

1. Introduction*

Kym Anderson

Why does the wine industry attract so much attention? After all, it accounts for just 0.4 per cent of global household consumption, and vines cover only 0.5 per cent of the world's cropland (of which barely one-third produce wine grapes). Moreover, globally it is not a growth industry in that world wine production has been declining slightly over the past two decades. But to millions of investors and hundreds of millions of consumers, this industry provides a far more fascinating product than its shares of GDP or global expenditure might suggest. More than that, it provides an intriguing case study of globalization at work: since the late 1980s the share of wine production that is traded internationally has nearly doubled, there has been a surge of foreign investment and mergers and takeovers in the industry, and the phenomenon of 'flying winemakers' has emerged as viticulturalists and oenologists seek to widen their experience, particularly by changing hemispheres in their off-season.

Wine's globalization has brought major economic gains to participants in the expanding countries, but pain to many traditional producers. In the past 30 years, wine producers in France, Italy, Portugal and Spain have watched per capita consumption halve in their domestic markets, so they have received low prices despite having reduced their combined grapevine area from 5 million hectares in the late 1960s to 4 million in the late 1980s and to barely 3 million today. For those growers it adds insult to injury to see wines from New World upstarts suddenly invading the export markets they have used to soak up their surplus wine. Meanwhile, for Eastern European producers that New World onslaught has come just as they have had to adjust to the transition from communism.

Those less able or willing to adjust are understandably upset by the emergence of New World exporters. For example, Maurice Large, a winemaker and President of the Union Interprofessionnelle des Vins du Beaujolais, has likened Australian wine to Coca-Cola and called the consumers who purchase it 'philistines'. And a report commissioned by the French Ministry of Agriculture in 2001 concluded 'Until recent years wine was with us, we were the centre, the unavoidable reference point. Today, the barbarians are at our gates: Australia, New Zealand, the USA, Chile, Argentina, South Africa.'

Kym Anderson, David Norman and Glyn Wittwer, 9781645420765

Downloaded from Elgar Online at 09/20/2019 06:02:47AM

via free access

Even winemakers in the USA are beginning to worry. In the late 1980s, less than 4 per cent of wine imports to the USA came from the southern hemisphere. Today that figure is around 30 per cent, more than half of which is from Australia alone (which surpassed France in the volume of sales in the USA in 2002). Those (former) dotcom millionaires who bought Napa Valley land for more than \$100 000 per acre in the late 1990s to establish vanity vineyards now wonder if they will ever see a return on their investment, as the price of grapes and wines from there and Sonoma County began falling in 2002.¹ The change has been even more dramatic in California's warmer central valley. There the price of bulk varietal wines fell to as little as 50 cents per litre on the wholesale market in 2002. That stimulated the development of a new label by Charles Shaw known as 'Two-buck Chuck' because he retailed it at \$1.99 a bottle in California (and \$2.99 in other states). In the first few months of 2003 it is reputed to have captured 20 per cent of the Californian market, eating into the market for Mondavi's popular Woodridge table wine label whose sales in that state fell by one-quarter. Even if Californian grape prices recover, such labels may well continue to thrive if they are able to import bulk wine from Chile and Argentina at less than 50 cents per litre.

Traditional consumers of premium wines are concerned too. They worry that what for centuries has been characterized as largely a cottage industry – with colourful, passionate personalities and a wide variety of wines that differ across regions from year to year because of the vagaries of weather or the vigneron's experimentation – will soon be difficult to distinguish from any other globalized industry. With this fear come similar concerns for ancillary industries such as wine tourism, since boutique wineries are the lifeblood of such tourism.

This is an industry whose consumption mix has also changed dramatically, with commercial premium bottled wine sales growing rapidly while jug wine sales have plummeted and super-premium wine sales have been rather static. And it is that change in demand patterns that has driven the changes in the fortunes of Old World versus New World producers.

Will the New World really send wine the way of colas and hamburgers? Will a small number of large winemaking firms dominate the global market by churning out ever-larger volumes of standardized products under their own brand or that of large supermarkets and discount chains? If so, will that drive small producers and boutique wine retailers out of business?

