

# Chile's Wine Industry: Historical Character and Changing Geography

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## Abstract

For several decades prior to the Pinochet regime Chile's wine industry was both restricted and protected by national laws. It offered a low quality product to a captive, thirsty, national market and change was minimal. The majority of the wine grapes were mainly dry farmed in the Coast Range south of Cauquenes and on adjacent pieces of the Central Valley. With a dramatic drop in consumption after 1982 and the disappearance of half the wine grape vineyards in the following decade, wineries adopted the technology of the wine revolution in order to survive. By emphasizing premium varieties and directing a substantial proportion of production to export, Chilean wineries gained international acclaim. The wine industry's new orientation has resulted in the appearance of a number of new wineries with a corresponding change in the country's wine geography. Despite the changes, the wine industry continues to center on Santiago in many ways, exhibiting the attribute of capital city centralization typical of much economic activity in Latin America.

## Introduction

The "wine revolution" traces its roots to changes that occurred in the California wine industry beginning in the late 1960s. Employing new winery technology and new approaches in the vineyard, first California winegrowers and then others in a number of wine regions scattered around the world were able to elevate the quality of their wine in a relatively short period of time. Areas whose wines were previously held in little regard have produced bottlings with contents now praised in many quarters. That long-time, low quality vintners could turn around so quickly the nature of their product and enter premium markets on both national and international scales is why the phenomenon has been called the wine revolution.<sup>1</sup> In the three plus decades of its existence, the wine revolution has diffused widely, but its arrival and adoption in a given region has depended upon local attitude, circumstance and law.

In Chile, the first pieces of the wine revolution arrived in 1979, but the beginnings of widespread adoption and true impact did not surface until almost a decade later. Since then the complexion of Chile's wine industry has changed markedly as growers altered the varietal makeup of their vineyards. Chilean capital poured into old wineries to modernize them and into efforts to construct new state-of-the-art wineries. Wine producers from France, California, and elsewhere invested in Chilean operations, either on their own or partnering with Chilean wineries. Chile became a serious wine exporter, with over forty percent of its production heading overseas annually after 1994. Prior to the late 1980s, this total only occasionally exceeded two percent in any given year. The dollar value of wine exports [end p. 87] climbed from less than 9 million in 1984 to over 540 million in 1998 (Blabey and Hennieke 1999). Chile ascended to the position of the world's sixth leading wine exporter by 1996 and has continued to rank in the top ten in the years since (Doering 1998; Hochstein 1999). By the early 1990s, Chilean wine was being acclaimed in the world wine press, with the quality of its export wine receiving proclamations of adoration by connoisseurs in many quarters (e.g., magazines such as *The Wine Spectator* and *The Wine Enthusiast* produced issues focusing on Chile as early as 1992, with reports on Chile dating to at least 1990).

The rapidity of the Chilean success from 1988 onward is notable. Abundant statistics from government sources quantify this advance, and wine periodical articles and notes provide testament to the many facets of Chile's new wine era. What has not been made clear in the literature, however, are the reasons for the delay in the take-off of the wine revolution in Chile or the impacts of wine revolution implementation on the "geography" of the wine industry – its spatial arrangement. This paper offers an exploration of these themes.<sup>2</sup> To grasp the former requires detail on the character of the Chilean wine industry and on Chilean law affecting wine production in the pre-(wine) revolutionary period. Explication of the second theme requires outlining the 'old' wine geography to appreciate how the wine revolution changed it. In other words, historical grounding is necessary to understand the events of the last dozen years in Chilean wine activity. The first section of the paper, therefore, attempts to trace these historical threads to see how the Chilean wine industry evolved or, in many ways, did not evolve.

### **The Chilean Wine Industry Before the Wine Revolution**

Chile has a 450-year history of wine production onto which the wine revolution has been layered. The grape species used in Chile for wine production, *Vitis vinifera*, arrived with the Spanish in the mid-sixteenth century. Over the course of the next four hundred years, and with later infusions from Europe of additional varieties of the same species, distinct zones of grape production appeared. In the northern Coquimbo area of the country and, to a lesser extent, in the Atacama region, most varieties planted were dedicated to production of *piñisco*, Chile and Peru's contribution to the world of brandy. In a variety of locations from the Atacama to the Maule River south of Santiago, growers planted limited amounts of table grapes for consumption as fresh fruit or for making raisins. Until the 1970s, 90 percent of Chile's grapes were destined for their third general use, wine production. Wine grapes appeared almost everywhere grapes were grown, but especially from the Aconcagua Valley southward, to the southern limits of grape production along the Bio Bio River (Figure 1). Wine production spread widely and Chileans drank wine daily. Chile, like its neighbor Argentina, has been a wine-drinking country for a long time. Its consumption rates until the last two decades were much more like France or Spain than they were like any of the other countries of the Americas. Chileans drank Chilean wine almost exclusively and Chilean wineries produced wine almost exclusively for the national market, not for export. From the early 1920s onward, Chilean wine production exceeded two hundred million liters every year (at least every year for which I have data!). Viewed over the long term, production moved upward as the country's population increased (Figure 2). By the 1930s over 100,000 hectares were devoted to grape production for wine and totals remained above or near that figure until the early 1980s (Figure 3). Over 30,000 growers tended wine grapes and the larger wineries purchased grapes and wine from many sources (Alvarado Moore 1985; Del Pozo 1998). In 1972 and again in 1982 and 1983, Chilean wineries processed over 600 million liters of wine, peak years before decline set in (although, in 1998, Chile again reached the 600 million-liter level).

