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When Malbec became Argentine: An Analysis of the Quality Wine Revolution in Mendoza

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WHEN MALBEC BECAME ARGENTINE: AN ANALYSIS OF THE QUALITY WINE REVOLUTION IN MENDOZA

by

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SUBMITTED TO SCRIPPS COLLEGE IN PARTIAL FULFILLMENT OF THE DEGREE OF BACHELOR OF ARTS

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Abstract

At the beginning of the 1990s, the Argentine wine industry experienced a shift from quantity to quality production which occurred while economic policies in Argentina opened economic opportunities for investment in the country. With these new opportunities, the industry began to focus on producing quality wine because of the desire to export and compete in the international market. As foreign investment entered Mendoza, the heart of Argentine wine country, new ideas and knowledge about wine production began to disseminate into the region and everyday practices. The shift from quantity to quality production was a paradigm shift in that it ushered in a new way of understanding quality in relation to the land, resulted in the younger generation of winemakers excelling in the region, and ultimately led to a new way of viewing production practices and techniques entirely separate from the previous century of production. This project asks: to what extent did this shift impact the implementation and regulation of geographic indications in Mendoza? It seeks to understand the impact that terroir-driven wine production imparted on Argentine winemakers to illuminate the resilience and perseverance of a growing wine center in the Global South.

Keywords: Terroir, Argentina, Mendoza, Geographic Indications, Quality,
1.0 Why Study Wine?

The act of drinking and discussing wine is one that occurs at dinner tables around the world. A pastime, a hobby, or a profession, the act of drinking wine provides an arena for discussing pleasure and knowledge about a product with deep historical roots. Voltaire wrote: “Taste invites reflection,” which Barry C. Smith likens to the process that occurs when an individual tastes a fine wine.\(^1\) Wine tells a story of a place, a culture, and a people who dedicated their lives to its existence. *Terroir*, the taste of a unique location and geography, “attempts to capture all of the myriad environmental and cultural influences in growing grapes and making wine.”\(^2\) Evoked to pursue many different motives, the intrigue of *terroir* exists because of its ambiguity in its implementation within the wine world.\(^3\) *Terroir* authenticates the quality of a wine, establishes a marketing strategy, provides a sense of nationalism, and defines scientific differences in wine from different regions.

For years, wine experts have sought out a manner to objectively determine the quality of wines originating from different parts of the world. With the growth of American and Australian wine markets, the amount of wine available in the market presented a unique challenge to those interested in drinking and enjoying a bottle of wine. Interestingly, most wine tasters and critics share the belief that taste is subjective.\(^4\) Even

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so, a select group of tasters, most of whom are connoisseurs or experts, has assumed the responsibility of ranking and making sense of quality in the vast expanse of wines. One of the most renowned wine experts in the world, Robert Parker, created a point rating system to rank wines from around the world.\(^5\) Even with the widespread use of this system, Parker agrees with Hugh Johnson, author of *The World Atlas of Wine*, when he argues that, “[t]he best judge of the right styles of wine for your palate is you. There are no absolutes of right and wrong in wine appreciation.”\(^6\) When attempting to determine the quality of a wine, many people turn to labels and price. However, this does not represent a subjective system because the labels contain information about *terroir*, and certain bottles can obtain higher quality labels based on the geographic location that a wine comes from.\(^7\) The formal definition of *terroir* according to the *Oxford Companion to Wine* is: “the total natural environment of any viticulture site.”\(^8\) This includes soil, topography, macroclimate, mesoclimat, and microclimatic. *Terroir* encompasses the place, culture, and history of a people and is “celebrated and acknowledged in drinking a wine that reflects that *terroir* and the winemakers’ efforts to uphold and maintain the traditions with which they transformed soil and vine into grape, and grape into wine.”\(^9\) Exploring this concept of *terroir* and its integral connection to wine and its history provides a starting point for understanding the prominent modern systems used to

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\(^7\) Steven Shapin, “A Taste of Science: Making the Subjective Objective in the California Wine World,” *Social Studies of Science* 46, no. 3 (2016): 454.


understand and reconcile geographic differences in wine on an international scale.

1.0.1 Quality versus Quantity

What makes wine such a fascinating topic for discussion? Why has it been studied in fields such as philosophy, science, history, and many more? Is the act of tasting wine a subjective or objective experience? Can knowledge make a difference in the pleasure that a wine imparts upon the drinker? A collection of scholarly essays titled, *Questions of Taste: The Philosophy of Wine*, examines how we think and talk about wine and consequently how it influences us.¹⁰ From the outside looking in, one sees a world of debate, words of unknown meaning, ranking systems, and etiquette that is elusive to those who have not been brought into this community of social knowledge. The interaction that different individuals participate in with wine depends on their background and social knowledge. A winemaker experiences wine differently from a professional taster, just as a chemist experiences its composition differently from an average consumer. Reconciling quality in a world where wine quality is based on personal preferences is one of the most prominent and highly debated aspects of wine.

Fine wine is produced in wineries where the focus centers around quality production, not quantity production. The difference between winemaking versus winegrowing presents an arena in which the concept of *terroir* becomes a central facet. The art of growing a wine is quickly becoming the science of creating a wine. As wineries became more modernized, large industrial producers make wines that are consistent in taste from year to year where the making of wine does not depend on environmental factors. For these industrial producers, making a consistent wine that

consumers can buy and rely upon is a primary concern of their business. The reason for this 'creation of wine' stems from the necessity to provide consumers with every day, reasonably priced drinking wine. On the other hand, terroir driven wine production occurs in smaller wineries or within specific sectors of large wineries. Quantity and quality wine production both take place today. The majority of wines found in supermarkets are products of quantity production seeking to meet daily consumer demands for wine. In contrast, quality wine production emphasizes high-quality wines that pursue facets of terroir and also impart a history of the wine based on the year and land that it was created in. A wine that is grown embodies this sense of place and may not intrinsically display many of the characteristics found in commercial mass production wine but does remain true to a natural place and process.

Quality is not binary: there is not just one way in which to measure quality. Quality exists at many different levels and does not need to be objective; however, even if quality is considered objective, a spectrum of objective perceptions of quality can exist as a function of a culture. When discussing quality in the context of this thesis, I will not be focusing on the specific flavor profiles of a wine. Of course, many wine experts approach quality from ratings and specific tastes of wine; however, for this purpose, quality is the improved standard and knowledge of winemaking as well as the ability to produce wines that impart a sense of uniqueness inherited from the place in which the wine originates. There is not just one choice in wine.11 Good quality wine can result from quantity production and from quality production; however, in an increasingly industrialized time, consumers are not being informed of their choice when it comes to

selecting a wine. Understanding the traditions and historic process that contributes to growing a terroir-focused wine illuminates one side of quality and will be discussed further in section 4.

1.1 Methodology

My interest in Argentine wine stems from two different interests in my life. The first is my love for Argentina. In high school, I chose to study abroad in Argentina for six months. This experience exposed me to the passionate Argentine culture. While I lived there, I learned a great deal about Argentinian pride and the desire to create a name for Argentina around the world, whether that be through soccer, food, or in this case wine. The second stems from my father’s fondness for wine. Having had the opportunity to travel with my parents and by myself to wine regions around the world, I have grown to appreciate the culture surrounding the cultivation and consumption of wine. When thinking about potential topics for this thesis, I knew that I wanted to find some manner in which to incorporate these two different interests into a project that not only met, but maybe challenged some preconceived notions of what a Science, Technology, and Society (STS) thesis consists of. During the first week of an STS course that focused on Taste Technologies, this thesis idea came to fruition. Through the Lori-Bettison Varga Fellowship, I was able to travel to Mendoza, Argentina to conduct independent research on the technologies being used in wine production along with a social analysis of terroir. The objectives were to collect qualitative data through interviews with local winemakers, especially those with an interest in terroir wine making to understand how members of the Argentine wine community view their impact on the industry and national culture. Furthermore, it sought to understand how Argentinian wine makers understand their
unique terroir. Through the help of friends and members of the UC Davis Viticulture and Enology Department, I was able to set up interviews during my stay.

In January 2018, I arrived in Mendoza for 10 days of interviews and exploration. During this time, I conducted personal interviews with winemakers located in the Lujan de Cuyo region of Mendoza, Argentina. Interviews were conducted in both English and in Spanish but have been translated for the purpose of this thesis. In order to maintain a level of confidentiality, the names of winemakers have been changed throughout this thesis; however, they will remain consistent throughout. Using an ethnographic approach, I observed and interviewed participants in the winery and in the vineyards while recording notes and actively participating in their daily routines.

While I had many conversations and informal interviews with individuals, I formally interviewed five winemakers who came from a wide array of backgrounds. I asked them to share details about the wineries in which they work, their personal involvement in the day-to-day operations, their understanding of the government regulation systems in place in Argentina, and what their definition and understanding of terroir is. These five male winemakers ranged from ages over 65 to as young as 25. Four of the winemakers that I interviewed were born and raised in Argentina; however, one was raised in Europe. These winemakers represent a vast variety of wineries within Mendoza ranging from three small-scale producers to two large-scale, internationally funded wineries. Many of the wines produced by these winemakers have won awards and world-wide recognition for their quality. These winemakers are driven individuals seeking to produce high-quality Argentinian wine as well as to place Argentina within the

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12 All translations by author. See appendices for a selection of these transcribed interviews.
conversation of international wine production. All interviewees were devoted to their land, its history, and Argentine wine production.

1.2 An Introduction to Terroir

Kolleen Guy, a historian who specializes in wine and food, argues that *terroir* highlights a component of labor which leads to a wine encompassing the “soul of the wine producer”\(^{13}\). Winemaker Nico Aguirre describes the impact of the winemaker using the following cooking analogy: “one person is not going to work the same way as another person works. It is like when one person cooks a meal. You have a recipe. You are going to make it in one way and I am going to make it in another way. They are going to come out differently even if we are working with the same recipe.”\(^{14}\) The debate over *terroir* has ranged from its conception as a human invention, to its place as merely an administrative notion, to finally its inherent existence as a unique natural condition that produces the finest expression of a grape variety.\(^{15}\) *Terroir* attempts to convey a multitude of influences, whether it be climactic or cultural, in the process of making wine.

The differences in a wine can be as drastic as comparing wines from different countries to as minute as comparing wines grown in different geographic regions within a country. In Mendoza, Argentina, Nico Aguirre walks the rows of Malbec that he is responsible for nurturing and turning into prestigious Argentinian Malbec wine. He


\(^{14}\) Aguirre, Nico, personal interview with the winemaker, January 12, 2018.

explains the process of what happens in the vineyards to produce healthy grapes that will one day become a wine. The strong environment of this region, including the extremes in temperature and harsh weather conditions, creates a unique interaction between winemakers and their land. By daily interacting with the grapes, the soil, and the weather, Aguirre establishes a unique connection to the grapes that he nurtures. He speaks of one section of Malbec vines as being of higher quality in comparison to wines across the road which are used for the cheaper line of table Malbec. Terroir is not only used to discuss country differences in wine but also to discuss quality differences in grapes within geographically small areas.

Within Argentina, terroir is used to understand the distinct differences between wines from different regions within the country but also from regions around the world. The Malbec varietal originates from France and is one of the six grape varietals allowed in a Boudreaux blend under AOC regulations. When I interviewed him, winemaker Diego Chavarria explained his interpretation of terroir as:

…the interaction… think about it as a triangle… between soil variety and water.

If you change one of those factors, you change everything. Example, Malbec which is growing in Argentina but first in France is totally different because you change the soil and the weather. It is not necessary to have 1600 miles change between here and Gualtallary, but it also changes inside the vineyards in the blocks. [A “block” is a sectioned off area of a specific vineyard which is determined by the winemaker.] In some blocks, you have some better portions. That interaction is between those three factors. It means terroir.\textsuperscript{16}

\textsuperscript{16} Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
There are many different groups involved in the discussion revolving around *terroir*.