What first triggered the growth in export demand for New World wine was a change in British liquor licensing laws in the 1970s allowing supermarkets to retail wine to baby boomers. The new upwardly mobile middle class that arose from Margaret Thatcher's economic reforms was eager to experiment with products like wine that had hitherto been the preserve of the upper class. By the mid-1980s, supermarkets dominated by Sainsbury's, Marks and

Spencer, Waitrose and Tesco – accounted for more than half of all retail wine sales in the UK, and were supplying wines with their own brand alongside (sometimes identical) winery-branded bottles. (Wal-mart in early 2003 began offering its own brand in the USA too, using Gallo wine, and now the German chain, Aldi, is seeking liquor licences for some of its 600+ stores in the USA.)

Given Australia's close historical ties with Britain, it is not surprising that Australian companies recognized and responded to this new market opportunity first. The timing of the initial export surge was helped by a significant devaluation of the Australian dollar in the mid-1980s. Rampant food-safety scares helped accelerate the swing away from Old World wines. Austrian wines, for example, were banned in the USA in 1985 when Austrian wine-makers used diethylene glycol, a deadly chemical found in antifreeze, as an artificial sweetener. Chernobyl caused further scares in April 1986. And when it was discovered in 1986 that methanol had been used in Italian wines to raise their alcohol content, exports of Italian wine plummeted 38 per cent in one year.

Australian success in the UK market, where per capita wine consumption has doubled each decade since 1960 to 16 litres per capita compared with just 3 litres a generation earlier, is now legendary. So dominant was the New World expansion that during the 1990s only one-quarter of the UK's increase in wine imports came from Europe. The trebling of wine consumption from the early 1990s in the booming economy of Ireland likewise has mostly been fuelled by New World suppliers.

Competition from other New World producers was slow in coming. South Africa initially posed little threat because of over-regulation domestically and anti-apartheid sentiment abroad. Argentina and Chile, because their domestic and trade policies discriminated against exportable agricultural products, were also slow to penetrate the British market. Nor did the USA emerge as rapidly as Australia. Its viticultural land was more expensive and its currency stronger. In any case, the US domestic market was growing faster than domestic supply. This consumer trend was accelerated in the USA (and in Asia) following a 1991 report by CBS television's investigative programme *60 Minutes* on the so-called 'French paradox' – the apparent health benefits of (especially red) wine consumption in moderation. Having accounted for only 8 per cent of US alcohol consumption in the 1960s and 12 per cent in the early 1990s, wine's share had climbed to 16 per cent by 2001 (8 litres per capita, still only half the UK consumption level and so offering great potential for continuing growth, particularly in the under-\$10 per bottle range where most young wine drinkers begin to experiment).

Despite the growth in US and UK demand, European suppliers failed to respond due to myriad regulations such as restrictions on which grape varieties can be used in each appellation, on maximum yields and alcohol content, and

on vine density and vine training systems. In addition, producers were insulated from market forces by price supports in Western Europe and (until recently) socialist planning in Eastern Europe.

To exploit the rapidly growing markets requires large volumes of consistent, low-priced, easily approachable (fruity) premium wine, and mass marketing. The large wine companies in Australia had the capacity to supply both. And the export growth prospects – highlighted in a highly publicized 1996 vision statement called *Strategy 2025*, released by the Winemakers' Federation of Australia – stimulated a boom in new plantings that has doubled the acreage since the mid-1990s. These developments, together with low Australian domestic prices for red grapes in the mid-1980s (due to a local fashion swing to whites), increased substantially the incentive for wine companies to consolidate to reap the economies of scale necessary to invest in developing mass markets abroad. A number of mergers and acquisitions followed, including Pernod Ricard's 1989 purchase of Orlando Wyndham Wines, creating the Jacob's Creek label. Jacob's Creek's production has trebled since 1995, with sales growing at double-digit rates. In 2003 Orlando Wyndham sold more than 220 000 bottles of wine worldwide under the Jacob's Creek label every day.

For some, the result of greater competition from the New World is devastating. In Italy a 15 per cent fall in domestic wine sales in 2001 left an excess stock of 37 million litres that was much harder to dispose of internationally than it would have been in the past. Producers in Beaujolais also found they had 10 million litres of unsaleable wine from the 2001 vintage, and had to turn it into vinegar. That same vintage saw the selling price of ordinary wine grapes fall by as much as 30 to 40 per cent in southern France, prompting violent protests there in early 2002. Nor are the French and Italians alone in their frustration. Producers in Central and Eastern Europe, despite market reforms, have watched their wine export sales grow no faster than Western Europe's over the 1990–2001 period (4 per cent per year, compared with 20 per cent for the New World).