This was a “traditional” wine industry where the elements of the wine revolution had not arrived, and where nearly all wineries continued **[end p. 88]**

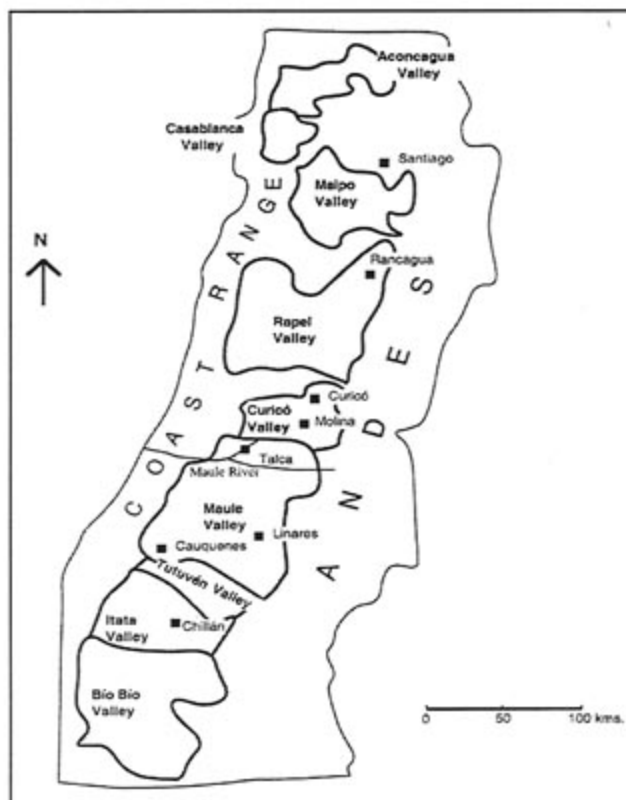


Figure 1. The Wine Regions of Central Chile

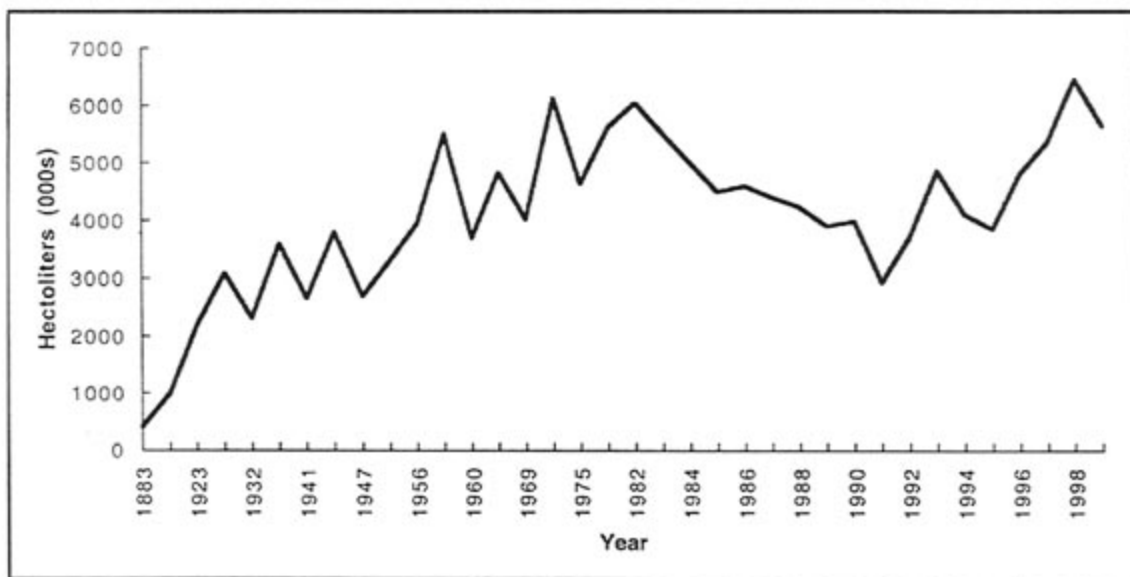


Figure 2. Chilean Wine Production, 1883-1998

[end p. 89] to grow grapes and make wine as they had for decades. In addition to what might be called standard table wine, beverages such as pipeno (a crude, unfiltered wine that is not bottled and is drunk soon after harvest) and chicha (a low alcohol wine drunk before fermentation is complete) were widely produced and were especially important in the countryside. Wine consumption was impressive, with most years reaching fifty to sixty liters per capita (compared to 7 to 8 liters in the U.S. at that time). Growers

emphasized tonnage rather than quality, with wine made principally from the Pais grape introduced by the Spaniards during the colonial period. Considered a low-quality variety, it covered 44 percent of wine grape vineyards in 1985 (although, by 1985, several thousand hectares of Pais had already been uprooted), and the humble Muscat of Alexandria carpeted another 14 percent (Servicio Agrícola y Ganadero 1994, n.d.). Vintners fermented must in the old-fashioned way, using wood or concrete fermenters. Fermentation temperatures were not controlled and winery equipment was from another epoch. Wine went to market principally in jugs, with only minor amounts produced in 750 ml bottles. Quality wine, principally from Cabernet Sauvignon fruit, issued from only a very few wineries and only in limited amounts. Even this production could rarely hold up to international standards, and thus exports were minimal.



Why, then, had the wine revolution not yet marched forward in Chile by 1980 as it had in so many other wine-producing countries, from California and Australia to the major wine producers of Europe and even to eastern European countries such as Bulgaria and Hungary? Several factors stymied change. In 1938, playing on sentiment to regulate alcohol consumption but supported by the principal wine producers who saw an opportunity to restrict competition and control the industry, the government introduced the Second Organic Law on Alcohol. This legislation regulated establishment of new vineyards and fixed the amount of wine the industry could produce: a maximum of 60 liters per capita. With a population of 4.2 million, maximum production would have been 252 million liters that year, a figure the industry already well-exceeded (Hernandez and Contreras c 1992). The essence of the law was to limit production to prevailing levels and to constrict the growth of the industry.