Winemakers interpret *terroir* differently. Some place more emphasis on the environmental factors, while others focus on the cultural components. This can be seen within the way that Chavarria discusses the differences between Malbec from French and Argentinian *terroir*. He places a great emphasis on the soil differences. Different groups in the wine industry use *terroir* to pursue certain objectives whether it is quantifying quality, understanding soil chemistry, picking out a “decent” wine for dinner, or extracting the inherent natural qualities of grapes in the production process. Scientists seek out ways of understanding the chemical differences of wines from analyzing the soil composition and thus use *terroir* to speak of the inherent taste difference present in wine that come directly from chemical composition of soil in different regions. Winemakers have used *terroir* to implement a system of geographic protection of local vineyards and tastes that are unique to specific areas.
2. History of Winemaking in Argentina

The onset of winemaking and viticulture in South America began with Spanish colonization and the introduction of *Vitis vinifera* (grapevines) to local agriculture in the mid-16th century. Situated in the cover of the Andes Mountains in the province of Mendoza, European colonizers established the origins of what would one day become one of the top wine-producing countries in the world –Argentina– which can be seen in Figure 1. While the history of Argentine winemaking is almost as old as the country itself, the industry has only entered the international market for quality wine within the past thirty years.

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Second only to the United States in percentage of first generation immigrants, Argentina experienced a large influx of Italians and Spaniards in the 19th and 20th centuries. Coming from countries with high rates of wine consumption per capita, Argentine culture soon paralleled that of European countries. Wine quickly became a large part of the average Argentine’s day. With the establishment of an Argentine railway system in the late 1800s, the modern period of wine production began in Mendoza because of the new ability to transport wines throughout the country. As a result, Mendoza wineries began to produce high quantity but low-quality wines to meet the local market demands for cheap table wine.18

2.1 Government Regulation: A Precursor to Change

In the 1930s, Argentine viticulture went through a period of protectionism in which the Argentine government imposed high tariff barriers on imported wines.19 This protectionist policy encouraged the expansion of domestic vineyards to establish large-scale wineries that produced high quantities. As a result, the government offered small wineries last resort prices for their wines with little to no regard concerning quality of the bottle.20 Protectionist policies persisted until the 1990s, at which time price disparities in grapes of qualities only differed by approximately five percent with those of lesser quality. With little incentive to create quality wine, Argentine winemakers planted fields of cost-efficient grapes sacrificing their heritage vines (old quality grape vines which were some of the oldest vines in the world due to the phylloxera virus, the black plague

of wine, which destroyed European vineyards). These protectionist practices led to a crash of the wine market in the 1980s and to the downsizing of vineyards in which acres upon acres of potentially valuable Malbec vines were torn from the land.

2.1.1 Argentina’s Turbulent Economy

The turbulent early decades of the 20th century led to a revitalization and reevaluation of Argentine wine production beginning in the 1990s, in which foreign influence and new technologies shifted the focus from quantity production to that of quality production. I argue that this change from mass production to that of quality production can be understood as a paradigm shift in the Argentine wine industry. In 1989, the Argentine economy experienced an economic crisis due to hyperinflation. Starting in 1974, Argentina was one of the first Latin American countries to pursue neo-liberal economic policies. This economic crash presents a sobering evaluation of neo-liberal policies because, prior to their implementation, Argentina was considered to have one of the highest standards of living in Latin America. Neoliberal policies, instituted by a militaristic regime, deindustrialized the country and shifted focus towards agro-industry and finance at the expense of manufacturing. A country that had once been the 6th richest nation in the world soon had over fifty percent of its population living below the poverty line. Following the crash in 1989, the new government continued these neoliberal policies and further deregulated, privatized, and rolled back state services. Part of these neoliberal reforms that occurred in the early 1990s under the new government supported trade liberalization and a pro-capital mentality.

One of the most significant economic policies of these reforms, in regards to the wine industry, was the price stabilization of the Argentine peso to the US dollar, stopping hyperinflation. The removal of most trade restrictions and export taxes, along with free entry and exit of portfolio investment, opened up the Argentine economy to the outside world. This spurred outside investment by significantly lowering the risk. The influx of technology and foreign investment increased drastically in the wine industry because of the relative purchasing power of foreign currency. While many aspects of these neoliberal policies were advantageous for foreign investment in the wine industry, these policies devastated many areas of the Argentine economy and led to the worst economic crisis faced by any nation in the world in 2002. As the country experienced economic turmoil, the Argentine wine industry came out successful through a shift in production methods, which I will explain further through the lens of Thomas Kuhn and his work on paradigms.

2.2 Was there a Revolution in Argentinian Wine Production?

Historian of science, Thomas Kuhn discusses paradigms in the context of scientific revolutions, whereas I discuss paradigm shifts in the context of wine production. The concept of a paradigm shift signifies that something revolutionary occurred. A massive change that impacted the way in which wine production functions. So, what in Argentine wine production was revolutionary? The revolution in Argentine wine production stems from a changing perception of quality wine at the point of

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technological advancements and innovation in wine production. Less than thirty years ago, discussions regarding quality production, quantity production, standards in the vineyards, and types of wood used in aging did not exist to the same extent as they do today in Argentina. This paradigm shift did not occur because of internal factors in the previous paradigm, but rather because this earlier way of producing wine began to fail at answering consumer demands both domestically and internationally. The cultural changes within Argentina and the new desire for Argentine wine to compete in international markets led to what Kuhn defines as a paradigm shift as the previous paradigm, wine production prior to the 1990s, began to reach a point of crisis. As a result, the new paradigm, wine production after the 1990s, gained traction and began to solve problems that the Argentine wine industry faced with little success. The manner in which this shift from quantity to quality wine production occurred in Argentina is explained through the concept of a paradigm shift. Before delving into the specifics of how a paradigm shift occurred in Mendoza, an explanation of Kuhn’s theory regarding paradigms is required.

2.2.1 Thomas Kuhn’s Paradigm Shifts

In his pivotal work on the philosophy of science, Kuhn poses the question: “What is normal science?” Normal science, when successful, is a period in scientific trajectories that seeks to fine-tune, solve more puzzles, and extend its range of application within the science.\textsuperscript{26} As anomalies are inevitably discovered, scientists attempt to at first ignore them or reconcile them with theoretical assumptions of the paradigm.\textsuperscript{27} As more

\textsuperscript{26} Kuhn, 144.
\textsuperscript{27} Samir Okasha, \textit{Philosophy of Science: A Very Short Introduction} (New York: Oxford University Press, 2002), 82.
anomalies compile and can no longer be ignored by the scientific community, the paradigm enters crisis and the process of normal science halts. Kuhn argues that transformative science does not occur during everyday ‘normal science,’ but rather during periods known as scientific revolutions in which discovery interrupts traditional ways of thinking and seeing the world. At the point of discovery, the period of normal science ends, ushering in a new paradigm or shift in a scientist’s ability to recognize the anomalous from the normal. In his attempt to unpack what constitutes a scientific revolution, he proposes that revolutions or discoveries, in science can be understood through a paradigm. Kuhn uses examples such as the Copernicus’s *De Revolutionibus* and Newton’s *Principia* to demonstrate instances of paradigms in scientific history. Kuhn defines a paradigm as “sufficiently unprecedented to attract an enduring group of adherents away from competing modes of scientific activity," and "sufficiently open-ended to leave all sorts of problems for the redefined group of practitioners to resolve.”

Thus, an enduring group consists of members of a scientific community who share similar beliefs, values, and methodology. This sociological definition presents paradigms as attractive to a wide group of individuals, somewhat resembling the concept of a ‘bandwagon’ in which many individuals actively decide to believe in the paradigm either based on its own merits or its demonstration of success.

Focusing on the scientific revolutions throughout history, Kuhn argues that these revolutions can be viewed as the rise of new paradigms in which the anomalous data and discoveries lead to a new way of understanding and performing science. Scientific revolutions occur at the point when an old paradigm is replaced by an incompatible, new

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one. A revolution arises during a period in which normal science, or cumulative research, halts due to the impending revolution. A new paradigm stems from anomalies that do not contribute to or support existing theories within a paradigm. A paradigm shift, or scientific revolution, causes a “scientist to see the world of their research-engagement differently.” A new paradigm repurposes tools and techniques and reveal new ideas and results that the previous paradigm could not. Stemming from previous paradigms, paradigms are future oriented since a new paradigm cannot compete against the previous paradigm in terms of its ability to problem solve. For this reason, a new paradigm comes into existence and finds a place when the previous or current paradigm is in crisis. Understanding or seeing the difference in paradigms still occurs within the framework of the paradigm in which a scientist works and views progress.

Kuhn views progression of science through its ability to problem solve. He states that a new paradigm advances because of its ability to claim that it solves a problem that led a previous paradigm into crisis; however, he proposes that problem-solving is not the only reason for the rejection of an old paradigm. It is possible that the new paradigm is ‘neater’, ‘simpler’, and ‘more suitable’ which is significant when a new paradigm is first introduced and has yet to establish itself through problem-solving. Max Planck, a physicist, is quoted saying that “a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die, and a new generation grows up that is familiar with it.” When a new paradigm comes into existence it does not seamlessly convert those of a previous paradigm. Rather, the

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29 Kuhn, 111.
30 Kuhn, 144.
31 Kuhn, 151.
scientific community in support of the previous paradigm are of the older generation and continue to support their scientific views until their death, at which point the old paradigm dies off.

Kuhn speaks frequently about the conversion of scientists from one paradigm to another. He argues that a new paradigm is not supported by endless facts and logical beliefs, but rather is supported and carried through to a period of normal science by those who believe in its merits. Often, the shift is not based on logic or evidence but rather on merit and faith. Conversion is not rational, but it is informed.\(^\text{32}\) When given the choice between two religions, the rational decision would be to make an objective comparison of them and determine the most suitable option. Kuhn argues that a switch between paradigms could not be forced and resembles a religious conversion in which faith and possibly peer pressure influences the individual to switch paradigms.\(^\text{33}\) This belief results in a members’ conversion to the new paradigm based on the perceived weakness of the previous view in explaining the anomalies. Many believe that when one converts from one view to a new one, they do so based on objective evidence; however, Kuhn argues that there is an aspect of faith combined with an informed decision being made on behalf of the scientist in choosing to pursue new views that have the potential explore new research problems.\(^\text{34}\) Kuhn argues that a paradigm cannot be forced onto an individual, but in the presence of widespread acceptance amongst prominent advocates, one could make an informed leap of faith, based on merit and evidence, and convert. This religious metaphor appears slightly misguided in the sense that Kuhn argues that

\(^{33}\) Kuhn, 150.
\(^{34}\) Ibid.
conversion between paradigms does not really occur. There is no overthrow of paradigms, but rather a dying out of the previously held beliefs, which does not appear to occur in the same frequency within the context of religion.

Kuhn argues against the idea that paradigms are the collective accumulation of steps towards discovering the truth or objective goals of sciences. He states that paradigms are "non-cumulative developmental episodes in which an older paradigm is replaced in whole or in part by an incompatible new one."35 Viewing a paradigm or revolution as bringing science closer to the ‘truth’ would imply that there is an objective goal of science; however, Kuhn argues against this perception because most scientific revolutions were discovered through anomalies or by chance. A period of revolution is a time that results in a change in one’s world-view and the replacement of a previously insufficient paradigm. Kuhn’s view holds that progress stems from the disruption of normal science at revolutionary points. Transformation, or revolution, is a point when “one conceptual world is replaced by another.”36

2.3 Paradigm Shift in Mendoza Wine Production

Situated in between an art and a science, wine-making combines individualistic influences with established scientific knowledge. Scientific and structural changes in wine production have occurred for centuries. Because of industrialization, global wine knowledge focuses on the commercial production of wine which lends towards the technical understanding of wine, whereas the artistic and traditional side of the industry has faded out of consumer knowledge. However, winemakers around the world seek to produce wines using a blend of these production styles, such is the case in Argentina.

