Barossa Valley under the Jacobs Creek label claims to be derived from amongst the oldest phylloxera free vines in the world.

Moran identifies a sixth dimension as ‘legal terroir’ where territory is delimited within a framework of national and international rule making. The Appellation laws of France and how they have permeated the statutes of the European Union and beyond is an example.

While Moran’s analysis provides a systematic basis for understanding the terroir concept, there remains considerable scope for determining how the concept can be perceived. For example, how do his dimensions of terroir interplay with each other within any one wine production area and what is their relative importance? Moreover, how can the extent to which a dimension might have influenced the character of a region’s terroir be determined with consistency?
The Moran typology applied to the Coonawarra

Consider, for example, the Coonawarra region in South Australia, which is located approximately 370 km southeast of Adelaide and 60 km from the coast of the Great Southern Ocean. Established as a winegrowing region in the early 1890s, the Coonawarra has developed into Australia’s most famous region for the production of premium quality red wine (Iland & Gago 1997). Here, all six of Moran’s dimensions can be discerned.

Identity
To begin, a cultural expression or in Moran’s terminology, ‘identity terroir’ (Moran 2006a pp. 24-25) of the region can be seen the moment the Coonawarra is entered. In this experience there is an abrupt change from an open gently undulating farming landscape into one dominated by dense plantings of grapevines broken only by occasional winemaking infrastructure and houses. There are two small townships in the region, that of Penola (pop. 1250) on the region’s southern periphery, and that of Coonawarra (pop. 300), approximately 20 km away to the north.

Agro
Undoubtedly, the standing of wine produced in the Coonawarra region is most often attributed to the distinctive properties of a small area of soil identified by the Department of Primary Industries and Regions SA as the Penola Land System. Of the entire region, which covers some 40,000 ha, this is confined to a flat to gently undulating and in some places slightly elevated area of land covering only 4821 ha. Representing approximately 12% of the region, it is formed as an elongated north-south ‘cigar’ or ‘strip’ shaped ridge some 27 km long and up to 2 km wide, possibly the remnant of an old reef (Limestone Grape and Wine Council 2011 for the rest of this section on Agro). The remaining landscape of the Coonawarra region extends over plains, imperceptibly lower than the ridge.

The soils of the cigar or strip are characterised by a topsoil layer of rich red brown clay loam generally varying in depth between 15 and 50 cm. Immediately below this is a shallow band of coarse textured porous calcreted calcarenite, which underlies much of the strip. This forms the very characteristic which gives rise to the distinctive red earth, or *terra rossa* soil for which the area is renowned. Further below is a soft limestone stratum that can be up to two metres in depth. A subterranean aquifer lies below. The distinguishing feature of these soils is that they are well drained and are highly saturated in calcium. Depending on their clay content, they have a moderate to high fertility status, probably attributable to some combination of a low water holding capacity providing opportunities for regulating soil moisture, excellent drainage and aeration, and high calcium status. Having these attributes, it is widely accepted that this strip represents the premium viticultural land of the region, a status clearly illustrated by the pattern of vineyards. Of the area planted to vines across the region (5851 ha) almost half (2783 ha or 47.6%) are concentrated in the area formed by the terra rossa. Clearly, this overwhelming concentration of vineyards corresponding with the characteristics of the soil, in particular the red earth, or terra rossa, could be said to be a good illustration of Moran’s dimension of agro terroir.
Vini
One of the most widely marketed attributes of the region is the purported suitability of the terra rossa for growing the grape variety, Cabernet Sauvignon. Across what is defined as the ‘Coonawarra Geographic Indicator’ (Coonawarra GI to be discussed later) a recent study in 2012 by the Limestone Grape and Wine Council has found that the total area planted with grape vines is 5872 ha and, of this, Cabernet Sauvignon covers some 3395 ha (approximately 60%). The next most common grape variety is Shiraz, which covers 1216 ha (20%) of the area. The overwhelming dominance of Cabernet Sauvignon is a reflection of the belief that the ‘agro terroir’ provides optimal conditions for the extraction of its widely celebrated fruit characteristics. Furthermore, it is this dominance that is reflected in much of the wine that is produced in the region. It is an example of Moran’s ‘vini terroir’.