**[end p. 90]**

Although hectareage figures changed little over the next 45 years, wine production curiously ascended substantially – at times by more than could be attributed to an abundant crop.<sup>3</sup> In general, production rose considerably in many years from 1958 onward as a growing population (7.1 million by 1960 and 10 million by 1970) meant much more wine could be produced than in 1938 when the law was passed. As long as Chileans kept drinking wine, which they did, wine purveyors did well. New competition could arise only with great difficulty under circumstances where it was problematic to plant more vineyards (Hernandez 1997). Since wine sales did not wane in the decades following passage of the law, those who hoped it would limit alcohol consumption must have been disappointed.

In 1938 the government also adopted an agenda to implement import substitution policies in order to stimulate local industrial growth. This closed the door to all but essential imports of machinery and wineries could not buy new technology under these regulations. "In the realm of machinery and winemaking infrastructure the country [Chile] was isolated until the decade of the 80s" (Pszczólkowski 1991:27). The import substitution policies also made it difficult to establish new wineries because most technical equipment would had to have been imported. Thus, the wineries that led the field in the 1930s benefitted greatly from the laws and policies begun in 1938 because these laws stifled the birth of new, competing wine operations. Some wine machinery entered the country from Argentina in the 1960s and some Chilean firms fabricated basic equipment (Del Pozo 1998), but the kinds of advances made in Europe with wine presses, stainless steel tanks, and automated bottling lines from the 1950s onward were not available to Chilean producers.

With the stage set over a period of decades, the Chilean wine industry not surprisingly became quite conservative. No outside competition and minimal new internal competition provided little incentive for change. The restrictions on new plantings after 1938 and the public's consistent rate of wine consumption meant wine surpluses were rare. Chileans did not worry much about what kind of wine they were drinking and wineries did not worry about significant new investments in vineyard or winery. In the 1960s and early

1970s government land reform programs did spur some growers into new ownership patterns to try to avoid losing parts of their properties. As Del Pozo (1995:142) notes "traditional, paternalistic labour relations and the predominance of family-controlled firms, hostile to outsiders, only began to change under the threat of agrarian reform." The adverse effect of land reform for some large vineyard holders restricted their possibilities for innovation or investment. Prices were regulated and regulations of many kinds appeared burdensome to the industry. In general, Chile had a closed economy that followed the import substitution model. It was not a situation that encouraged investment or experimentation.

## Old Wine Industry Geography

The national character of the pre-wine revolution viticulture industry and its conservative nature molded a distinctive wine industry geography in a country that was dominantly rural until after 1960. Growers from the city of Chillan northward as far as the Aconcagua Valley north of Santiago spread themselves from the base of the Andes Mountains westward across the east-west extending valley floors (see Figure 1). The topographic barriers between these distinct valleys (each with its own name) are generally very moderate so that together they constitute one extensive Central Valley. Throughout this region from Linares northward irrigation is a necessity because of low rainfall totals. Abundant water flows from Andean snowmelt throughout the growing season so that water has rarely been a problem where sufficient canal infrastructure served the growers. In some areas without access to canals, local wells have provided irrigation flow.

From the Maule River southward, especially south of the town of Cauquenes, dry farmed vineyards carpeted the hills and slopes of the Coast Range. Precipitation increases [end p. 91] southward in Chile, and in the areas generally referred to as the Itata, Tutuven and Bio Bio valleys it is sufficient to produce crops without irrigation. Here a mosaic of mainly small vineyards produced the lowest quality wines, as well as quantities of *pipeño* and *chicha*, all based mainly on the Pais grape. Far removed from the capital city, this area supported the majority of the country's wine grape vineyards. Average properties were smaller than in the Central Valley and housed two-thirds of Chile's wine grape growers, who labored in an essentially peasant-based viticulture.

The largest wine estates occupied irrigated Central Valley sites and most of the country's largest wineries planted their facilities close to Santiago, especially in the Maipo Valley. In the main, these wineries trace their origins to the second half of the nineteenth century. Their founders were principally entrepreneurs who had amassed fortunes in the mining industry and who decided to broaden their investments. They imported new varieties, and even experts, from France in an attempt to make fine wines in Chile (Hernandez 1997).<sup>4</sup> Francisco Undurraga Vicuña exemplified the new wine barons who followed this path. Educated in France, he established Viña Undurraga, a true wine estate, at Talagante, near Santiago, in 1885. His first plantings were with stock he personally brought from France, including Pinot Noir, Cabernet Sauvignon, Merlot, Sauvignon Blanc, and also Riesling and Gewurtztraminer from Germany (Anon. n.d.). This period of wine estate development had an impact on consumption, which "increased from around 81 million liters in 1875. . . to 275 million liters in 1902" (Bauer 1976:76). If Bauer is correct, annual per capita intake increased from 25 to 90 liters, a seemingly improbable kind of upswing.

While the experience of other wine barons of the day may have varied from Undurraga's, a residual of that nineteenth-century effort was the widespread planting of Cabernet Sauvignon (the third most widely planted wine grape varietal in 1980), especially in the Maipo Valley. If any wine gained recognition outside the country it was a Cabernet Sauvignon from one of these large wineries. The relative abundance of this same Cabernet Sauvignon was a key factor in enabling Chile to attract immediate attention once some of its wineries embarked on export-based production. Those growers importing French varieties in the nineteenth century also planted a fair amount of Semillon, the principal white grape of Bordeaux.