35 Kuhn, 92.
36 Kuhn, 10.
Wine culture, the science of growing vines and the custom of drinking wine, spread throughout the world due to globalization, which is how it ended up in Mendoza. In the world of wine, individuals pursue different goals in tasting or producing a wine. Knowing how to produce a wine in one region does not lend to a consistent knowledge production in a different one. As a science, wine-making encompasses aspects of chemical analysis and technological intervention to ensure health requirements and authenticity. Due to its extensive regionalization, different tools of production and way of caring for the vines and knowing quality differs drastically. In the mid-twentieth century, the process of organic chemistry provided a new way of understanding many forms of traditional knowledge associated with taste. The technical art of wine-making requires a unique technical skill set of understanding the chemical and biological science behind producing a wine as well as the artistic mindset required to grow a wine that is true to its historical roots. A synthesis of traditional practices combined with modern technological advancements epitomizes the production style of the current paradigm in Mendoza; however, this method was not always normal.

2.3.1 The Previous Paradigm: Prior to the 1990s

According to my analysis, the previous era, before 1990, of wine production in Argentina focused on mass production, homogeneity, and guarantees of product standards. Up until the 1990s, the bulk of Mendoza wine production stemmed from large commercial wineries with the goal of producing cheap table wine for the general

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Argentina population.\textsuperscript{38} However, in the past three decades, new wineries have appeared that are focused in producing extremely high-quality wines.\textsuperscript{39} Lucho Beltrán, a winemaker for a foreign-owned winery, remarks that “in the late 60s and 70s our [annual] consumption was more than 90 liters per person but now we have about 24 liters per person.”\textsuperscript{40} This cultural practice of consuming wine reflected the practices being implemented in the wineries within this paradigm. Producing a homogeneous product consisted of using certain technologies and techniques, such as large wood barrels that were able to ferment up to thirty kilos of grapes at a time, which allowed for higher yields of wine per year. When asked about the current use of the large wood barrels in Mendoza, another Mendoza winemaker, Santiago Bologna responded that “[t]hese are traditional. They used them in the 70s. This is one of the changes that occurred and makes these [barrels] the antithesis of today’s wine production.”\textsuperscript{41} Prior to the 1990s, this form of producing wine dominated the region due to the market demand within Argentina; however, this form of production persisted through this paradigm shift and still exists in current Mendoza production in very small percentage.

A crisis began when daily routines began to change in Argentina. During the 1990s, Argentina experienced a changing economy that saw a large influx of foreign business enter the country because of the profitable economic situation for foreigners. Prior to the 1990s, “the Argentine day started at 8 and ended at 1 at which point you would go to the house eat something, take a nap and later continue working from 4pm to

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\textsuperscript{39}Ibid.
\textsuperscript{40}Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
\textsuperscript{41}Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
\end{flushleft}
8pm. That was the normal way so when you do that you have time for drinking lots of wine and eating well.”  

When this daily routine started to change, a winemaker commented that it was the point at which wine consumption rates began to fall in the country. Today, Argentine work schedules resemble that of the traditional 8-to-5 workday. A young Argentine winemaker, Lucho Beltrán, discusses how “all of our day to day activities have changed a lot. So, people stopped drinking wine every day that were mostly cheap wines, easy wines, to drinking on the weekends. Now, they can save money during the week, spend more money on the weekends, but now they want to drink something better.”  

Since the previous paradigm of Argentinian wine production relied on mass consumption of easy-to-drink table wines, this cultural change disrupted the foundation on which the Argentine wine industry had established itself. Along with the arrival of foreign winemakers and investors, Argentine wineries began to re-evaluate their place in the international wine industry. Foreign winemakers, from around the world but most prominently California, France, and Italy, invested and still continue to invest in Mendoza wine-making. As a result of policy changes within the government, it became possible for foreign experts and technologies to facilitate the wine industry’s growth into a competitive player in the global market.  

This earlier paradigm never looked outward to what the world outside of the domestic market in Argentina thought of the quality of their wines. With this influx of foreign investment, this perception began to shift. With this paradigm plunging into crisis with the changing domestic situation and shift towards

42 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
43 Ibid.
quality, the Mendoza wine industry began to look outside of Argentina and realized that “people from other countries think that our wines are good!”

2.3.2 The Paradigm Shift

As I discussed earlier in Section 2.3, in accordance with Kuhn’s definition of a paradigm shift, this changing set of ideas that shifted Mendoza wine production away from an emphasis in quantity production to that of quality production intended for export represents a disruption in ideas regarding wine and ultimately can be called a paradigm shift. The advent of the technological revolution increased the wine industry’s ability to set standards and regulate wine production not only in the vineyard but also in the fermentation process. Santiago Bologna, a young winemaker with years of experience in the Argentine wine industry, commented on the “interesting economy” and states that, “The dollar was cheap and the good thing that came of that was the ability to import.”

With the increase in imports, the Argentine wine industry faced a period of rapid evolution which changed the way that winemakers viewed their role in the process and the possibilities of the future. Bologna, the fermentation-focused winemaker for a boutique winery in Lujan de Cuyo, states that as a result “winemakers and managers began to travel and could import more technologies and barrels from France. It was a change towards a lot of technology. In the 1900s, what we started doing was improving the quality of the wines and around the 2000s, we started to export.” At this time the introduction of new tools or the change of old techniques to meet new standards of production occurred due to the increase in technological understanding that changed the way winemakers viewed the fermentation process.

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45 Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
46 Ibid.
This shift saw a change in the way that winemakers in Mendoza understood the perception of a quality wine. To produce a ‘quality’ wine, these new techniques that the paradigm shift introduced needed to be met in order to perceive their process and production of being that of quality. The previous manner of producing wine, in the large barrels with little chemical analysis, became the antithesis of quality production even though this manner of producing wine does not inherently produce wines of lower quality.

The point of the paradigm shift occurred with the introduction of technology that led to a new way of understanding quality production and the perception that only certain modes of production within Mendoza could lead to a higher quality product than what was previously being produced. The goal of pursuing quality rather than quantity production represents the ideological change that occurred in the midst of this paradigm shift. External factors, such as demand for Argentine wine exports, led to the increased prominence of this paradigm shift from that of mass production to quality production. In the mindset of a winemaker, it appears obvious that “the things we are going to export are of quality...we began to look at what we were doing, and we began to change.” This statement demonstrates the sentiment that previous era of wine production called for change in order to begin producing quality wines. As Joaquín Hidalgo a journalist and winemaker from Argentine points out in an Argentina wine blog, the change that occurred in Argentina was mostly invisible. The change was “an idea, a set of ideas about what wine should be and how to make it, which in turn establishes new practices.”

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2.3.3 The New Paradigm

The current state of Mendoza wine production developed out of this changing set of ideas surrounding quality. The increase in exports and rise of Argentina as a competitive entity in international wine markets solidified the paradigm. In 2008 alone, the export of Argentine Malbec to US markets rose 61 percent. Following Kuhn’s argument, the new paradigm focusing on quality production began to ‘problem-solve’ and succeed in placing Argentina in a competitive position in relation to wine producing centers around the world. Prior to the innovation and shift towards quality production, members of the new paradigm could not guarantee success in the paradigms ability to increase Argentina’s international recognition as a quality wine producing country. As a Mendoza winemaker states the success of the paradigm became visible when exportation began, and they were able “to see that our wine was very competitive in the world with countries such as the United States, France and Italy.” As a result of this success, winemakers “began to invest a lot and to say that the level of Argentinian wine is of quality. And, in the years 2000 and 2001 it started to happen.” Some of these new technologies consisted of chemical analysis tools that allowed winemakers to understand the chemical components of their wines and impact these results in the vineyard. Many of these new ‘technologies’ were only new to Argentinian forms of wine production. They had been occurring outside of Mendoza in other regions many years prior. These new forms of understanding the production process revolved around control in the vineyard. Many of these new practices were implemented in Europe in prior decades and were just

not making their way into Argentina because of the opened-up economy. Being able to control uniformity amongst grapes contributes to the ability to produce a quality wine that symbolizes the best of Argentine wine production. Initially, the implementation of new technologies, such as vineyard purification, scientific analysis, and vineyard control methods, in pursuit of elevating the perception of quality Argentine wine began with a group that believed in the future potential of Mendoza wines to compete at a global level.

These new ideas and technologies led quality to be associated with technological advancement within the context of Mendoza. Producing a wine of quality required the use of technological innovation both in the vineyard and in the winery. Speaking on this topic, Lucho Beltrán states that in his winery “you will find technology, innovation, quality wines that are clean and elegant.” The perception of quality quickly became associated with the new way of producing wines using technological innovation and vineyard controls processes because of the success that Mendoza wines experienced in international markets. Receiving high ranking around the world, these new, elegant wines finally put Mendoza in the arena of quality wine production; thus, solidifying the new ideas and paradigm as successful in the eyes of those within the paradigm. Members of this new paradigm that pursue quality through technological advancement believe that with the influence of technology they “stopped making a lot of stupid things in the wine.” The change in vineyard practices and formation standards became a form of progress according to those who believe the new ideas produce higher quality wine.

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50 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
51 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
2.4 Conversion Between Paradigms

Recall Kuhn’s metaphor of religious conversion between paradigms in section 2.2. He explains the difficulty of converting individuals of a previous paradigm to a new one. He quotes Planck and highlights the idea that in the normal course of things, members of an older paradigm die off and with them their ideas and way of conducting science. A similar conclusion can be drawn in the context of the paradigm shift that occurred in Mendoza wine production. Amongst the diverse group of winemakers that I interviewed in Mendoza, only one was over the age of fifty. A younger winemaker, Lucho Beltrán, who argues that technological advancement is the route to produce higher quality wines, observes that “you will see that many winemakers are young. Generally, because there were very few old winemakers who were able to capture the change.”

When a paradigm shift occurs, members of the previous paradigm either change their way of thinking or remain steadfast in their beliefs. Within Mendoza, the paradigm shift took form in two different ways. First, the processes changed within the wineries due to the influx of new technology and foreign investment. Second, winemakers of the older paradigm were being told that in order to remain competitive they needed to change their ideas and understanding of quality. For this reason, “there are only 10 or so winemakers that are older but the rest are in between 30 and 45 years of age.” Due to the success that the new paradigm experienced, an easy assumption would be that the older generation of winemakers would be put out of business; however, conversion not only occurs at the level of production but also within Argentine wine culture.

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52 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
53 Ibid.
For decades, producing wine in the old style, with less technological intervention dominated the domestic market. Generations of Argentinians grew up drinking this style of wine that was produced in the large wood barrels with less technical intervention such as chemical analysis. As Beltrán explains: “There are some wineries that are still producing wines in this way. They stayed the same. They didn’t change because they had a market in the country. The older people were accustomed to drinking these wines since they drank them as kids.”54 As Kuhn argued, the older paradigms did not just disappear overnight but rather slowly ‘died’ off with the passing of the older generation. Argentina remains one of the highest wine consuming countries in the world which is reflected in the amount of Mendoza wine that is distributed domestically. The older generation of wine drinkers in Argentina provides a market for the older generation of winemakers who did not convert to the new paradigm in the years following the 1990s. As the demographic of wine drinkers die off, the possibility exists that these production methods will cease to have a market both internationally and domestically and will result in the closure of a paradigm.