To make matters worse for small European producers, both Old World and New World wine companies are internationalizing their production and distribution. Wineries are forming alliances with foreign companies to reap economies of scale and scope, including through vertical integration with distributors. Western European firms are investing in Eastern Europe, South America, Australia, New Zealand and China (see the Annex to Chapter 3). US firms are investing in France, Italy and South America. And Australian firms are investing in North America and Europe. For example, Australia's Mildara Blass (part of the Foster's brewing company) in 2001 acquired the Californian firm Beringer to become Beringer Blass, which also has vineyards in Tuscany and Chianti, while BRL Hardy had a major winery (*Domaine de la Baume*) in

the south of France, has a big joint venture in Sicily, signed in mid-2002 a distribution agreement with Dragon Seal in China – and then in 2003 it integrated with the US giant Constellation to form the world's largest wine company.

One might consider wine to be not very highly traded across national borders, since only one-quarter of global wine production was exported in 2001 in volume terms. But that compares with just 15 per cent in 1990 and less than 10 per cent in the 1960s. More significantly, in value terms the share of global wine production exported is around 40 per cent (since most of the low-quality wines are sold domestically).

Moreover, the pace of wine's globalization shows no signs of abating. With supermarketing of wine becoming more and more common, and concentration of ownership of supermarkets also increasing, the competitiveness of firms able profitably to supply large shipments to such markets is only going to strengthen relative to that of the smaller wineries. The supermarket chains' increasing domination of retailing is not only altering the sharing of profits along the supply chain, but is also starting to alter where firms sell. In Australia, for example, where the two main supermarket chains (Coles and Woolworths) have raised their share of domestic wine sales to more than 40 per cent, wineries have begun to look even more to export markets because their margins are being trimmed so much on the home market. But, because Southcorp was heavily discounting on the UK market during 2002, that market also became less lucrative, so Australian wineries focused more on other markets. With the low AUD/US\$ exchange rate at the time, the most obvious market was the USA, where Australia managed to expand its wine sales by a massive 53 per cent by volume and 64 per cent in value in 2002.

Chile and South Africa are similarly becoming more nimble in accessing foreign markets. Both are emulating Australia in upgrading the quality and export marketing of their product range, and both are seeking to over-deliver in terms of value for money in key markets. For example, according to AC Nielsen data as reported by Wines of South Africa, during 2002–2003 that country raised its retail wine sales value in the UK by one-quarter, increasing its value share to 9.5 per cent compared with 8.1 per cent the previous year. Its value share now almost matches its volume share of 9.9 per cent in that market. Its performance in the Netherlands is even more impressive: the value share in 2002–2003 was 16.1 per cent (up from 14.4 per cent a year earlier), ahead of its volume share of 14.7 per cent (up from 12.7 per cent in 2001–2002).

In the face of declining demand in European markets and increasing market pressure from the New World, Old World producers are looking for prospective markets elsewhere. So too will New World producers as their exportable volumes grow. The Middle East has the affluence but not the inclination to

drink wine, thanks to Mohammed's decree against alcohol. Most Africans and South Asians are still too poor to provide mass markets any time soon. But do rapidly rising incomes elsewhere in Asia offer prospects? Sceptics question whether wine goes with Asian food, yet élites in China and India have consumed wine from grapes for centuries. China produced, consumed and traded wine with Persia as early as the first century BC, and Marco Polo noted that excellent wines were produced in China's Shansi province for exporting all over Cathay. The Mogul empire in sixteenth-century India, meanwhile, was supplied with wine from the High Indus Valley and Afghanistan. Can that interest of the élites be a springboard for converting the middle classes in Asia to this European product?

As incomes rise, and with them access to refrigeration, a gradual expansion in wine promotion into food-revering Asia could well yield a high long-term payoff. Recent efforts by wine marketers in Japan and Southeast Asia to match food with wine have been highly successful, with both Old and New World suppliers hosting promotional tastings and the like. And a speech by Chinese Premier Li Peng in 1997 affirming the health virtues of red wine helped consumption sky-rocket in cities on China's eastern seaboard. In Asia as a whole, wine sales have more than doubled over the past ten years, with Japan and China responsible for 80 per cent of this growth.