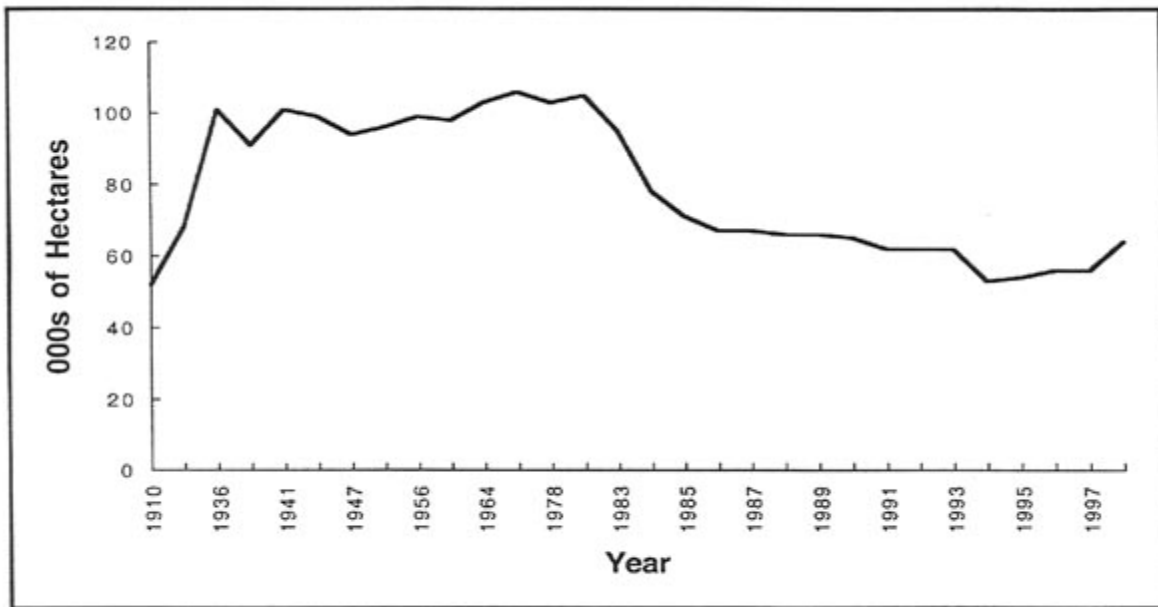


Figure 3. Hectares in vineyards, Chile, 1910-1997

Thus, the varietal distribution differed among Chile's winegrowing regions, and most especially between the Maipo Valley, where premium grapes were relatively abundant, and the area south of the Maule River, where the colonial Pais graced valley floor and hillside alike (Figure 4). In the area in between, several of the larger estates also acquired French varieties during the nineteenth century and were still growing them at the beginning of the wine revolution, but most growers concentrated on less glamorous grapes. Four or five of the wineries inaugurated in the nineteenth century during the period of French infusion, which I will refer to as the Grandes, came to dominate the market before the wine revolution and still do. They bought vast quantities of bulk wine from all of the country's wine-producing regions and blended it, so that regional distinction was not ascribed to Chilean wine, despite the distinctions in regional varietal makeup.

### Centralization

One of the characteristics of Latin American society is great centralization. In country after country the capital city sits as the hub not only for government, but for industry, transportation, economic enterprise in general, and for spectacular rates of urban growth. Chile has been as capital-centered as any Latin American country and there are no indications of overwhelming change in this direction. In his description of urban Chile of the period around 1910, Bauer (1976:206) noted that "provincial towns remained dusty and boring. . . . Few 'respectable' people chose to live in these backwaters, especially as government and bureaucracy became more and more centered on Santiago. . ." In Chile, even the wine industry [end p. 92] exhibited and still exhibits many of these centralist tendencies.



Before the wine revolution, all of the leading wine producers were headquartered in the Santiago metropolitan region (though one of the Grandes, Viña San Pedro, built its winery near Molina, over 200 kilometers south of the capital), even if they had substantial vineyards elsewhere and even if the majority of the country's wine came from vineyards to the south, many hours away by truck or train. The best wines and best growing conditions were ascribed to the Maipo Valley, where Santiago sits (for purposes of wine production, the "metropolitan region" and "Maipo Valley" can be considered synonymous), but this region

supported less than ten percent of the country's vineyards. The bulk of the wine for the Santiago-based Grandes, and for other large wineries, came from (and continues to come from) grapes grown outside the Maipo Valley.

The wineries to the south were numerous, and many small farmers made wine on their own premises while others sent their grapes to cooperatives. If this wine went to market locally [end p. 93] it went in demijohns or casks, not in 750 ml. bottles. What was not consumed locally headed for metropolitan Santiago in bulk, to be distributed by the large metropolitan-area wineries as their product, but little of this ended up in 750 ml. bottles either. Wineries that bottled, wineries that put a label on their wines (some of who exported minimal amounts), and negociants (cellaring establishments that made little or no wine but that had markets established in the metropolitan area) all were centered in the Maipo Valley. Put another way, most wine was fermented outside the metropolitan region, but final blending and cellaring operations focused on the Santiago area. This region, then, claimed distinction within the country not only for its different varietal assemblage in the vineyard, but also for the size and character of its wineries.

Following the areally restricted burst of French influence, which diminished greatly after the 1880s, Chile's wine industry changed minimally from a technological/wine improvement viewpoint. Larger holdings might employ tractors once they became available, and a new piece of winery machinery might be purchased, but these kinds of changes appear to have had little impact on wine character or quality. Other foreign influences appeared in the first decades of the twentieth century, especially in the form of Catalonians who became major negociants, and also a few Italians and a couple of French folk (Del Pozo 1998). But in contrast to the French impact in the second half of the nineteenth century, or to what happened after 1980, these foreigners were not brought in to advance the wine industry. They settled in Chile and became Chileans. They were not extending wine empires from Europe or the United States as would happen after 1980. Thus, by the end of the 1970s Chile's wine world was a technologically antiquated one. As one observer wrote in 1984, "Perhaps the most pressing problem today is a lack of capital to modernize the wineries, many of which, especially the cooperatives, are thoroughly old fashioned in their equipment" (Read 1994:26-27).