2.5 Progress Within Paradigms

Winemaking is a tradition that is thousands of years old and has experienced many periods of evolution. Very few, if any, would argue that there has not been progress within the wine industry throughout this extensive history. Kuhn’s view of progression between paradigms and looking to the past to understand progression aligns closely with advancement in the wine industry. In the wine industry, progress varies depending on consumer and cultural tastes during distinct time periods. In this sense, how is progress

54 Ibid.
understood in wine? Working within a Kuhnian context, the definition of progress within a paradigm remains difficult to define. Kuhn struggles with understanding the relationship between progress and science. Within normal science in a paradigm, progress occurs when members of a scientific community work within closely related sets of information. After a paradigm shift, the progress of a field is difficult or impossible to uncover because it ceases to exist. Disturbed by this apparent lack of accumulation between paradigms, Kuhn sought a way to understand how science advances. One might think that progress is the directional change toward a certain point, whereas Kuhn suggests that rather than directional change towards a better, or true, point that instead we are evolving away from something.55 For this reason, one notion of progress is relative to a past starting point. For Kuhn, progress is not towards an objective truth because each paradigm defines this truth differently. Kuhn suggests that facts are paradigm relative and change when a paradigm changes.56 Truth is relative to the paradigm. Thus, progress is different for each paradigm.

Within the context of the paradigm shift that occurred in Argentina, the ability to adapt to changing consumer desires for higher quality products mirrors progress within the new paradigm. To a certain extent, members of this new paradigm argue that progress is seen through the increase in quality and health controls. Lucho Beltrán beautifully states that his goal as winemaker “is to make the purest, cleanest, most focused wine that I can produce. I love clean, pure, direct, wines. I keep this goal every year but at the same time it’s something that I will never really get because I will always think that I can be

better.” Reaching an objectively pure or quality wine is yet to be strictly defined.

Individual winemakers set goals to produce wines of high quality but still believe there is room for growth within their science or art. The new paradigm did not solidify a definition of quality within the wine industry. To an extent progression in wine can be synonymous with the changing perceptions of quality. As consumer desires change and new global markets become accessible, the wine industry adapts to meet these standards which can be viewed as progression in the production process.

In Argentina, the shift from mass production to quality production in the 1990s represents a change that occurred in the pursuit of adapting to changing economic needs in the industry. With this change, practices and knowledge regarding wine production shifted away from older production methods; however, this does not directly mean that members of the new paradigm found a production that style that objectively produces a higher quality wine. Rather, wine drinkers within this paradigm perceive and understand this new form of production as being of higher quality. Kuhn states that “there are losses as well as gains in scientific revolutions, and scientists tend to be peculiarly blind to the former.”

Within the wine industry, winemakers producing wine within the new paradigm remain blind to the prosperous forms of production that were in place throughout history. Innovation and technology have become instrumental in producing quality wines whereas the lack of these methods produce products that today’s paradigm consider to be of lower standards. Members of this paradigm gained valuable information and a wider understanding of the chemical and biological differences in the styles of

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57 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
58 Kuhn, 166.
production in wine; however, the loss of certain traditional forms of production represent a facet of the paradigm shift that current members of the new paradigm do not yet view.

2.6 Beginning of Geographic Indication Systems

The paradigm shift from quantity to quality production in the 1990s manifested not only in social goals behind the production of wine but also led to the implementation of physical markers, such as geographic soil maps, to determine quality within different pieces of land. With the influx of foreign influence and new technologies, members of the new paradigm began to understand the land and potential of the Argentine wine industry through a new lens. The French notion of terroir began to spread throughout the industry, leading to the implementation of new systems to regulate and understand geographic differences in the quality of wine. One of the reasons behind the paradigm shift was the desire for Argentinian wine to be understood and appreciated on an international level. Establishing a local commodity in the international global food industry presents the need for a system to understand the place and production in which a product originates from. The answer to understanding and distinguishing between quality in wine production occurs through the implementation of geographic indications. In the context of Argentina, these systems began to take form when the paradigm reached a point of normal science in which progression could occur in contributing to the way that quality is understood within the vast region that is Mendoza. This will be discussed further in the next section.

3. Geographic Indications at the Onset of the Quality Revolution

Geographic Indications (GIs) shape the way that people understand the global wine industry and redefine the boundaries of productions by creating an authenticity that is connected to place. In the current paradigm of wine production in Mendoza, the
establishment of GIs represents a shift toward quality production of a wine through understanding the impact of the land including region, soil, terrain and grape variety. GIs offer consumers an opportunity to understand the origin and distinct taste of a wine through the connection to regions. Many wine drinkers understand GIs without realizing their involvement in the system. For example, opening a bottle of champagne versus a bottle of sparkling wine comes with an increased assumption of the quality of the bottle because of the Champagne GI. Sarah Bowen, a sociologist, defines GIs not only as place-based names but also “as the cultural and historical identity of agricultural products.”59 In an attempt to understand local places in a globalized world, GIs have been closely tied to the concept of terroir, the idea that “the special quality of an agricultural product is determined by the character of the place from which it comes.”60 However, GIs have been implemented differently throughout the world due to their close association with the culture and government that it is situated in. There is a wide range of systems and institutions that protect GIs including the World Trade Organization (WTO). A GIs’ protected status shows their importance in global trade systems.61 As a consequence of differing GI systems in distinct wine centers, the concept of terroir and its importance in understanding quality also varies from country to country. As the quality revolution began, wineries around Mendoza began to distinguish themselves by the geographic areas.

60 Ibid., 210.
3.1 Geographic Indications as Boundary Objects

Coining the term boundary object, anthropologist Susan Star and philosopher James Grisemer introduce boundary objects as:

…scientific objects which both inhabit several intersecting social worlds and satisfy the informational requirements of each. Boundary objects are both plastic enough to adapt to local needs and constraints of the several parties employing them, yet robust enough to maintain a common identity across sites… They may be abstract or concrete. They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable means of translation.\(^{62}\)

Establishing a connection between dissimilar practices and groups, boundary objects unite diverse ideas and forms of practice in pursuing a common goal or reaching a shared platform for discussion but do not require that a consensus is reached by these different actors. However, boundary objects are not always successful in facilitating collective work. A food label acts as a boundary object that needs to function as an entity across multiple social groups including producers, retailers and consumers each of which understand a food label in different ways and for different ends.\(^{63}\) In this case, wine centers around the world use GIs to distinguish quality of a wine or converse about differences in the land; however, their implementation and form in each of these countries restricts or supports differing modes of production and standardization. For example, GIs in Argentina, France, and Italy all differ from each other in unique ways.


While French and Italian GIs share many commonalities, they differ in the types of regulations they enforce on winemakers in their respective regions.

Sarah Bowen seeks to understand how developing countries have implemented geographic indication systems and whether they were successful in promoting and protecting the vendors of local commodities. In her work, she focuses on the tequila industry in Mexico and the unique challenges that establishing a GI system entails in the Global South. Through an analysis of the history and modes of implementation of the tequila GI in Mexico, Bowen argues that GI schemes must be adapted to the specific resources, objectives, and challenges of each context, in order to truly lead a process of ‘development from within’”. In this sense, GIs in different countries should take on unique structure and regulation based on the necessities of each respective industry and culture. Throughout the next few sections, I will discuss the GIs in Italy, France, and Argentina to argue that GIs are boundary objects within the wine industry through their distinct implementations in wine centers around the world. Furthermore, I will address the challenges the Argentinian wine industry faces in its path to implementing geographic indications.

3.1.1 French Geographic Indications

Starting as early as the 15th century, a system to determine quality and authenticity in France began in the cheese industry. However, it was not until the 20th century that terroir became the basis for the system of land categorization coined the “Appellation d'origine controlée” (AOC). Terroir and the establishment of appellation systems solidified the nationalist sentiment surrounding French wine and a protectionist

perception of “Frenchness”.65 When it comes to labeling a bottle as Champagne, even though it is a sub-region of France, it represents France as a whole. GIs created a concrete boundary defining quality through the focus on specific vineyard and geographic areas based in differences in French soil. Since France has one of the longest existing concepts of *terroir*, enologists and soil specialists have extensively studied vineyards and drawn boundaries between distinct terroirs which resulted in the extensive GI system in France.66

As the wine industry began to spread globally, top wine producing regions such as France sought to ensure uniqueness and exclusivity through the creation of a claim to land, in other terms, using GIs as a certified claim to quality. The first and one of the most well-known examples of connecting a wine to its place of origin is that of Champagne. In the early 1900s, French winemaking experienced a protectionist regime. In an attempt to secure the Champagne producing territories, French winemakers and regulatory bodies established that Champagne’s quality is tied to French land, specifically that of Champagne, making it a national commodity.67 The establishment of Champagne as French, ultimately occurred through the French notion of *terroir*, tied the taste of a wine to the place that it comes from, creating a sense of ‘somewhereness’.68 This notion

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of terroir exists as one of the main factors behind the establishment and protection of GIs in the French wine industry.\textsuperscript{69}

3.1.2 Italian Geographic Indications

In Italy, the system to regulate and ensure quality production of wine is called the: “Denominazione di origine controllata” (DOC) with a further specification of guaranteed quality titled “Denominazione di origine controllata e granatita” (DOCG). DOCG is the stricter of the two because it is tested by a committee to ensure geographic authenticity and quality of the wine.\textsuperscript{70} One of the most prestigious DOCG regions in Italy is that of Barolo. In Northwestern Italy, specifically the Piedmont region, the production of Barolo wine relies heavily on the idea of terroir. This region of Italy, bordered by the Alps, Apennines, and the Mediterranean, receives annual snowfall that contributes to the growth and place identification of wine. This region produces many different types of wine including but not limited to Barbera, Barbaresco, Barolo, and Langhe Nebbiolo which are all distinct wines named after the region that they come from rather than the type of grapes that are used to produce the wine. A Barolo wine sells for a significantly higher price point than its counterpart Langhe Nebbiolo, even though these two wines are made with the same grape varietal. Amongst winemakers in this region, there is tacit knowledge that the vineyards and plots of land with the quickest snowmelt are the crus, or vineyard sites, used in the production of DOCG Barolo. The Nebbiolo grape, regarded as Italy’s noble grape, makes up 100 percent of both Barolo and Barbaresco. A Barolo is simply Nebbiolo grapes that come from specific plots of land, have been aged in wood


barrels for a minimum of 18 months, and have been stored for a minimum of three years before release. If these standards are not met, then this wine is simply a “Langhe Nebbiolo” even though it was grown within the Barolo GI.

The ability of terroir to influence the value and prestige of Barolo demonstrates the potential economic advantage that place identification has in the wine industry. The wines that come out of this region are some of the most prestigious and expensive wines in Italy and originate from a geographically small area. Linking a wine to its terroir, or GI, Barolo wine production demonstrates the vast differences that results from the distinct plots of land and standards of production. The Barolo and Barbaresco GIs revolve around strict codification of the region and production methods, ensuring standards and traditional practices. These GIs have undergone changes and modifications over the years. In recent years, regulators implemented stricter measures on winemakers in the region which are as follows:

While it still mandates that vineyards must be exclusively on hillsides, the new production code specifically prohibits planting vines on valley floors, in humid or damp terrain, on flatlands, or in areas without sufficient sunlight. It also categorically excludes any northern exposures, and while it does not impose a minimum altitude, Barbaresco vineyards cannot be over 550 meters (1,804 feet) above sea level. In 2010, Barolo followed suit after delimiting its own growing area, and adopted essentially the same rules for vineyard location as in Barbaresco.71

The GIs in Barolo closely regulate all aspects of production ranging from the type of grape being planted, the side of the hill it is planted on, the altitude, and much more.