Territorial
A ‘territorial terroir’ is also evident. Today, of the 130 producers (Coonawarra Vignerons Association 2009, pers. comm., 13 February) in the Coonawarra GI, the largest is the Wynns Coonawarra Estate, which is owned by one of Australia’s largest producers, Treasury Wine Estates. This company owns a total of approximately 1700 ha of land in the Coonawarra GI and almost half of this lies within the area of the famed terra rossa soil (Jenkins, A. 2009 pers. comm., 9 March; Rana, S. 2012 pers. comm., 25 January.) Ownership of the remaining area of terra rossa is fragmented amongst an unconfirmed number of around 25 producers (Coonawarra Vignerons Association 2009 pers. comm., 13 February). Thus, in this context it would be reasonable to suggest that Treasury Wine Estates exercises, or at the very least has the potential to exert a considerable influence on the dynamics of the region.

Promotional
The geographical characteristics of the Coonawarra region also represent a valuable ‘promotional terroir’. Indeed, the thrust of any marketing strategy for wine produced from grapevines grown on land located within the designated Coonawarra GI, typically employs its geographical origin as the distinguishing point of difference. This is well illustrated by the strategy pursued by Rymill Vineyards which is located on the prime terra rossa (Rymill Vineyards 2011). This places particular emphasis on the contribution the soil makes to the wine they produce. The strategies adopted by the largest landholder in the region, Wynns Coonawarra Estates are a further example (Wynns Coonawarra Estate 2011).

Legal
Finally, the spatial dimensions of the region have been delimited to meet national and international requirements. In the words of Moran, a legal terroir has been formed. This, however, was for many years the subject of much contention (Sharpe 2006). Its history began in the 1960s with an iteration based on the area of terra rossa, when the area planted to grapevines was around 200 ha. Over the next two decades, as the region grew in status, some producers became established beyond the area of terra rossa soil and claimed ‘rights’ to the name ‘Coonawarra’ (Rymill Vineyards 2011) thereby laying the foundations for an extended and complex debate on where the region’s boundaries should lie.

In the end a compromise was reached in January 2003 when the Bilateral Wine Agreement with the European Community on Intellectual Property Rights was established (discussed later). This required the adoption of measures to define the boundaries of what was to be the ‘Coonawarra Geographic Indicator’ along with the boundaries of all wine producing regions in Australia so they could be distinguished in an international context. Interestingly, by drawing up the boundaries of the Coonawarra Geographic Indicator it was determined that they should have an alignment based not so much on the biophysical characteristics of the region, but on the realities of the economic, political, legal and cultural forces that shape the region (Sharpe 2006). So when the extent of the Coonawarra was finally determined, it covered a significantly larger area than the 4800 ha expanse of terra rossa, stretching north some 25 km from Penola and west some 15 km from the South Australian border with Victoria, to cover an area of some 40,000 ha (Rymill Vineyards 2011).

Figure 3. The Coonawarra Wine Region. Courtesy Rymill Coonawarra
Thus far it seems reasonable to conclude that any number of the dimensions of the Moran typology can be identified in a wine region. Furthermore, the extent to which these dimensions are evident can change over time; and they can change in response to the dynamics of the market; and they can change as new methods of production develop. So how should one place the Coonawarra within the context of the Moran typology? Clearly many of the dimensions defined are evident, but it also illustrates Moran's belief that ‘no single diagram can depict the intricate interactions among the various conceptions of the word’ (Moran 2006a p.12).

The administrative context of terroir
Where the meaning of the concept has its greatest level of acceptance is in the extent to which it has been institutionalised in the administrative systems of France. In Australia, how the concept of terroir is perceived is a direct reflection of the relatively short period of time over which the industry has been established. Without the tradition so deeply established within the French industry, an enthusiasm to explore, grow and innovate across all facets of the industry has been allowed.

France
In France the concept of terroir is institutionalised, embodied in the system Appellation d’Origine Controllé (AOC), which translates as ‘controlled designation of origin’, and is implemented by a quasi-governmental body, the Institut National des Appellations d’Origin (INAO) (Robinson 2006). Although introduced in 1935, the system’s origins can be traced back many years earlier, thereby giving it significant status in the culture of wine production. The concept has evolved to assume a meaning centred on not just the influences of geography but also that of humans, contrary to the prevailing belief that it is solely a reflection of the former.