## **The Chilean Wine Industry and the Wine Revolution**

### *The First Changes*

The abrupt change in government in 1973, when General Pinochet led a *coup d'etat* that crushed a democratically elected government and initiated a seventeen-year dictatorship, also brought a new set of economic policies. These policies led to the abandonment of the old import substitution model over a period of years for a wide-open, free-enterprise economic model. This scenario presented the wine industry with a very different operating environment, and laws deregulating the wine industry began to appear almost immediately.

In 1974 the government issued a law (DL 261) lifting prohibitions on planting new vineyards. In response, a number of growers replanted old vineyards using techniques that yielded greater harvests. Another law in 1978 (DL 2753) removed most government administrative controls that had been imposed earlier to limit wine output and to maintain production norms at the winery. Table grapes, for example, could now be used to make wine; previously they could not. In this less-controlled environment growers increased tonnages and wineries bought more grapes. Wine production moved rapidly upward and, in 1982 and 1983, it hit historic highs (610 and 650 million liters, respectively) (Pszczólkowski 1991). Prior to the changes under Pinochet, annual production had nearly reached such levels in 1958 and 1972, but generally ranged from 350 to 500 million liters. Unfortunately, these peak production efforts put increasing amounts of wine on the market at a time when the market began to contract notably for the first time. As wine flowed from the

fermenters, consumption began a steep descent, wine and grape prices fell drastically, and vineyards soon began to disappear as well.

### *Falling Consumption, Disappearing Vineyards, and the Wine Revolution*

Chilean per capita wine consumption declined from over 50 liters/capita in 1982 to 15 [end p. 94] liters/capita in the mid 1990s (Blabey and Hennieke 1999).<sup>5</sup> This precipitous drop has been attributed to changes in beverage preference, as people began to drink more beer and soft drinks and anti-alcohol campaigns also gained prominence. Chile's principal brewery undertook an aggressive and successful advertising campaign, and beer consumption experienced a long-term upward trend (Del Pozo 1998). With a rapidly shrinking wine market, growers had to search for alternative crops. In the central part of the country, north of the Maule River, many growers grafted table grape varieties onto their wine grape plants. Chile's fruit exporters were already achieving success in foreign markets by the late 1970s and table grape plantings expanded from around 5,000 hectares in 1975 to over 50,000 hectares by 1996 (Servicio Agrícola y Ganadero 1994, 1996). Much of the hectareage increase in table grapes occurred on former wine grape vineyards in the Maipo Valley and other valleys immediately to the south.

Growers also responded to the crisis by uprooting their vines. Those growing the Pais grape that went into the lowest quality wines had the gravest marketing problems. Not surprisingly, vineyard removals were proportionately greater in the dry farmed southern vineyards where the Pais reigned. Between 1985 and 1994 hectare age totals in this region declined by over 16,000 during a decade that the national decline in wine grapes was only 14,000 hectares (Servicio Agrícola y Ganadero 1994).<sup>6</sup> In what might be considered an unusual change in cropping, pines and eucalyptus trees for a growing wood-processing industry replaced many southern vineyards.

As vineyard removals hit record proportions during the 1980s (by the early 1990s roughly half of Chile's wine grape vineyards had disappeared): the wine revolution took hold. It became clear to winery owners that to survive they would have to find new markets, international markets, for their product. In order to reach these markets they would need to change the character of the mostly "rustic" wines they made to a more premium quality that was saleable outside the country. From 1986 onward, numerous wineries (an estimated 40 plus at the turn of the century), including the Grandes, new producers, foreign producers, and some smaller existing operations, adopted elements of the wine revolution and began to change the nature of the industry. Chilean winery owners had ignored the wine revolution for so long because of government protection and a steady national market for their product. To meet the demands of this market necessitated minimal capital investment and limited promotional efforts. The loss of some of the government's protection with the ascent of Pinochet in 1973 and the drop in consumption after 1982 were the principal stimuli for change. But the investments required for wine revolution adoption were unavailable immediately because of a national economic recession from 1981 to 1986. In 1986 Concha y Toro, the country's largest wine producer, began a series of long-term investments to acquire new technology and the wine revolution in Chile moved with celerity thereafter.

### **New Vineyards and Wineries**

Once underway, the swift advance of the wine revolution contrasted markedly with the previous era. In one decade, the Chilean wine industry sustained more change than it had in the previous century or more. The lifting of government restrictions during the Pinochet era and the lack of any serious government restraints or limitations on planting and production thereafter have permitted almost unfettered change, much resembling the adoption of the wine revolution in California in the decade after 1967 (though with some very different market orientations and with very distinctive grower histories).

## Vineyards

Vineyards with the “right” grape varieties—meaning those recognized as 'premium' varieties in other world winegrowing regions – survived into the new era. Soon, thousands of new hectares were being planted with these varieties. By the close of the 1990s the area of Chile's wine grape vineyards was expanding once again, having increased by 11,000 hectares in the last half of the [end p. 95] decade, but reaching a total only 60 percent of what it had been in 1980. Cabernet Sauvignon alone covered an additional 12,800 hectares between 1985 and 1998 (Blabey and Hennicke 1999; Servicio Agrícola y Ganadero 1994).