Sales growth in Asia will accelerate further if/when wine import and consumption taxes on wine are lowered. Indeed, that is already beginning to happen. Following China's recent accession to the WTO (World Trade Organization), its import tariffs are scheduled to come down from 65 to 14 per cent by 2004, during which time the regulation of its distribution and retail channels is to be eased. And India succumbed in March 2003 to pressure from the EU to lower its wine import tariff, albeit only from 200 to 166 per cent.

Meanwhile well-targeted information and promotion efforts will alter sales patterns over time, especially while per capita consumption is still low (still below 3 litres per year in Japan and less than half a litre on average in Asia's developing countries, or less than 3 per cent of total alcohol consumption in the region). It may even lead eventually to Chinese élite consumers refraining from the practice of diluting ultra-premium wines with soft drinks such as 7-Up to make the beverage sweeter!

But who will supply this emerging market? Unfortunately for exporters elsewhere, the chances are that China will remain close to self-sufficient, since its vineyard area and winery capacity have grown in parallel with domestic consumption demands in recent years. Scope remains for joint ventures, however. Currently there are more than 20 such activities in China. Of the imports that do get in, all but one-fifth of the volume has come from France in recent years (even though France supplies only one-quarter of global exports and is further away than Australia or California). It may be that French wines

are preferred initially for snobbery reasons, but as the market attracts new consumers they are more likely to be seduced by the up-front, fruit-driven (and lower-priced) wines of the New World – although that might be imported not so much in branded bottles as in bulk for blending with Chinese wine for local labels.

In Japan, the high price of cropland means that imports will continue to dominate. But most imports come in as bulk wines for blending with local wines that are then sold as ‘Product of Japan’. This practice is possible only because of arcane labelling laws that allow such a claim even if only a small fraction is derived from domestically produced grapes. The main beneficiary of that regulation is the domestic producer whose poor-value-for-money product may be otherwise unsaleable as a stand-alone product. As for unblended imported wine, France has held a 40–45 per cent share for more than a decade, while Germany’s share has shrunk from a quarter to a tenth. This latter fact is mainly because of Italy’s success in expanding its sales in restaurants there, but also because Australia and Chile have made efforts to break into this market.

If regulatory quirks have been used to bolster local producers in Japan, they have been employed even more heavily in Europe, ostensibly to preserve a cultural heritage. After successfully securing protection for geographical indication (GI) terms such as champagne (France), sherry (Spain), and port (Portugal), the EU is also proposing to introduce a new regulation in late 2003 that demands recognition for so-called ‘traditional expressions’. Despite their everyday use in all English-speaking countries, France wants terms such as tawny, ruby, vintage, classic and cream to be usable only on EU wine labels for wines sold in the EU. Since these measures could provide another technical barrier to imports of wine from the New World (adding to the sea of paperwork currently required before wine is imported into some EU countries), New World countries have taken the matter up in the current WTO trade negotiations. Meanwhile, the USA has put forward the Stealth Bill by way of retaliation. That bill, if implemented as proposed by end-2003, would require all countries not signatories to a Mutual Acceptance Agreement with the USA (the New World wine producer/exporters are signatories but the EU is not) to be subject to similarly onerous paperwork requirements when exporting to the USA.

Other recent threats to New World wine exports to the Old World have included calls for the former to be labelled ‘industrial wine’ because of the use of modern R&D-inspired production techniques, and more specifically to indicate if oak chips were used in its production (in lieu of the more expensive practice of leaving it in oak barrels). Still another threat is the request in July 2003 from the Chianti Classico Consortium’s Director, Guiseppe Liberatore, for the European Union to investigate claims that Australian wine is being

‘dumped’ in Germany at below its cost of production by a cartel of Australia’s 20 largest wineries. Incredible though such claims are, they are none the less symptomatic of the threat the New World is perceived to be to the interests of Old World producers.²

Recent subsidies to wine producers in EU countries to help upgrade their wine industry are worth more than 400 million euros per year. If such subsidies encouraged structural adjustment toward producing and marketing what consumers want, and if France follows Spain in allowing blending of wine grapes from across the country,³ then the Old World might gradually claw back some of its lost market share.