At the core of the AOC system is a process in which regions of wine are geographically delimited and classified on the basis of a simple hierarchy (Robinson 2006). Although the statutory responsibility for implementing this system lies with the INAO, the administrative responsibility is devolved to a complex network of regional syndicates comprising producers, merchants, and agents of INAO. Inevitably, this system has an operational complexity that results in widespread inconsistencies. For instance, while AOCs are essentially geographic, there is considerable variation in how they are defined. In Burgundy it is on a site-specific basis; in Bordeaux the focus is on a small group of communes; while in the Alsace and Champagne it is regional, each covering a substantial area.

Furthermore, intrinsic to the system are measures devised to control and regulate almost every facet of the process from producer to consumer (Gade 2004; Coleman 2008). Described by Jancis Robinson (2006) as highly invasive, these are measures conditioned by long-standing traditions where grape varieties, viticultural and vinification techniques, and wine styles have been identified and refined to match what is perceived to be the local terroir (Moran 2006a). The measures reflect not just the influences of geography but also ambiguous notions of how a particular wine has been produced and how it reflects the characteristics unique to that location.
Australia
For an industry less influenced by the long-standing traditions such as those prevailing in France, the meaning of the concept of terroir has evolved to have a greater focus on the measurable physical attributes of a locality rather than the more nebulous elements that condition the nature of wine. This meaning is reflected in an appellation system that is considerably less complex, restrictive and rigid across the spectrum of the industry (Aylward 2003).

In Australia, the regulatory system is thus set within a comparatively simpler frame. All areas of wine production are identified on a geographic basis with their statutory status established under the Wine Australia Corporation Act (WACA) 1980 (formerly the Australian Wine and Brandy Act, 1980). In essence, these areas are defined to form a simple hierarchy where there are super zones, zones, regions and sub-regions, which are entered into the Register of Protected Names by the Geographic Indications Committee (GIC), also constituted under the WACA 1980 (Halliday 2009). This enables Australia to fulfil international responsibilities such as the Bilateral Wine Agreement with the European Community on Trade-Related Aspects of Intellectual Property Rights, established in 2003.

In the context of this hierarchy, provisions in the WACA 1980 require that a particular wine must not be the same or similar to those used in the EU. And, if a wine is said to be from a single vintage, a single region and/or a single variety, 85% of the wine must be what it purports to be. In instances where more than one variety or region is specified, these must be listed in descending order of importance (Halliday 2009). A Label Integrity Program is then applied to ensure truth in labelling regarding vintage, variety, and Geographical Indication, and provide a mechanism for guaranteeing the origin of wine in Australia in compliance with international laws on trade (Wine Australia 2012).

Inherent in this regulatory environment when compared with that of France, is considerable potential for innovation and experimentation in all facets of wine production. Unfortunately, it has also allowed for the production of wine that has been reported to be of a consistent ‘house wine’ quality that often does not see significant vintage variation or reflect geographic origin. (Robinson 2009) The regulatory environment is also one which allows wines of an exemplary quality to be crafted through a regime involving high levels of human intervention and little or no attempt to reflect the intrinsic qualities of place. Of these, the exemplification is the iconic Penfolds Grange Hermitage. Unlike most expensive cult wines from the old world, which are from single vineyards, Grange is made from fruit harvested from several sites in different locations. So the precise composition of the wine is more than likely to change from year to year, depending on climate and other factors. In other words it could be said to be a wine that fails to embrace of the principles of terroir.

Interestingly, therefore, it is the expertise of the winemaking and branding, rather than the qualities of the specific place where the grapes are grown that dominate. With specific reference to Penfolds Grange Hermitage, Brian Croser, a leading figure
in the Australian wine world, has said the wine is ‘a flawed champion. In other words, Grange is a great wine, but it has little ‘sense of place’—it could come from anywhere... If our best wines don’t come from anywhere, then they can be made and grown anywhere—they can be replaced’ (Croser 2007).