These types of GIs are very common in Europe because they pursue traditional standards of production that have been occurring in the region for hundreds of years.

3.1.3 European Geographic Indication Impact on Wine Production

French and Italian vintners working within GI regulations are some of the most restrictive in the world in terms of their ability to impact the production process of a wine.\textsuperscript{72} With the rise of wine production in regions outside of Europe, European winemakers used GIs to instill a sense of nationalism, exclusivity and superiority of their wines in contrast to wines coming from newer wine centers, such as Argentina. The winemakers proclaimed that their terroir is unique in the world and no other terroir can truly compete with French or Italian land. Through the national and regional identity established by terroir, French winemakers sought to market terroir and tie it globalized claims of superiority in an increasingly industrialized and technological wine industry.

Wine regions across France have undertaken extensive scientific research to understand the differences between specific vineyards to assert concrete evidence supporting their higher quality wines. Within the French scientific context, vineyard location and specificity acts as the most significant factor in understanding terroir. Terroir, for the French, represents the ability to withdraw flavors from the wine that Amy Trubek, a doctor in Anthropology, argues in her book \textit{The Taste of Place}, presumes are “imparted by the vineyard site itself.”\textsuperscript{73} For this reason, many vineyards in France are shared by multiple winemakers who seek to create high quality wines. In official literature from the Institut National des Appellations d’Origine, the establishment of the

\textsuperscript{72} Robinson and Harding, \textit{The Oxford Companion to Wine}, 404.
\textsuperscript{73} Jamie Goode and Sam Harrop, \textit{Authentic Wine} (Berkeley: University of California Press, 2011), 65.
AOC and geographic indications stems from knowledge developed during ancient times that “certain lands are made more suitable to the creation of products that retain, and in fact draw out, the specific flavors of that place.”\textsuperscript{74} The obligation of the French winemaker is to pull out specific tastes of the particular vineyard site which functions as one of the cornerstones of French wine production.

The motive of these studies is not to plant new grapes or change traditional practices within production in these regions. The AOC restricts winemakers from planting certain types of grapes in specific areas if they desire to receive certain labels. These regulations seek to create local regionalization that separates France into diverse localized area, mainly using geographic indications. French winemakers draw on many modern scientific studies but are restricted by many traditional factors that the AOC requires to obtain official GI labels of a specific terroir thus creating a sense of “Frenchness” and exclusivity unique to their terroirs.

Thus, GIs in Europe seek to protect their exclusive products by localizing production and ensuring set standards meet tradition. In these two examples, the GIs seek to respect tradition and ensure quality protection of a local product within a globalized wine industry. GIs seek to tie the quality of a wine to the place that it originates from by establishing set knowledge regarding its production methods and grape varietal.

Scientific studies of Italian and French vineyards seek to understand why the quality of these wines far supersede competitors; however, these studies do not wish to change the way in which production or viticulture functions within their respective regions. In part, this is a result of the use of GIs to protect tradition.

\textsuperscript{74} Amy Trubek, \textit{The Taste of Place: A Cultural Journey into Terroir} (Berkeley: University of California Press, 2008), 28.
3.2 Mendoza Geographic Indication

Mendoza is by far the largest and most well-known Argentine wine region internationally and is considered a region of higher quality by Argentinians and wine connoisseurs. GIs play a significant role in the Argentinian wine industry’s emergence into the ‘quality wine’ market. Geographic indications in Argentina function in a very distinct manner from those commonly found in other places around the world. In other words, most countries where wine production started after colonization, such as Argentina, have gained a reputation based on the grape they are known for. Lucho Beltrán, one of the winemakers for a large-scale production winery in Mendoza, states, “We couldn’t present Argentina as Pedriel even if we know it is the best. First because people don’t know Malbec and second because people don’t know Argentina.” With the paradigm shift in the 1990s towards understanding quality wines from Mendoza, winemakers in the area began to call for a stricter understanding of the different regions

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75 Pedriel is a geographic region located within Lujan de Cuyo that is known for producing quality Malbec grapes.
76 Beltrán, Lucho, personal interview with the winemaker, January 11, 2018.
and the regulation of them. Throughout Argentina’s extensive history, most GIs have been determined by political or city lines. The Lujan de Cuyo region versus the Maipu regions grew out of its location and development in relation to the city of Mendoza which can be seen in Figure 2. Viewing these regions as different due to their historical origin is beginning to change and shift towards a deeper and more scientific understanding. In interviews with winemakers in Mendoza, this desire to delve into geographic differences appeared in many different forms through either the pursuit of a sense of place or a tie to terroir within the large geographic area of Mendoza. To better understand GIs in Argentina, I will outline their regulations and structure, or lack thereof, in the context of Mendoza.

3.2.1 Mendoza GI Regulations

The Mendoza wine region encompasses approximately 356,000 acres of planted vineyards, which is twice that of Piedmont. When comparing Argentina to other wine producing countries, it is important to understand the vastness of the region. In Mendoza,
there are three main wine producing regions: Lujan de Cuyo, Maipu, and Uco Valley. The first GI in Argentina was that of Lujan de Cuyo in 1993 which can be seen in Figure 3. This region is the oldest wine growing region in Mendoza and encompasses some of Mendoza’s historic vineyards. It is also known as being one of the premier wine growing regions in Mendoza. The Mendoza wine region alone spans nearly 2400 km along the foothills of the Andes Mountains, which is a geographically large area in comparison to other wine regions. Little research has been done regarding the use of GIs in Argentina.

Most of the wineries that I visited were located very close to the city of Mendoza. When driving to some of the most prestigious wineries in Argentina, I had very little sense that I was even in a premier grape producing region because of my prior experience with French and Italian vineyards being located in rolling hills far removed from cities. Diego Chavarria, a winemaker located in the immediate outskirts of downtown Lujan de Cuyo, argues that “When you see vineyards so close to the city it means that they are old,” meaning as well that they are more prestigious. Within Mendoza, tacit knowledge dominates knowledge of geographic origin because of the lack of regulation and consistency. In a large export-focused winery in Lujan de Cuyo with foreign owners, the only regulation that they must follow in their labeling process is that “for calling a varietal the varietal it has to be at least 80 percent of the varietal.” This labeling constraint is one of the most important regulations under Argentina’s growing DOC and

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78 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
regulatory body.\textsuperscript{79} However, this lack of consistent regulations questions the credibility of these GI systems which could be a reason for further government involvement.\textsuperscript{80} After this interview, I was interested in further understanding how the Lujan de Cuyo GI functions because this winery didn’t use the GI on its labels. In one of my next interviews, I learned that one of the main limiting factors in Argentina with GIs is that in order to use a specific GI called an appellation of origin (AOC), a winery must use their own grapes. The International Association for the Protection of Intellectual Property states that an AOC label can be used to,

\begin{quote}
…designate premium quality wines or spirits from selected grapevines produced in a geographically defined and quality differentiated area, produced from grapes grown within such area and manufactured and bottled within such area, inasmuch the natural environment and human factors provide the product with specific characteristics which are different to those of products produced under similar ecologic conditions.\textsuperscript{81}
\end{quote}

In Argentina, the process of buying grapes occurs at high frequency in Mendoza for this reason there are very few wineries that use AOC designations. Many vineyards located in Lujan de Cuyo do not own vineyards in the Uco Valley but produce wines from that region. However, in order to use an Uco Valley AOC, the winery must have a location in the Uco Valley and grow their own grapes in the region as well as process the wine there.


\textsuperscript{81}“Standing Committee on Geographical Indications Questionnaire to National Groups” (AIPPI, June 13, 2017), 5.
While speaking with Chavarria, I learned that a version of Italian DOC regulations similarly named DOC, exist in Mendoza, but it “…is not a commercial movement. There are only five or six wineries that are in DOC commitments. This is interesting because we really focus on terror in Lujan de Cuyo. Thus, there are smaller departments in Lujan, Drummond, Vista Alba… these are micro areas thinking about the difference between France, the east, Uco Valley, and inside Lujan where the plants are very old. There are differences.”

The DOC that Chavarria speaks about is for producers who are producing in the old style using the historic vineyards; however, the constraints are only limited to the specific vines, the place, and the minimum amount of time that the wine should be aged in the wooden barrels.

Finally, one other mode of understanding geographic origin in Argentina is called IP, or Providential Indication, which can be seen in Figure 4. IP is used to distinguish between the seven wine growing regions in Argentina. Tomás Cuminetti, the winemaker at a terroir-focused boutique winery located in the Lujan region, states that: “In Mendoza up until recently, we didn’t have the possibility to put DOC or GI. What we could put was an IP. IP which is an indication of province. What this IP does is informs you of where this wine was processed. So, for an ‘IP Mendoza’ it means that it was worked on

82 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
and processed here in Mendoza.”\textsuperscript{83} Even though I have been focusing on wine production in Mendoza, there are many different wine regions within Argentina, including Salta, Cafayate, and Rio Negro.

3.2.2 The Issues Facing the Regulation of GIs

Within Mendoza’s extensive history, the significance of geographic origin only began after the quality revolution and the paradigm shift towards quality production. With quality being tied to an understanding of the land, Argentinian wineries began to call for greater regulation of these geographic spaces using GI systems such as those implemented in Europe. However, this process is not as easy as it appears. The implementation of GIs involves significant scientific research to understand the boundaries of these geographic differences as well as legal battles over the historic use of vineyard names that have been trademarked by certain wineries, such as the case of Altamira. As GIs became more prominent in Mendoza, names of geographically distinct areas had already been trademarked by certain wineries. For this reason, certain GIs, such as the Altamira GI, are officially named Paraje Altamira because “the owner of Altamira refused to cede the name to the national wine industry. As a result, you’ll see Paraje Altamira GI on the label instead” of Altamira.\textsuperscript{84} One of the biggest issues facing GI legislation in Argentina is the lack of state involvement and regulation; however, a general sentiment, among winemakers interviewed, conveyed a deep mistrust in government regulation because of the decades of economic turmoil that the country recently faced. Sarah Bowen eloquently highlights this issue in arguing that, “it is

\textsuperscript{83} Cuminetti, Tomás, personal interview with the winemaker, January 11, 2018.
\textsuperscript{84} Barnes, “Argentina’s Evolving Appellations New Geographical Indications in the Pipeline Reveal How Argentina’s Appellation System Is Changing.”
necessary to recognize that the opportunities and constraints faced by producers in developing countries may be very different from the experiences of European GI producers, who benefit from much longer histories of protection and substantial institutional support. As Bowen highlights, the implementation of a GI system remains tricky in the Global South since it exists within a different context and does not receive the same government support in regulation as a similar GI in Europe. Since there is no existing regulatory body or market understanding of the regions outside of Argentina, a GI label currently would provide the consumer with little trustworthy information that helps them better understand the terroir of the wine because of their interchangeable nature. As the geographic areas start to become more solidified throughout the Mendoza region, these GIs will start to provide consumers with a consistent measurement across the region. As the accuracy of GIs increase in the context of Mendoza, the ability to communicate quality to the consumer will naturally increase.

3.3 Geographic Indications’ Influence in the Consumer Context

Changing consumer perceptions has led to the question of how quality is understood through bottle labels and geographic location. As consumer demographics change, consumers have started to call for a more specific understanding of the uniqueness of a wine. Consumers have been influenced by terroir through its connection to quality based on geographic regions and economic incentives. Labels on wine bottles from different regions portray information exclusive to those areas. Some regions are more specific than others such is the case with French labels.