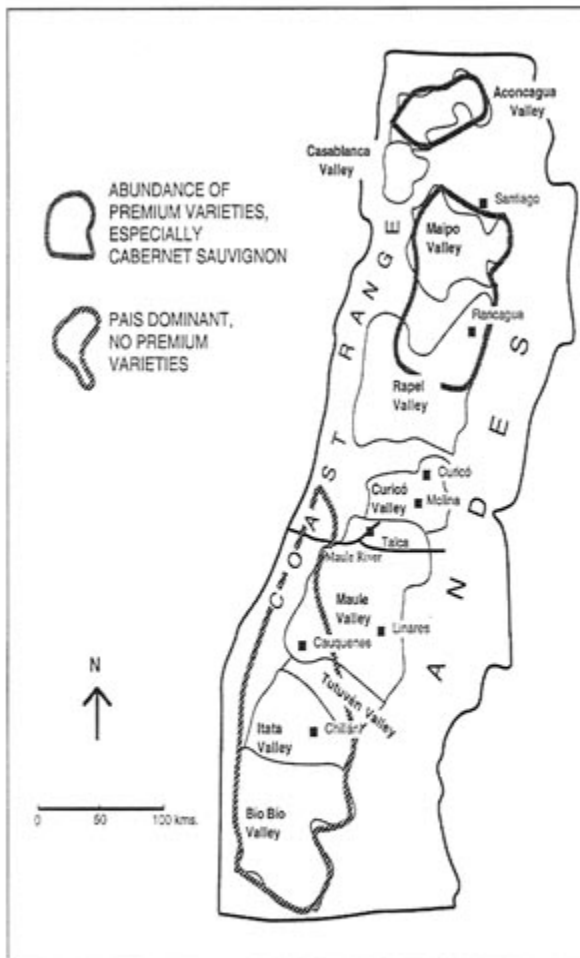


Figure 4. Areas of Premium vs. Traditional Grape Varieties Prior to 1980.

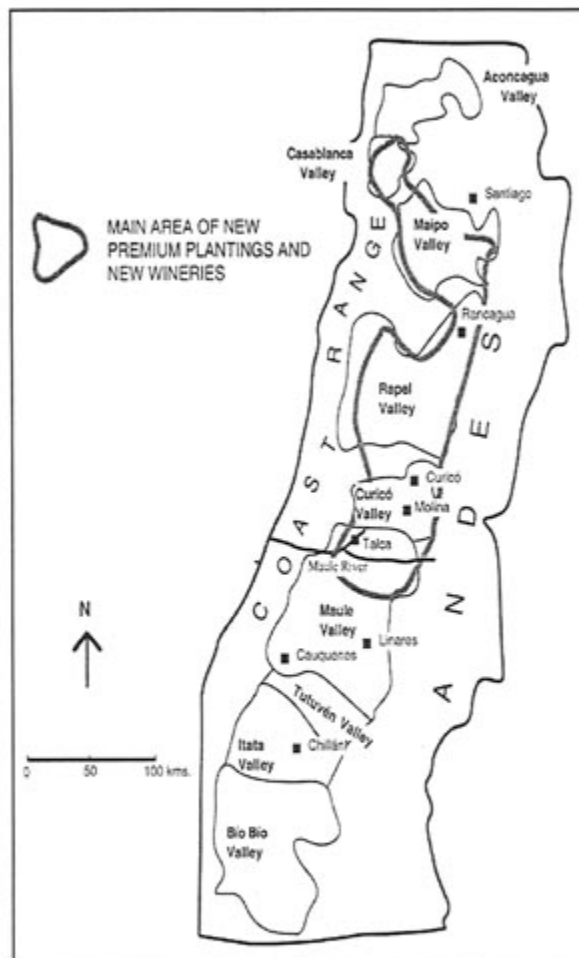


Figure 5. Areas of Greatest Concentration of New Premium Variety Plantings and of 'Wine Revolution' Wineries Outside the Metropolitan Region.

Central Valley locations have been the main sites for new vineyards (Figure 5). From the area around Rancagua southward to Linares, several thousand hectares have been rooted on irrigated properties.<sup>7</sup> Growers have also begun to plant the lower slopes of the Andes just above the Central Valley floor in search of better microclimates and better draining soils. Few new vineyards have been sited in the dry farmed Coast Range south of the Maule River where the wine grape formerly dominated. This shift in locale, which means that the Central Valley now harbors more grapes than the Coast Range, results from several factors. The flatter lands and gentle slopes of Central Valley lands afford easier laying out and

planting of modern vineyards. These lands also possess better irrigation possibilities, yielding potentially larger crops and greater monetary returns. The dry farmed vineyards of the Coast Range have always provided lower yields than those planted in the well-watered and deeper alluvial soils of the Central Valley. The Grandes now employ mechanical harvesters for at least some of their picking (at last count, Concha y Toro had twelve of them), although these machines cannot function in most Coast Range sites. Greater proximity to Chile's principal north-south highway and better connections to headquarter operations in Santiago and/or shipping for export through San Antonio also make Central Valley parcels more attractive.

The centralization force thus plays a role as to where the larger players, at least, decide to establish a vineyard. With offices and decision-making rooted in Santiago for nearly all wineries attempting serious exports, access to the capital is a serious consideration. This trend toward the Central Valley does not mean that these lands necessarily possess the best possibilities for quality wine. The dry farmed Coast Range "possesses exceptional climatic conditions for the production of premium wines that could be the basis for a new appellation" (Pszczółkowski and Hernandez 1993:32). "[W]ith supplementary drip irrigation and up-to-date vinification methods, the area can produce both red and white wines as good as those of the Central Valley" (Read 1994:33). However, the lack of infrastructure, the paucity of easily accessible water, and the distance from markets have limited new investment here.

That the Coast Range carries premium wine potential is evidenced by the Casablanca Valley. A half hour west of Santiago and surrounded by low mountains, this valley exhibited nary a grape in 1980. Today the Casablanca Valley is the darling of the premium white wine set, producing Chardonnays of acclaimed character. A couple of thousand hectares of vines have been planted in the last fifteen years, irrigated from wells, and taking advantage of access to marine air that offers cooler growing conditions than in the nearby Central Valley. It possesses what most other Coast Range sites lack, a broad, flat-floored valley and quick access to the capital.