The growth of the Australian wine industry
In the thread of original research for this paper a program of interviews was conducted with some 25 key players active in different parts of the industry. The overwhelming finding was that there is a common belief that biophysical influences are central to the meaning of terroir, a belief very much in keeping with that of Halliday and Johnson (1992) with only a few respondents arguing the concept embraces human influences, such as those identified in the work of Moran (2006a). Even when pressed, respondents were unable to identify little more than only a vague sense of the contribution made by terroir on the nature of wine. It was typically seen to be a concept difficult to measure and little more than a crude catchall phrase to distinguish basic biophysical differences from one growing area to another.

In looking for an explanation for why this interpretation of terroir prevails across the industry much can be attributed to the rapidity with which the industry has grown. Coupled with this, the industry has grown without the traditions and level of regulatory intervention seen in France, with a widespread determination to innovate (Aylward 2003). Evidence of this can be seen with the expansion in the area planted with grapevines in Australia over the past two decades. In 1990 they covered 56,000 ha. By 2000 the area had grown to 138,000 ha, an increase of 146% on the previous decade. Over the following decade to 2010, however, the area under grapes grew to 156,000 ha, a total increase of only 13% (Winebiz 2011) despite a dispersal of viticulture to southern Queensland, Tasmania, and Western Australia.

The growth of the industry can also be seen with the increased number of producers. This effectively doubled each decade, from 620 in 1990, to 1197 in 2000 and to 2477 in 2011 (Winebiz 2011). The wine industry has also been characterised by the emergence of a market model that has been described as an ‘imperfect monopolistic competitive one’ (Reynolds 2011). In other words the industry has become highly corporatised, where only a few dominate. In 2011 of the current number of producers in Australia, only two producers, that of Accolade Wines and Treasury Wine Estates, accounted for 38% of all the wine produced. Equally significant, the top five wine companies accounted for 51% of the national crush while the top twenty companies accounted for around 76%. In terms of wine sales, Treasury Wine Estates and Accolade Wines accounted for 45% of the national total, while the top twenty companies accounted for around 90% of total sales. The remaining 2457 producers competed for only 10% of all the sales (Winebiz 2011).

The hallmark of this structural change has been substantial levels of investment in all facets of the industry, much of which has been in widespread innovation in viticulture and wine processing technology. The extent of this has been a widespread embrace of industrial wine production methods, thereby giving the capacity to develop and produce a consistent and wide choice of competitively priced wine. For
the large and mid-sized producers, there is the strength to pursue and adopt this technology more effectively and so develop a production regime that enables them to establish wines with a strong market presence.

To understand where this wine is targeted, recent data obtained by Nielson Australia indicates that approximately 80% of demand in 2011 was accounted for by the lower end quality segments, taken as sub $15 per bottle (Wine Australia 2012 pers comm., 16 December; Nielson Australia 2011; Reynolds 2011; Odgers 2011). In other words, the greatest proportion of wine sold is made to a recipe and in large volumes. This rises in quality from cask wine to include popular concept brands owned by the largest producers. The significance of this cannot be underestimated, for the industry generates a $2.8 billion domestic market in which Australians consume over 530 million litres annually, with a per capita consumption of about 30 litres (Australian Bureau of Statistics 2012).

As a result, this large market segment has become highly competitive, generating a dramatic growth in the need for promotional strategies that seek to achieve a unique market identity. These are most often based on arguable notions of the concept of terroir. An example is that of Treasury Wine Estates, with its range of wines from the Wynns Coonawarra Estate. In its Annual Report these are said to be ‘...lauded for their consistent quality and depth of flavour’ (Treasury Wine Estates 2011), despite the claim by the Global Wine Ambassador of Southcorp that winemakers ‘are given a free hand’, in order to reflect the intrinsic characteristics of a site (Sabios, P. 2007 pers. comm., 7 December).

Of this, wine critic Jancis Robinson (1999) has commented that the overall impact of this structural change towards the production of lower end quality segments has been an erosion of the diversity and sense of place that is wine’s most distinctive selling point. In the end, while Australia now produces most of the mainstream international wine styles, this has come at the expense of its reputation as a producer of high quality wines, those that reflect distinctive origins and winemaking crafts. Robinson blames this shift on ‘the overproduction and increasing exportation of ‘cheap wine’ sold primarily through supermarket chains’ (Robinson 2009). This can be seen as the loss of an ability to project a unique identity, or what could be perceived as its terroir.