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85 Bowen, “Development from Within? The Potential for Geographical Indications in the Global South,” 244.
86 Goode and Harrop, Authentic Wine, 248.
3.3.1 Labels in France

Winemaker René Lamarre states in the beginning of his editorial, “Where Industry Meets Terroir”; “I cannot repeat it enough: with the way that [wine] lists are drawn up today, within ten years’ people will no longer be acquainted with the name Champagne but with those of Roederer, Planckaert, Bollinger and it will not matter from which [grapes] these wines are produced.” 87 This exemplifies the further regionalization and categorization that could occur within the French wine industry, considering that wines from the same terroir have the potential to embody very different flavors and taste depending on the practices used and the impact of the winemaker. In Figure 6, the wine label places an emphasis on the place where the wine was made. The name of the winery is displayed prominently along with the region and classification that this wine received. This wine label does not display the types of grapes that are in the bottle; however, Boudreaux classifications contain a possibility of six different varietals. At first glance,

87 Trubek, The Taste of Place: A Cultural Journey into Terroir, 25.
this label provides the consumer with information about the wine through different words and certifications. It also ensures a sense of *terroir* and quality. This bottle has the certification of “Appellation Bordeaux Superieur Contrôlée” which is a geographic indication in France. Lamarre points to the fact that in the future, these labels may shift to more of an emphasis in the specific winery from whence the wine comes, creating an even more specific system of understanding wines, rather than in emphasizing the geographic indication; however, for now, the geographic indication functions as the primary mode of conveying *terroir* and standardization of taste to a consumer.

When discussing the French label system of GIs with Santiago Bologna, he stated that, “If you were to directly say Burgundy, there it is, you know that it’s from France. It’s an area that is very small for the amount of acknowledgement and fame it has. It has thousands of years of being known thus they don’t provide the variety of the grape is because it’s not important.”

88 The use of GIs in the context of French wine labels reflects the extensive history associated with wine production in the region. The consumer knowledge of French wines permeates wine markets around the world. Steeped in tradition, French GIs seek to protect and identify the uniqueness of the region. The worldwide recognition of French regions stems from the extensive history of GI systems as well as the broad consumer knowledge that has been established regarding regional identity in France.

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88 Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
3.3.2 Labels in Argentina

One of the most obvious differences between the labeling of Argentine wine bottles and the French, is the emphasis on the grape. Very prominently on the front of most wines from Argentina, the prominent grape in the wine is clearly displayed on the front of the bottle. As shown in Figure 7, the wine label provides the consumer with the information that it is a Malbec; however, it does not provide much more information that allows the consumer to understand the wine such as terroir or the specific sub-region that it comes from in Mendoza. Many different factors may contribute to the emphasis in the grape rather than the focus on the geographic indication.

The simplicity of this label results from the regulations that were discussed in section 3.2.1. and is an example of a non-terroir-oriented wine from Mendoza. Argentine quality restrictions in regards to bottle labels are relatively relaxed in comparison to other places. For example, the Bodega Zapata winery, which produces Alamos, is located

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within Lujan de Cuyo; however, this label does not present the Lujan de Cuyo GI. This most likely is contributed to the fact that the grapes used in this wine were not grown in the region or potentially were bought from another grower. For this reason, this wine can only be geographically labeled as coming from Mendoza because there is at least 80% of the Malbec varietal in the wine and all of the grapes come from the Mendoza province.

The incentive behind increasing the knowledge and use of GIs in Argentina is to provide the consumer and international markets with a wider understanding of the geographic differences present in the taste of the wine that results from the different sub-regions. Diego Chavarria states that “we are working with GI and terroir to know that there are wines from Argentina that you like but some that you may like better than others and this is because it may be from Gualtallary or Agrelo.”90 Geographic indications appear on wine labels from around the world. Regarding Argentinian labeling, the biggest obstacle is communicating the GIs to those wine drinkers who are not as familiar with the geographic regions of Argentina. Chavarria demonstrates that on a wine bottle you “have ‘Agrelo, Mendoza, Argentina’. If you say to someone ‘Agrelo’ and they don’t know it, then you say ‘Mendoza’, and if they know a little about wine they may know it, and after that you say Argentina.”91 He refers to this as the wines’ story and its tie to its place and history. This obstacle in communication is difficult to overcome because there is still a lot of confusion surrounding the system that is being used in Argentina. Every winemaker that I spoke to discussed a different system and emphasis in the terroir. Some wineries were extremely driven by these labels and consequently on

90 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
91 Ibid.
communicating *terroir*. While others were not concerned with these label structures or guarantee of quality.

### 3.4 GIs as Boundary Objects between European and Argentina

Referring back to the definition of boundary object in section 3.1, boundary objects do not require agreement between different groups but do call for the ability to have shared discussion. Geographic indications act as boundary objects because of their distinct interpretations in different regions. Within Argentina, GIs take on a grape-variety-focused approach rather than a specific-origin-focus, which initially creates a divide in the unity of GIs. In the case of GIs of distinct regions, these different groups can discuss quality in terms of understanding the land in which a specific wine comes from; however, GIs differ in the call to action regarding quality assurance and modes of production. In the case of Argentina, GIs do not influence the decisions made by winemakers. Rather, GIs are used to understand the diverse geographic areas under cultivation in Mendoza and better communicate these differences to an international market.

Referring to section 3.1.2, Italian GIs extensively regulate all aspects of production whereas Argentinian GIs seek to understand differences based on the geographic region and do not seek to control decision-making within the production process. Winemakers in Argentina seek to use GIs to talk about *terroir* in the unique context of Argentinian production. The lack of consensus and structure of the GIs in Mendoza allows for innovation and the production of unique products. The scientific research revolving around understanding Argentina’s different terroirs leads to the further

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ability to implement GIs, however, it also allows for new vocabulary to discuss the wide-variety of wines being produced in the region. Within Mendoza, there is a little desire for GIs to resemble those of Europe because of constraints that could be placed on the freedoms of Argentine winemakers in the production process. In section four, I will discuss how this lack of regulation and barriers to fully adopting European systems leads to unique and innovative ideas originating from the Argentine wine industry through the creation of a new version of terroir.

4. Argentina Reverse Engineering Terroir

Through the process of adapting, innovating, and advancing terroir-based discussions in Argentina, Argentine winemakers have reverse-engineered the concept to embrace facets of its traditional definition while paving a new path for terroir use that is specific to their goals. Following the 1990s, a broad range of vineyard technologies could be found in Argentina. With a wine history dating back to the 1600s, the Argentine wine industry takes its own approach to terroir. In Spanish, there is a word, terruño, which is the equivalent of terroir and has been a part of Mendoza vocabulary since the end of the 19th century. Winemaker Santiago Achaval, president of the Achaval-Ferrer winery, believes that terruño encompasses all the nuances of terroir with a few additions. He states that for Argentines terroir is: “the originality and personality of a wine. It is also a source of never ending wonder: how small distances and slight differences in soil composition, exposure, and even surrounding plant life result in very noticeable differences in the wines.”

Achaval’s interpretation of terroir highlights his desire to discover the best land in which to grow wine. Motivated to find the best soil composition

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to grow the Malbec grape varietal, Argentine enologists and vintners focus on the potential that the land has in shaping a wine rather than focusing on the specific tastes of the land appearing in the wine. Seeking to innovate and develop a deeper understanding of their wines, Argentine winemakers are reverse engineering *terroir* through scientific research, marketing discussions, and implementation of GI systems.

4.1 Paxson’s Theory of Reverse Engineering *Terroir*

Can an AOC style system to discover and generate place-based knowledge be replicated in Argentina? In their 2008 article “Creating the Taste of Place in the United States: Can We Learn from the French?”, Amy Trubek and Sarah Bowen seek to discuss GIs and understand the social science of placing food into categories. They ask a pivotal question: “How could a U.S.-based model for place-based products also acknowledge the American emphasis on innovation and change?” This question is important in the case of Argentina because it the same can be asked in the case of Argentina. With the establishment of GI systems outside of Europe, consumers attempted to compare and translate *terroir* between the distinct systems in practice in Europe and outside of it. However, the culture and desire for innovation within Argentina differentiates these systems from each other. A way in which to approach these differences is through Heather Paxson’s idea of reverse engineering *terroir* – utilizing a previously established concept in a new or “backwards” manner to achieve new and innovative goals separate from those of the previously established system.

Paxson, a cultural anthropologist, focuses her research in a studying a ‘renaissance’ in American artisan cheese production. Her pivotal work, *Life of Cheese*,

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explores the American cheese industry and how the craftwork has become a new source of cultural and economic value for producers and consumers. One of the chapters in the book discuss terroir and its application in the cheese industry. Along with one of her articles published a few years earlier, Paxson explores terroir in relation to artisan cheese culture in the United States. She seeks to understand “what happens when an essentializing category is translated from one cultural tradition to another.”95 Contrary to their French counterparts, cheesemakers in the United States ask the question of what cheese is best suitable to this environment and this landscape, rather than seeking traditional standards or production. She claims that, in the 1980s, artisan cheesemakers in the United States reverse engineered terroir through its backwards ideal type and status as a “model for practice that has yet to become routinized, standardized, and embedded in either task-scapes or landscapes. Terroir in the United States is not simply ideational; it is idealistic.”96 The act of reverse-engineering terroir in this context functions to legitimize and almost naturalize cheese production and innovation within the American cheese industry.

Within the cheese industry, GIs exist and function in a very similar manner as in the wine industry. The historical significance of GIs described in section 3 in relation to wine parallel that of cheese GIs. Established in France in the 1400s and utilized throughout history to create a sense of place and protected designation of origin, this system of practice “is not gaining much traction among cheese producers in the United

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96 Paxson, 445.
States, who are disinclined to embrace this degree of bureaucratic control.” By not subscribing to this European system of GIs, cheese-making regions are able to innovate and create many different types of cheeses that best suit the environment and individual cheesemaker at that time and in that place. Free to innovate and use creativity in production, US cheesemakers are not confined to the ecological and historical standards of those who came before them. Individualism marks a key characteristic of terroir in the United States cheese production. Rather than seeking to encompass a whole region, terroir seeks to explain the differences between privately owned farms. A lack of desire to organize into unions and pay lobbyists to negotiate regional boundaries and regulatory bodies leads U.S. producers to shy away from the implementation of strict GI systems.”

A desire to place faith in the market and quality of their product exists within the sentiment of U.S. producers. Being left alone to produce their own product on their own terms and on their own land is at the core of what Paxson believes to be the reverse engineering of United States cheese production.

Terroir has always been a value adding label. As described in section 3.3, bottles of wine with terroir labels provide consumers with increased knowledge of the product as well as an elevated perception of the bottles quality based on terroir. In the case of the US cheese market, Paxson suggests that terroir does not assess market quality based on tradition. Terroir, in this case, seeks to perpetuate the values that cheesemakers believe their product can embody rather than merely rescale it as a marketing tool within a new context. Trubek and Bowen argue that terroir should also act as a value-based

97 Paxson, 447.
98 Paxson, 448.
label showing the care and labor that goes into its production rather than just the natural influences.\textsuperscript{100} Within the cheese industry in the US, the value of terroir is not just materially engrained in the place but results because of the “moral values that inspire place-making practices.”\textsuperscript{101} The implication of terroir labels is the impact that it has on perceptions of quality for those who know little about geographic places. Used to establish authenticity and quality, terroir transforms culturally constructed systems of place into a boundary system that appears natural.\textsuperscript{102} As previously discussed in section 3, the implementation of geographic indication that establish a sense of place does not lend to the creation of a unified meaning of place.\textsuperscript{103}

4.2 Searching for the ‘Ideal’ Terroir

The most significant amount of scientific research into terroir being performed in Argentina takes place at the Adrianna Vineyard located at high elevation in the Uco Valley of Mendoza. One of the leading terroir experts in Mendoza is Laura Catena. She is the head of the largest leading research institute looking into terroir, as well as the head winemaker for Bodega Catena. Catena’s desire to study Mendoza soil has led to the institute's goal of making the Adrianna Vineyard “the world’s most studied vineyard” since it harbors unique and diverse soils.\textsuperscript{104} In discussing her father’s passion in finding cooler climates in which to grow wine in Mendoza, Catena states that the motive stems from a Frenchman comparing the quality of one of the family’s wines to French wines

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\textsuperscript{101} Paxson, 454.
\textsuperscript{102} Paxson, 455.
\textsuperscript{103} Paxson, 454.
stemming from warm regions which do not produce a wine of quality. As a result, Nicola Catena led the quest for high altitude viticulture in Mendoza, which many thought would lead to little improvement in Argentina’s ability to produce quality wine. However, it led to the discovery that the Malbec grape varietal thrives in high-altitude vineyards which is a unique, geographic factor of Mendoza’s wine growing region. The cooler climate at this particular site was scientifically examined by wine researchers from around the world, and many claimed that Malbec would not grow or ripen in these conditions based on the assumptions that the climate resembles that of Bordeaux and Burgundy where “no Frenchwoman would dare to plant Cabernet Sauvignon or Malbec”. Catena states that even though scientists cautioned against it, they planted Malbec and Cabernet Sauvignon at Adrianna, and the grapes thrived and far surpassed expectations of quality. Catena and fellow researchers have taken up the task of deeply studying the Adrianna vineyard through soil samples and diverse production strategies so as to understand the distinct features that produce such high quality grapes.