Varietal focus has also changed in Chile's vineyards as the modernized vintners orient their efforts to premium wine production, mainly for export. Cabernet Sauvignon now is the most widely planted grape in Chile and, while the traditional Pais still stands in second place, it is followed by Merlot, Sauvignon Blanc, and Chardonnay, all considered elite-level varieties. Growers are also planting other varieties popular in export markets, such as Pinot Noir and Syrah. As a result, Pais will continue to decline in hectareage because of the unexceptional character of the wines made from it.<sup>8</sup> Additionally, large producers have begun to use abundantly available table grapes grown in and near the metropolitan region (and therefore closer to their winemaking facilities than the Pais grapes of the Coast Range) for their cheap wines for Chile's national market, formerly the exclusive province of the Pais (Pszczółkowski and Hernandez 1993).

Export production also has led the Grandes and other large wineries to alter their strategies of grape acquisition. While any of the **[end p. 96]** substantial producers may have had vineyards of a few hundred hectares at most prior to the wine revolution, they since have moved aggressively to amass huge vineyard holdings to control more effectively grape production and to guarantee the quality of the premium-level wine they market. The Grandes all have several properties in various locations and collectively have planted or acquired 1000s of hectares of new vineyards during the 1990s. By the end of 1996 Chile's largest producer, Concha y Toro, owned thirteen properties and leased another, and owned five wineries and leased several more (via Concha y Toro 1997). These properties were scattered among five different winegrowing valleys (subdivisions of the Central Valley plus the Casablanca Valley) and comprised over 5,000 hectares of land. At that time, 2,319 hectares were under vines (2,070 hectares were in Cabernet Sauvignon, Merlot, Chardonnay and Sauvignon Blanc), with nearly half of that total planted from 1993 onward. As the century closed the other Grandes all owned 1,000 to 2,000 hectares or more of their own vineyards, scattered among various Central Valley sites and the Casablanca Valley.

## *Wineries*

A winery census compiled by the Chilean government in 1997 counted 597 wineries on the tax rolls (outside those of the Pisco region, where the wine made ultimately becomes brandy). The census does not include any wineries from the southernmost growing areas around the Bio Bio River, and undoubtedly includes many small ones that may no longer process any grapes or wine. It also appears to be flawed in other respects, but it does show the greatest concentration of wineries (sixty-five percent of them) in the southern growing areas (Servicio Agrícola y Ganadero 1997). While this numerical concentration may lead one errantly to interpret the center of activity in today's Chilean wine scene, it does offer evidence of the residual presence of the many small local and bulk producers that thrived in an earlier day. Numerous wineries that depended on southern Coast Range grapes no longer function (remember that tens of thousands of hectares of grapes have been uprooted here since the late 1970s), so that much of the initial grape processing in Chile that formerly took place in the Coast Range is no longer found there in the same abundance. Few of the functioning wineries of that area have joined the wine revolution.

In contrast, the Santiago metropolitan area wineries still function and, except for those who operated strictly as negociants, most have augmented and/or modernized their facilities. Some have also built new wineries in the metropolitan region and a few new foreign-owned wineries have appeared in the Maipo Valley as well. The bulk of new winery construction, or expansion of old wineries, has concentrated, however, in the Central Valley beyond the metropolitan region as far south as Linares (see Figure 5). Here, wholly new export-oriented concerns such as Gracia, Montgras, Casa Lapostolle, Larose, Caliterra, and Calina have built new wineries. Others, such as Miguel Torres, Domaine Orientale, Terranoble and Tabontinaja have built new wineries alongside (or on the site of) aged estate operations, while other companies such as Torreón de Paredes, Discovery Wine, and Los Vascos have largely re-equipped and modernized older wineries (Mathass 1997; Sanchez 1997; Anon. 1999). All of the Grandes also have new or modernized wineries in the Central Valley south of the metropolitan region. While wineries were abundantly scattered throughout the Central Valley before the wine revolution (both very small ones and more substantial estate operations), they did not bottle their own wines and their names did not appear on wine labels. Today, some two dozen or more wineries bottle their own wines in the Central Valley beyond the metropolitan region. This phenomenon is associated with attempts at greater quality control, a hallmark of the wine revolution, and with an orientation of most of these producers toward export markets that demand higher and consistent quality, attributes Chilean wines previously lacked. The other principal focus of new winery construction is the aforementioned Casablanca Valley, west of Santiago in the Coast **[end p. 97]** Range. Seven wineries were built here in the second half of the 1990s, some of them branches of large Maipo Valley producers.

Despite their proliferation outside the metropolitan region, nearly all of the wineries that bottle their own wine have offices in Santiago. Company executives claim that it is difficult to recruit staff outside of Santiago. Banks and other necessary services are concentrated in the capital, which also harbors businesses that handle shipping arrangements for export. Additionally, repair technicians and representatives for foreign equipment producers are in Santiago – the farther from Santiago, the more difficulties for the winery. In general, service and parts are not readily available in Chile (Gras 1998). Viña Los Vascos (Grez 1998) responds to this complication by having two of everything, so that if one piece of equipment breaks down its twin is standing by! In sum, though the majority of wine revolution wineries may sit outside the capital city, Chile's centralized character still imprints itself on the location of headquarter offices.

## **Conclusion**

Chile's traditional, inward-looking wine industry did not move quickly to adopt modern winery technology and growing practices. Government restrictions on equipment imports, government regulation of wine production totals (which aided established wineries), and a wine-imbibing national market that demanded

nothing more than the most ordinary wines fostered a conservative attitude toward change among winegrowers. Removing government controls resulted in more abundant grape harvests and an accompanying augmentation of wine production. Concurrently, Chileans lowered their wine consumption, shrinking the national market, and growers and wineries began to face difficult prospects. Many growers uprooted their grapes and small wine operations closed. Conditions proved ripe for the widespread adoption of wine revolution technology and practices by many who continued in the wine industry and for those who decided to buy in.