In the face of this dominance, however, has been a maturing of the market, with increasing numbers of better-informed consumers. This is leading to a growing but what is at present a comparatively small sector of producers whose wines are derived from specialised and innovative winemaking techniques. They are wines of predominantly premium quality most often deriving their status from a greater capacity to reflect what is thought to be the terroir of the locality. Of these, Clark and Spurrier write in their Fine wine guide that recently there has been a definite consumer shift towards finer wines where, ‘technical innovation has gone hand-in-hand with superior winemaking techniques, producing unique wines which can challenge some of the great classics of the Old World. Where Penfolds Grange Hermitage was once the only Australian wine sought by collectors, today there is a galaxy of stars (Clark & Spurrier 2001).
So where does the concept of terroir sit in the context of today’s wine industry? Given the age of the industry, especially over the past 40 years, it follows that the concept is a recent entrant into industry discourses. It is thought to have a detectable meaning, one that reflects the physical conditions of a particular location or region, which, in turn, means it is a tool easily mobilised for promotional purposes. This is a significant contrast with the way in which it has and continues to be interpreted in France.

Towards a new perspective
Recent work in geography draws attention to the problematic categories of ‘nature’ and ‘the human’ (Whatmore 2002). Yet terroir as a concept relies on these categories as bookends to a continuum. At one end are wines held up as a product of nature, while at the other end, are wines heavily conditioned by technology and the influences of evolving practice. In the middle are wines that reflect production regimes that are influenced by a range of possibilities about difference and quality.

*Figure 4. Rymill Winery wine label. Courtesy Rymill Winery*
Where the primary focus of a winemaker is on the ‘natural’ environment of the vine, terroir is seen to come from minimal manipulative techniques. At the leading edge of this perspective is the movement towards the application of principles embodied in biodynamic and organic wine production. Of these, the former is an approach to viticulture that embodies the ideal of ever increasing ecological self-sufficiency, just as with modern agro ecology, but including ethical spiritual considerations. This type of viticulture views the farm as a cohesive, interconnected living system (Joly 1999, Joly 2007; Carlei, S., 2007 pers. comm., January).

There can be little doubt that biodynamic wine production is an extreme approach, and the subject of much debate. Indeed for one Master of Wine (a qualification issued by The Institute of Masters of Wine in the United Kingdom generally regarded in the wine industry as one of the highest standards of professional knowledge) it is seen to be nothing more than ‘... a farrago of nonsense’ (Lewin 2012). Despite this there are producers who adopt biodynamic principles that can in fact produce some excellent wines. Indeed, there is the often considered ‘... scarcest, most expensive—and frequently the best—wine in the world’, the Domaine de la Romanée-Conti in the Cote d’Or region of France (Coates 1997). In Australia there are such high-end producers as Henschke in the Barossa Valley and Cullen in the Margaret River, with Vanya Cullen of the latter saying that ‘biodynamic grapes are a great expression of terroir and sense of terroir’ (Cullen, V. 2009 pers. comm., 6 December).

With organic wine production, when compared with biodynamic wine production, the approach is less strict. Typically this excludes the use of artificial chemical fertilisers, pesticides, fungicides and herbicides, without the adoption of the principles on which biodynamic production is based. In Australia, it has been reported by Wine Australia that in 2011 there are about 140 producers of biodynamic and organic wine to certified standards, representing around 5.7% of the nation’s producers (Winebiz 2012). This increased from 69 producers, which represented 3.6% of the total number counted in 2005 (Winebiz 2012), occurring at a time when the wine industry was facing one of the largest surpluses in history (Biodynamic Famers Association 2010).

At the opposing end of the nature-technology continuum, where wine is produced under a regime dominated by technology, the concept of terroir is thought to involve ‘... ambiguous notions, which have to be given precise and objective meaning to be scientifically valid’ (Moran 2006a p. 21). Here terroir captures a vast area of knowledge that in practice is interpreted with only a narrow focus. The overall objective of technology- or industrial-oriented wine production is to manipulate a complex and diverse range of variables to produce consistent wines year-to-year. Wines produced in this way are designed to overcome natural irregularities and push aside the influence of a particular production location. Such wines, therefore, lack typicity, or the identity of what a particular location can give to the character of wine (Moran 2006).