Since the landscapes of Argentine terroirs have yet to be defined, smaller wineries in the Mendoza region invest time and capital in understanding the uniqueness of their terroirs. A small winery in the Lujan de Cuyo region is performing a significant amount of research on the terroirs where their wineries are planted. Using electromagnetic machines and surveying the soil, Nico Aguirre, the winemaker who focuses on the growth of the vineyard, tries to identify the different terroirs so that he can utilize the

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106 Catena.
107 Ibid.
grapes from these plots in the specific production of single vineyard or GI wines. The research that is being done in the vineyards is then utilized within the winery in the production process to choose which grapes are used in the different level of wines.

Aguirre explains that within their vineyards there are six different levels of terroir within Mendoza. Within the vineyards that he works in, Nico Aguirre describes the best terroir as a being characterized as level 4. The wines produced from this terroir should be used in wines that are to be considered “fine wines with minerals and well-rounded”. This winery brought in a Chilean consultant to help understand the scientific data being collected from their vineyards. Seeking to produce the best wines and communicate the unique terroirs within their vineyards, this winery utilized scientific research to better understand the flavors and quality present in their vineyards.

There is a large amount of scientific research, resembling that at the Adrianna vineyard and the vineyards that Aguirre works on, occurring in France to better understand why certain French terroirs and geographic indications are considered better growing regions than others. In Argentina, these studies have led to shifting production and planting standards due to the status of terroir as an ideal, not a standard. The lack of a regulating body, such as the AOC, allows Argentine winemakers to utilize terroir without the restrictions tied to the traditional concept of terroir. In this search for understanding Adrianna’s unique terroir, Laura Catena states that a French expert, Oliver Tresbois, “came to Mendoza and was surprised by the quality of grapes that we were harvesting from the soils of the Uco Valley and Adrianna. He said that in France, good quality could not be obtained from such low fertility soils, even if the temperatures were
optimal." The Argentinian concept of *terroir* stems from this desire to find the best land in which to grow different grape varieties of export quality. By bringing Tresbois to Mendoza, Catena sought foreign involvement and recognition from a *terroir* expert from Europe. In attempting to establish Argentina as a *terroir* wine producing center, the acknowledgement of this production by foreign investors and experts plays a pivotal role because of the globalized nature of *terroir*. Through scientific research and foreign acknowledgment of Argentina’s unique terroirs, Argentine winemakers are beginning to geographically divide Mendoza into a *terroir-oriented* region. Due to most of Argentina’s history with wine production being focused in quantity rather than quality, recent scientific studies have been influential in discovering the best areas in which to plant certain grape varieties to now produce quality wine. As a result, studies such as this one being performed at the Adrianna vineyard have been used to pursue in-depth understanding of how different grapes grow in different soils and conditions, which has led to replanting of vineyards and expansion of potential climates in which to grow a wide variety of grapes. In the search for *terroir* in Mendoza, winemakers have reverse engineered the concept not to establish strict regulations and standards of production based on their scientific findings, but rather to highlight any potential advantages of certain regions and outline a path to creating an ideal fine wine.

**4.2.1 The Originality of Argentine Terroir**

The adaptation of *terroir* by Argentinian winemakers presents a unique area for analysis. How exactly is *terroir* being used and adapted by these winemakers? What are their goals in adopting this traditionally French concept? After spending nearly two

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108 Catena.
weeks interviewing winemakers in Mendoza from boutique wineries working with terroir, it became clear that these small producers are inventing their traditions and consequently reverse-engineering terroir to achieve this goal through their diverse opinions on terroir and how it should be pursued. The shift to using terroir has not been an encompassing paradigm shift, but one pushed for by some winemakers in the region. Both paradigms still exist in Mendoza with the newer one focusing on terroir driven production. Terroir driven winemakers seek to distinguish themselves from the large-scale mass production wineries still in Mendoza, culturally from other wine producing regions, and potentially legally under systems of geographic indications. Winemakers that are terroir oriented do not purchase grapes from other wineries. They grow their own. Furthermore, these winemakers do not blend grapes that come from different terroirs. Many large wineries produce table wines where terroir is not an emphasis which results in the blending of grapes from different region in large vats for fermentation. By developing awareness of Argentinian terroir through labeling or dissemination of knowledge regarding their evolving wine production practices, these terroir-driven winemakers seek to establish a flourishing wine industry along with an increased perception that Argentina produces fine wine.

Very few wineries focus on researching and further developing their knowledge of the terroirs unique to their vineyards. The Catena Institute, discussed in section 4.2.1, focuses large portions of their research in understanding the terroirs of specific high-altitude vineyards. The unique ability of Malbec vines to grow at extreme altitudes, higher than any vineyards in the world, separates Argentinian Malbec from French and California products. By understanding the attributes of the land and their influence in the
wine provides a scientific foundation to situate Argentinian wine and develop a tradition of high altitude wine growing in Mendoza.

The nature of the concept of terroir is changing in regions outside of its birthplace. Terroir functions as a concept and framework within which winemakers work to produce fine wines in Mendoza. When speaking with Diego Chavarria, who worked in Italy for many years, about the concept of terroir, he acknowledges that terroir “is just a concept. We will never have DOCs like Italy or France. Terroir is an old concept. I don’t think that French or Italian DOCs for Gualtallary, Altamira, Vista Flores are necessary.”

Terroir is an empty concept. It does not need to be highly regulated through the structured systems that European wine countries have established; however, it is useful in distinguishing local regions. James Wilson, a geologist who took interest in the terroirs in Burgundy, supports Chavarria’s belief that terroir is just a concept and framework in which to talk about the differences in Argentine wine. He argues: “The problem of vineplant/soils matching in France had been worked out by the vigneron by trial and error over hundreds of years.” Argentinian terroirs do not and never will have the extensive history that is associated with French terroirs. With years of trial and error, French winemakers have solidified a finite system of understanding their diverse soil landscape. In the highly competitive wine industry, Argentina has not and does not have the time to discover their terroirs through trial and error. The abrupt paradigm shift from quantity to quality wine production in Mendoza highlights the importance of linking land to quality. Even though terroir is an ‘empty concept’, Argentines use terroir to establish

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110 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
112 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
themselves as a serious competitor against other wine markets, mainly those in Europe. Consequently, Argentine winemakers are developing their own version of *terroir* just as Paxson discussed in the context of U.S. cheese makers. By using this old, historical concept, Argentine winemakers embrace *terroir* in the vineyard, convey a sense of place through labels, and provide a system to discuss regionalization amongst members of the Mendoza wine industry in pursuit of establishing themselves as a competitive member of the global wine trade.

### 4.2.2 Communicating Argentine *Terroir* to the World

The importance of *terroir* is in its ability to communicate between many different groups in the wine industry. It is used to distinguish between different vineyard locations and communicates this to regulators and producers as well as extends into consumer circles through labeling. Labeling is the main form of communicating *terroir* in the wine industry; however, *terroir* changes in different contexts, which results in different labeling standards. Terroir takes on a unique form in Argentina but still embodies many of its foundational meanings which is necessary for its ability to function as a primary entity in the international wine market. The motive behind distinguishing between these different regions—even though it is not to institute strict GI regulations—is to “separate and speak differently about areas. This is important in living up to the motivation behind what we are doing.”

Using the concept of *terroir* provides Argentine winemakers with a way in which to establish communication about differences in their wines and communicate this internationally. The Argentinian concept of *terroir* functions as a tool

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113 Chavarria, Diego, personal interview with the winemaker, January 15, 2018.
to incorporate value from past traditions while remaining flexible enough to allow for new practices that are neither rigid nor exclusionary.\textsuperscript{114}

Not constrained by formal GI regulations, winemakers are free to produce products unique to Mendoza. For example, one wine from a small family winery in Luján de Cuyo embodied flavors of Eucalyptus trees because the north end of the property was located next to a line of Eucalyptus trees. Choosing to keep this flavor in the wine by not heavily mixing the grapes, winemaker and enologist Juan Croppi preserves this distinct \textit{terroir} that is characteristic to his grapes and his land. Croppi, one of the youngest winemakers interviewed in this study, speaks about the freedoms that he has to produce a variety of unique wines. Throughout this interview, Juan Croppi and I toured the winery and tasted the variety of wines that were being produced in the winery ranging from Malbec to Cabernet Franc with or without wood barrel aging. When discussing all the different wines, he spoke of the decision that winemakers must make when it comes to figuring out what is going to sell. Croppi argued that the best seller is of course Malbec varietal wines, but the variation that is possible even within the small winery that he worked in was incredible.\textsuperscript{115} The choices taken by winemakers inside the winery when it came to blending and adding flavors to the wine that were outside of the scope of \textit{terroir} influenced characteristics depended on the consumer audience that he was attempting to sell to. For this reason, Argentine wine production is one of the most varied and differentiated in the world.

\textsuperscript{115} Croppi, Juan, personal interview with the winemaker, January 17, 2018.
4.2.3 Advantages of Geographic Indications

The quality revolution that took place in Argentina occurred through many different changes both inside and outside the vineyard. The application of technological prowess is not uniform throughout Mendoza.\footnote{116 Arthur Morris, “Globilisation and Regional Differentiation,” Journal of Wine Research 11, no. 2 (2000): 145–53, 147.} This shift from mass production to quality production arose through the unification of winemakers and grape producers in “a common set of practices and preferred technologies, which through closure and stabilization contribute to a new technological frame of ‘quality viticulture’.”\footnote{117 Pont and Thomas, “The Sociotechnical Alliance of Argentine Quality Wine,” 636.} Aspects such as improved vineyard management, increased personal interaction with the grapes, tastings, predictions, and new technologies became routine for Argentine winemakers. Individual winemakers can choose which technologies to adopt in their production processes. Since production methods in Argentina are not strictly regulated, winemakers enjoy a lot of freedom to innovate and create the taste of Argentinian wine.