So far, the increasing globalization of the wine trade has not resulted in homogenization of wine. After all, firm concentration within the global wine market started from a very low base, at least compared with other beverage industries. The world market share of the three largest wine firms in the late 1990s was just 6 per cent, compared with 35 per cent for beer, 42 per cent for spirits, and 78 per cent for soft drinks. This decentralization alone suggests that wine is a very long way away from being homogenized – despite significant wine industry concentration within some New World countries. True, New Zealand’s largest wine company – Montana – is responsible for producing more than two-thirds of that country’s wine. But its volume is still small, and concentration is lower in other New World countries, where the share of national wine production held by the five biggest producers is around three-quarters in the USA and Australia and just half in both Chile and Argentina. In Europe it is of course far lower, even where large cooperatives operate.

While French and other Old World winemakers are right in claiming that the New World’s low-end commercial wines sold in supermarkets are not very sophisticated, they ignore two key points. First, New World commercial premium wines are certainly more in demand than the low-end wines produced by myriad cooperatives in southern Europe. Hence, they will continue to take market share from the Old World in the bottom segments of the market. And second, Old World producers need to be aware that an increasing range of sophisticated wines is being produced in the New World. While volumes are not yet sufficient to take over the Old World’s shelf space in the fine wine outlets of Europe, North America and Japan, by 2010 top-end New World wines may well overtake Old World rivals in some of the upper segments of the market.

With increasing affluence comes an increasing demand for many things, including product variety, the spice of life. Certainly, homogeneous wines like those produced under the Jacob’s Creek label – which retail for about \$5 in the USA and leave South Australian shores in whole container shiploads at a time – are wonderfully easy to mass-market to newcomers to wine. Over time, however, many of those new wine consumers will look for superior and more

varied wines. Consumers will begin to differentiate between grape varieties, and between not just countries of origin, but regions within them. With the help of wine critics such as Hugh Johnson in the UK and Robert Parker in the USA, the 'philistine' consumers will increasingly discriminate between brands and labels within brands, reinforced by travel to their favourite wine regions. The preference for differentiated products, and the infinite scope for experimentation by vignerons, will continue to ensure that there will always be small- and medium-sized brands (like California's Ridge Wines and Australia's Petaluma) alongside the few large corporate labels such as Gallo, Mondavi and Orlando (the producer of Jacob's Creek).

The forces of globalization, together with the expansion in premium wine grape supplies as growers upgrade, may lead to more mergers, acquisitions, or alliances among wineries across national borders. This will be further encouraged by recent bilateral trade agreements, such as the EU providing South Africa with duty-free access for 42 million litres of wine per year and the USA phasing down its 12.5 per cent MFN (most favoured nation) import duty to zero over the next decade for Chile. But since the two largest wine firms (Constellation and Gallo) together account for less than 5 per cent of global wine sales (in contrast to the two largest soft drink manufacturers, Coke and Pepsi, which account for about 80 per cent of global sales), the world is a long way from having a cola-type homogeneity in wine markets.

Furthermore, the success of corporate wine labels in the global marketplace is likely to provide a slipstream in which astute smaller operators can also thrive. There are plenty of examples of New World wines from small wineries fetching fantastic prices after receiving high tasting ratings from Robert Parker, including Screaming Eagle from California and Duck's Muck from Australia's Barossa Valley. One of the two best-known icon red wines in Australia (Henschke's Hill of Grace) is from a small family winery in the Adelaide Hills that crushes well under 1000 tons per year.

The popularity of such small wineries in the ultra-premium and icon price brackets does not mean that the concerns of producers like Maurice Large in Beaujolais are overblown. On the contrary, the New World's strength is in the commercial premium range (\$6–\$10) and, increasingly, just above that price bracket.⁴ This means that to do well in the age of supermarketing and consolidated winemaking giants, small and medium enterprises must work ever harder on marketing and distribution to ensure that their differentiated product is in demand. Possessing generations of traditional knowledge and being good at grapegrowing and winemaking are necessary and admirable, but not sufficient for survival in the new international wine marketplace. Mastering the formation of alliances with quality marketers and distributors is also essential, as is searching out and developing new markets in such places as East Asia.

Who will get all those ingredients right? At a 2001 conference in Italy,

Hym Anderson, David Norman and Ghj Wittwer, 9781845420765

Downloaded from Elgar Online at 09/20/2019 06:02:47AM

via free access

Australian wine critic James Halliday was asked: What country will dominate the world's wine markets in 2100? Leaving aside the fact that, in a world of multinational corporations, the more pertinent question might be which *firms* will dominate, Halliday answered that Australia could well be in a similar position then to that of France today. Given that Australia has been exporting wine in commercial quantities for barely a century, his answer is consistent with Madame Rothschild's oft-quoted claim that winemaking is easy once you learn how; it is just the first 200 years that are difficult.