The arrival of the wine revolution has metamorphosed Chile into a significant wine exporter and has changed the face of the country's wine geography. The Coast Range south of the Maule River and nearby Central Valley areas no longer claim most of Chile's vineyards nor produce most of Chile's wine. Thousands of new hectares have been planted in the Central Valley south of the metropolitan region and substantial new fermentation capacity and wine-finishing operations have appeared in this area. An entirely new viticultural region emphasizing exclusively premium (mostly white) varieties has blossomed in the Casablanca Valley. The Grandes have acquired thousands of new hectares of vineyard and built new wineries outside the capital region. Foreign interests also have built wineries in Chile to make wine for export, and some foreign wine corporations have invested in and/or partnered with Chilean producers, advancing the march of the wine revolution and reorienting the wine geography of the country.

Chile now has joined a growing list of quality wine producers scattered around the world. In an article entitled "Changes in the Geography of Wine: New Wine in New Bottles" Dickenson (1992:178) commented on how the production of premium wine had recently expanded well beyond "the classic core of western Europe." He went on to outline how the geography of the world's premium wine production had been rearranged, and Chile is certainly one of the countries he was referencing. Yet not only the world scale of wine geography has been reordered. Some national wine industries also have been rearranged to a considerable extent. What Dickenson observed at the global scale also holds true at the local scale, as exhibited by Chile's new wine geography.

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## Notes

1. This expression may have been used first by Leon Adams in *The Wines of America* (1973:179). Louis Loubere (1990) wrote a book about changes in French viticulture using the term, *The Wine Revolution in France: The Twentieth Century*, and Tim Unwin (1991:343-356), though not applying the term, describes its elements thoroughly in *Wine and the Vine; an Historical Geography of Viticulture and the Wine Trade*. The term "wine revolution" refers to a collection of technological advances and new equipment in the winery, including bladder presses, temperature-controlled stainless steel tanks, use of and frequent turnover of oak barrels for aging, and sophisticated bottling lines. At the same time, better fruit comes from vineyards that may employ new trellising methods, more premium grape varieties, drip irrigation, mechanical harvesting, frost protection, and a general dedication to quality over quantity. In the late 1960s, California was the first wine region to pursue the wine revolution path, with Australia moving in the same direction at almost the same time.

2. In order to pursue these topics I spent part of a sabbatical leave in Chile in early 1998, where I searched for relevant publications, government documents, and maps. I interviewed government officials, wine association leaders, winery owners and officers, and I visited various wine districts and wineries to see evidence of the changes firsthand.
3. The literature, to this point, has not attempted to account for such peaks. Undoubtedly part of the problem is unreliable data, a claim raised by Alvarado Moore (1985:82).
4. Wealthy Chilean mine owners, most of whom did not come from the landed class, purchased estates, because owning land, in addition to having financial resources, was a key attribute to entering the elite class (Bauer 1976:179-180).
5. Per capita wine consumption has fallen dramatically in most countries that had high rates of intake in 1970. Residents in France, Italy, Spain and Portugal today imbibe at about half the level of a quarter century ago, and in Argentina decreases parallel those of Chile. The reasons generally cited for these declines include a more urbanized population increasingly susceptible to advertising, a marked increase in the popularity of beer (which is more heavily advertised) in some of these countries, and the appearance of a seemingly endless list of soft drinks, fruit drinks, and waters with clever marketing efforts behind them. The presumption, of course, is that if folks are drinking less wine they must be drinking something else.
6. By 1985 wine grape hectareage had already fallen from 105,000 (typical of totals from the late 1930s onward) in 1982 to around 70,000 (the actual number varies according to source) but I have not been able to find an areal breakdown of that early decline. Much of the decline involved conversion to table grapes in the central part of the country (in the Maipo and Rapel Valleys), but in the dry farmed southern vineyards far more uprootings appear to have occurred so that the totals for this area had already been greatly reduced by 1985.
7. New vineyards have been planted in the Maipo Valley, but Santiago urbanization has engulfed vineyard land and the several hundred hectares of Viña Cousino-Macul on the southeastern edge of the city have been sold for urban development. Hectareage totals for wine grape vineyards in the Maipo Valley have little possibility of significant increase because of Santiago's expansion, unless table fruit vineyards are reconverted to wine grapes.
8. Between 1985 and 1998 Pais hectareage dropped from 29,384 to 15,436 (Servicio Agrícola y Ganadero 1997; Blabey and Henniecke 1999). This total will continue to fall.

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**[end p. 100]**

## **Resumen**

En las décadas antes de la dictadura de Pinochet, la industria vitivinícola de Chile estaba a la vez restringida y protegida por leyes nacionales. La industria casi no cambiaba y presentaba al mercado nacional un producto de calidad inferior. La mayoría de las uvas para vino estaban desarrolladas en viñedos sin riego en la Cordillera de la Costa al sur de Cauquenes y en tierras próximas a la Cordillera en el Valle Central. Cuando el consumo disminuyó dramáticamente después de 1982 y la mitad de los viñedos de uva para vino desapareció en la década siguiente, las bodegas comenzaban a adoptar la tecnología de la revolución vitivinícola para sobrevivir. Dieron énfasis a las variedades de alta calidad y orientaban una porción significativa de la producción al mercado exterior. Como una resulta, las bodegas chilenas ganaban aclamación internacional. La nueva orientación de la industria vitivinícola ha producido varias bodegas nuevas y como resultado ha cambiado la geografía vitivinícola del país. A pesar de estos cambios, la industria vitivinícola continúa concentrarse en Santiago en varias formas, mostrando la centralización tan típica de la actividad económica en América Latina.

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