Of this trend Andrew Jefford, editor of Decanter magazine, comments that ‘many Australian winemakers have been busy, over the past quarter century, erasing the sense of place from their wine...’ (Jefford 1999 p. 23). Nowhere is the pursuit of
these practices more evident than with the wines produced by Australia’s largest family-owned operation, Casella Wines, under the ‘Yellow Tail’ brand, as an example. For these, fruit is drawn from 33 winegrowing regions and processed in a winery located near Griffith in New South Wales. This produces some 12 million cases each year. Its target is unashamedly towards the lower end of the export market, particularly the United States and the United Kingdom (Casella wines 2012). Even with a substantial number of wines targeted for the higher echelons of the market, a range of human interventions often forms part of the production regime in order to secure a consistent quality and quantity. Increasingly, through the spread of the large wine companies, there is a determination to strengthen market share through the development of homogenised ‘world wines’ (Robinson 1999).

For those wines in the middle of the continuum, terroir is seen as a concept which captures a wide set of opportunities and influences, resulting in wine with greater complexity. Here, then, the concept of terroir becomes not just influences from a particular location, but also those imparted by an array of viticultural, mechanical and chemical interventions. In the middle, too, the concept also enrols what might be seen as more subjective aspects of viticulture and winemaking including local influences such as history, tradition and vineyard ownership and other similar factors, rather than simply those derived from the geography of a site. Pragmatically though, while these influences are seen as important to many aspects of wine quality, on their own they are incapable of creating anything truly unique. The continuum view thus urges a holistic perspective of the terroir concept.

**Conclusion**

Terroir is capable of being a simple concept. Instead of attempting to derive an agreed-on definition from the multiplicity of interpretations, the concept can be understood using the continuum described above. That is not to say one approach has greater relevance than the other or provides a practical way of understanding what it means, it is suggested that the two extremes of the continuum – nature and technology – are bookend constructions, with the several dimensions presented by Moran dependent on them and lying somewhere between them.

Such is the span of the continuum that any number of dimensions of terroir can be brought into the ambit of its meaning. Indeed it provides a useful context in which to suggest that if Australia’s wine industry continues to pursue the path of production that currently dominates, where terroir is a characteristic unknown, its reputation as a producer of premium quality wine will be greatly compromised. Instead, its future is thought to lie in the pursuit of a more holistic interpretation of the concept, where the aim is to carefully balance the opposing forces of nature and human, one that results in a product which in the words of Vanya Cullen ‘... makes an individual story which connects the wine to the land’ (Cullen, V. 2009 pers. comm., 6 December).

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References


Casella Wines, accessed online 20 March 2012 <www.casellawines.com/home>


Coleman, T 2008, *Wine politics, how governments, environmentalists, the mobsters and critics influence the wines we drink*, University of California, Berkeley. p. 123.


Joly, N 1999 Wine from sky to earth, growing and appreciating biodynamic wine, Acres USA, Austin, Texas.

Joly, N 2007 What is biodynamic wine? The quality, the taste, the terroir, Claireview, Sussex UK.


Moran, W 2006a Crafting terroir: people in cool climates, soils, and markets, Sixth International Cool Climate Symposium for Viticulture and Oenology, 5-10 February, Christchurch, New Zealand.


Nielsen Australia 2011 Wine Australia


Oxford dictionaries online accessed online January 2011 <www.oxforddictionaries.com>


Robinson, J 2009 How Australia went down under, Financial Times; London, 4 April.


Swinchatt, J 2009 The involution of terroir: the Willamette Valley, Oregon, USA, accessed online <www.earthvisioninc.com/article>


Wilson, J 1998 Terroir: the role of geology, climate and culture in the making of fine wine, Michael Beasley, London.

Wine Australia, 2000 Directions to 2025; an industry strategy for sustainable success, accessed online 12 December <www.wineaustralia.com/australia>