MOTIVATION FOR AND OUTLINE OF THE BOOK

What the above recent history makes clear is that the wine industry's fortunes can change very quickly, and can be simultaneously lucrative in some parts of the world while depressing in others.⁵ If producers (and governments!) are to respond appropriately rather than over-react to each swing in the market, they need more accurate information on and analyses of market prospects that are well informed by not just current trends but also past experience – including recognition of the fact that so many past government interventions have exacerbated rather than reduced the adjustment problem. And with the ongoing globalization of wine markets, such assessments need a perspective that is not only historical but also global rather than just regional or national.

It is with those thoughts in mind that the authors have contributed the remaining chapters of this book. The next chapter provides a more detailed global overview of recent developments and offers some projections for the medium term using a new economic model of the world's wine markets. This is followed by six chapters on Western Europe, one on Eastern Europe's transition economies, five on New World countries, and a final one on East Asia's emerging markets.

In terms of becoming more export-oriented, it was found that the motivations of the Old World's four key exporting countries were very different from those in the New World. In the former, where wine is a declining industry, they were driven by the need to get rid of surplus production of low-quality wine induced by price-support policies of their Common Agricultural Policy in an environment where domestic demand was shrinking. In the New World countries, by contrast, wine production and export growth are the result of conscious business strategies aimed at exploiting new comparative advantages in commercial premium wine that resulted from the growth of wine super-marketing and the like.

Notwithstanding that generalization, there are many wine market differences between countries within the Old World, and also within the New World. There are rapidly emerging consumer markets within Europe (the UK, Ireland,

and the Nordic and Low Countries) but also in the New World (the USA and Canada); and there is a major country in the New World – Argentina – whose wine market evolution has looked more like that in southern Europe over recent decades but has the potential to become another wine export growth success in the years ahead. Diversity is what characterizes the world's wine markets more than anything else. But what the following chapters also reveal is that producers in all countries are becoming ever-more affected by the forces of globalization.

NOTES

- * The first part of this chapter draws on Anderson (2003). The author is grateful to Mike Boyer of the Carnegie Endowment for International Peace for very helpful comments on an earlier draft.
1. Prices for wines from those valleys that were \$40 a bottle in 2002 were selling for \$25 in 2003 (sometimes disguised in a second label). Wine grape prices for California as a whole were 17 per cent lower in 2002 than for the 2001 vintage, but only 5 per cent lower in Sonoma and 4 per cent higher in Napa.
 2. Europe is not alone in lashing out against southern hemisphere wines. A *Los Angeles Times* article on 1 May 2003 reported its panel of experts' views on wines imported from Australia. The second-lowest score went to Yellow Tail 2002 Chardonnay, described as 'reminiscent of pineapple juice' and 'excellent lighter fluid'. US consumers clearly disagree: Yellow Tail was launched in the USA in 2002 with its producer, Casella Estate Wines from the Riverina region, hoping to sell 25 000 cases at \$6.99 a bottle. It turned out that they sold 1.5 million cases in that first year without even advertising, and were on target to sell around 4 million cases in 2003.
 3. The proposed scheme, provisionally entitled Vins de Cépage de France, may yet be moth-balled because of fierce opposition from producers in Languedoc in the south of France who see it as a direct threat to the improving reputation of their varietal wines sold under the label Vin de Pays d'Oc.
 4. More than half the vines in Australia, New Zealand and South Africa are less than five years old, and all of those new ones are premium varieties. Since wine quality tends to improve with vine age, other things equal, those new vines can be expected to deliver a much higher ratio of commercial to super premium bottles and a wider range of styles over the next decade.
 5. This is familiar to historians of wine markets. The eruption of Vesuvius in AD 79, which destroyed the Roman Empire's prime vineyard area and caused wine prices to rise sharply, was followed by over-investment in new plantings in Italy and its colonies, just as happened in France following the freezing winter of January 1509 which killed vines and burst wine barrels. In both cases the government felt compelled to intervene a decade or so later and order the uprooting of many of the new plantings (Phillips 2000, pp. 180–81).

REFERENCES

- Anderson, K. (2003), 'Wine's New World', *Foreign Policy*, **136** (May/June), 47–54.
 Phillips, R. (2000), *A Short History of Wine*, London: Penguin.