An aspect of reverse-engineering terroir in Argentina revolves around the desire to communicate quality to consumers around the world as well as spread awareness of Argentinian terroirs. For this reason, winemakers are not seeking to establish classification systems, such as GIs, with the motive to create a singular production practice. Rather, winemakers seek to develop GI systems as means to pursue levels of quality that each region has the potential to produce and consequently differentiate between them.\footnote{118 Josling, Tim. “The War on Terroir: Geographical Indications as a Transatlantic Trade Conflict.” Journal of Agricultural Economics 57, no. 3 (2006): 337–363, 339.} Marion Demossier, an anthropologist, discusses how the standardization of wine techniques “has led to the negation of terroir,” which resulted in a
greater awareness of the context needed to understand “the strategies deployed at local level. Terroir is about protection, but it is also a tool to engage constructively with a global market and its literary, economic, and legal manifestations.” An issue that arises in the negotiations regarding terroir is whether it functions as a way to engage and encourage technical change and favorable marketing strategies, or whether it is merely a way to eliminate competition. Within Mendoza, local understanding of terroir seeks to communicate the taste of the region by recognizing the link between quality and land which inherently leads to increased standards of production and a desire to differentiate regions based on this idea. Tomás Cuminetti, a wine-maker for one of the most prominent terroir-driven wineries believes that “today all of Mendoza is trying to express much more information to the consumer. For example, our wine is not just Malbec, but it is Malbec that comes from Luján de Cuyo and then within that comes from Pedriel…” Moving away from the traditional use of terroir that communicates superior quality of distinct lands, these Argentinian winemakers seek to delve one level deeper and not just express Malbec “from a specific terroir but express Malbec from the region as a whole.” Even though winemakers in Mendoza use terroir to differentiate vineyards, they seek to create a generalized perception of Argentine wine and quality. Distinguishing and communicating distinct terroirs within the Mendoza wine region is an attempt to provide consumers with knowledge of the various places as well as inform them that there “are some regions that they will like more.” These systems rely on

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120 Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
121 Cuminetti, Tomás, personal interview with the winemaker, January 11, 2018.
122 Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
socio-political construction which in recent years has been obscured by this version of geological determinism used to recognize wines of quality. In this sense, the place that a wine comes from determines its quality. These previously established systems have been inclined to geologically determine wines of European descent as being of higher quality than those in the Global South. Winemakers in Argentina seek to defy this predetermined notion through their reverse-engineering of terroir to suit their needs and goals. For this purpose, the use of GIs in Mendoza is not as a value-adding label but rather as a label of communication for terroir.

4.3 Marketing Advantage of Organic Wine Production in Mendoza

One of the distinguishing factors of Mendoza’s high-altitude wines and rough climate is that a majority of the wines produced in this region are organic. The dry, desert environment in Mendoza makes it very difficult for bacteria and pests to grow making this region a prime candidate for organic viticulture. In recent years, consumer demands experienced a shift towards organic agricultural production as the organic movement took off in the United States. As this sentiment grows, Mendoza’s ability to produce organic wine presents a unique opportunity for growth for Mendoza where notions of terroir would be pivotal in establishing the importance of the land in organic production.

Mendoza’s ability to produce organic wines presents markets where terroir could be used to add value to the price of these wines; however, winemakers producing these wines do not use terroir gain value but rather tie quality to the uniqueness of the land. Diego Chavarria, an Italian winemaker, describes how the process of organic production does not need to be certified in order for it to occur but regardless, “it is one of the best

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places in the world to produce healthier, organic grapes.” An alternative to traditional wine production is that of organic production which has the highest potential of feasibility in Argentina due to a series of factors – geographic characteristics (altitude), lands and technology used in a sustainability logic, labor conditions, tradition, history, brand and nature characteristic. GIs and terroir have been used to determine the quality of a wine through value-adding labels. The ability to certify a wine as organic through GI labels and terroir would inherently increase the wine’s perception of quality. However, winemakers such as Chavarria do not see the need to explicitly label their wines as organic. Rather, he seeks to convey the terroir and region as being naturally inclined to organic production. The labeling system in Argentina does not pursue value-adding labels even though methods inherent in their production potentially offer an increased perception of quality and an advantage over producers from other regions around the world. The heterogeneity in planting practices, production methods, and official regulations has resulted in a level of diversity that is only continuing to grow.

5. Conclusion

This project investigates the shift from quantity to quality wine production in Argentina. It examines the technological shift that occurred in the 1990s which led to a new way of knowing Argentine wine production. The project asks: to what extent did this shift impact the implementation and regulation of geographic indications in Mendoza? It seeks to understand the impact that terroir-driven wine production imparted on Argentine winemakers as well as illuminate the resilience and perseverance of a growing wine center in the Global South.

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124 Organic wine production: the case of Bodega Colomé in Argentina
At the beginning of the 1990s, the Argentine wine industry experienced a shift from quantity to quality production which occurred at the same time that economic policies in Argentina opened up economic opportunities for investment in the country. With these new opportunities, the industry began to focus on producing quality wine because of the desire to export and compete in the international market. As foreign investment entered Mendoza, new ideas and knowledge about wine production began to disseminate into the region and everyday practices. The shift from quantity to quality production was a paradigm shift in that it ushered in a new way of understanding quality in relation to the land, resulted in the younger generation of winemakers excelling in the region, and ultimately led to a new way of viewing production practices and techniques entirely separate from the previous century of production.

New to the context of Argentine wine production, terroir presented a new manner in which to understand the quality of wines in relation to their international competitors. Terroir, a new and exciting concept in Argentina, had been a pivotal part of wine centers around the world and finally assimilated into Argentine winemaking. As Argentine winemakers sought to communicate their regions and diverse wines, they began to focus on communicating terroir through labels on their bottles. Many winemakers expressed the “need to emphasize quality in the communication of the different terroirs.”

Considering terroirs recency in Mendoza it can be concluded that changing perceptions of quality regarding these wines and places will take time. The convergence of geographic indication systems and terroir in Mendoza vineyards drives the communication efforts being implemented in the region to shift perceptions of quality in relation to Argentina.

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126 Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
As the paradigm shift occurred within the vineyard, winemakers recognized the need to convey this shift to the world. Going from a system that focused on the type of grape and produced mass quantity to a terroir-based production required structural change in the vineyards and communication changes to spread awareness of the shift that had occurred. Pursuing terroir allowed Argentine winemakers to convey their products in a common language that was being used by wine consumers and experts around the world.

Through the reverse-engineering of terroir, wine makers in Argentina established systems within the global wine industry and molded them to their benefit. In this sense, “terroir is being reframed as a prescriptive category for thoughtful action, for bringing-into-being from the ground up places where some wish to live and others want to visit.”¹²⁷ Terroir, whether good or bad, pursues the representation of a place. Winemakers in Argentina recognize that not all terroirs are good, but they are unique. Santiago Bologna elegantly summarizes that, “Terroir is an origin. An origin that is pretty irreplaceable in the production of Malbec. It is an origin, an identity. It could be very good or very bad. I don’t want to say that just because it is a terroir wine that it is a spectacular wine.”¹²⁸ As a whole, these winemakers are passionate individuals seeking to further communicate their unique products to a world-wide market. By tying quality to a concrete entity such as the land, winemakers, marketers, and consumers have found a platform in which to discuss the differences in a wine originating around the world; however, not all winemakers seek to produce terroir wines. Even if a wine does not pursue terroir, it still fits into the discussion because it can be talked about as being

¹²⁸ Bologna, Santiago, personal interview with the winemaker, January 15, 2018.
produced without terroir but in a different fashion. The choice to produce a terroir wine or not remains at the hands of the winemaker which in the case of Argentina is the desired method. A winemaker’s choice is the epitome of terroir in the Argentine context.

Even though this research discusses quality and its pursuit within a specific wine region, it is not clear that quality wine production is objectively better than, say, quantity production. It may be the case that quality is economically superior because of its ability to be sold at a higher price point, but what about the case of Charles Shaw which is known for selling value priced wines. Is quality the determining factor for profit within the wine industry? When discussing something as subjective as taste, it is hard to determine what is of quality for one individual over another. Tying back in Thomas Kuhn’s paradigms and his notion of progress, it is possible that the wine industry, in pursuing quality production, is evolving away from bad production practices which resulted in bad wines; however, this progress is not headed towards the establishment of a perfect, ideal wine. Wine today is better than it was in the past because of scientific and technological processes that have cleaned up vineyards and allowed for greater understanding of the differences within wines; however, this is not to say that wine production methods and standards of quality are moving towards perfection.
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Appendix A.

Interview with Santiago Bologna on the 15th of January 2018

**Q:** Can you give me some history of the area?

**A:** Some of the first vineyards in Argentina were in the north. I think in Tucuman or Santiago del Estero, but they were not in a very good zone. From here, we began to explore more and from there Mendoza exploded. More or less 65% of the production in Argentina is in Mendoza. The past 20 years, the amount of exporting that has occurred is up 420%. Up until 2000, all of the wine that was produced in Argentina was drank in Argentina. Many winemakers in Argentina are very young. In the 1990s, an economic problem occurred and thus we began to export. When we began to export, we began to see that our wine was very competitive in the world with the US, France and Italy. We began to invest a lot and to say that the level of Argentina is of quality and in the years 2000/2001 it started to go. Thus, you will see that many winemakers are young.

Generally, because there were very few old winemakers who were able to captivate the change. You need to change your way of thinking. They were working like this and now new people were saying you need to work like this. There are roughly 10 winemakers that are older, but the rest are in between 30 and 45 years. For example, our wines have the same label. It is Malbec of terroir and says it comes from terroir Agrelo. It is something more unique. Not something genetic such as Malbec. We work only with red wine because in this zone it is not made for white wine. It’s made for red wine.
**Q:** What are these large wood barrels for?

**A:** Yes, these are traditional. They used them in the 70s. This is one of the changes that occurred and makes these [barrels] the antithesis of today’s wine production. In the winery, you will find technology, innovation, quality, elegant, clean wines. This is how the culture was in Argentina before the 1990s. The wines that were made in these barrels and in that way was a wine before the 1990s. There are some wineries that are still producing wines in this way. They stayed the same. They didn’t change because they had a market in the country. The older people were accustomed to drinking these wines since they drank them as kids. In the 90s, there was a government, for 10 years, that really facilitated the importation. We had a cheap dollar. We have an interesting economy. The dollar was cheap and thus the good thing that came of it was that you could import. Winemakers and managers began to travel and could import more technologies and barrels from France. It was a change towards a lot of technology. In the 1900s, what we started doing was improving the quality of the wines and more or less around the 2000s, we started to export. Of course, the things we are going to export are of quality So, we started using a lot of wood from France. We began to look at what we were doing, and we began to change.

**Q:** Are there wineries that are still within the family?

**A:** There are some but not many. Here, what happened is that there are some, but many wineries are supported by foreign investors. This winery is a Swiss owner. What happened is we had an economy that is a bit hard to understand. Generally, the owners of
the winery are not the people that only have this one bodega. It is very complicated and hard to have your own winery.

**Q:** What is your definition of terroir?

**A:** Terroir is an origin. An origin that is pretty irreplaceable as I told you with Malbec. When we began to produce quality Malbec, we had to ask: how do we produce quality Malbec? How do you generate an identity? Terroir is something that is not very easy to reproduce. Thus, if we take for example this winery’s Malbec from Agrelo, that has an IG for the Remolinas vineyards, and look at the climate and location in Perfiel del Suelo, it is something basically not reproducible anywhere else. Terroir is an origin. An origin that is pretty irreplaceable in the production of Malbec. It is an origin, an identity. It could be very good or very bad. I don’t want to say that just because it is a terroir wine that it is a specular wine. Also, it depends on what you are looking for. If you asked me, if we are speaking of a chardonnay why do we not work with white wines, it is because we don’t think that our terroir here is good for this grape. In general, there are good white wines but not the white that we want for this line of wines that we are working with. So, this terroir, in our vineyard, for white wines, I don’t think is very good. Whereas, for red wines, I think that it is spectacular. Thus, terroir is this.

**Q:** You have the variety, Malbec, and in all of the countries that are beginning to use terroir they each have their own variety of grape that they are known for. Why do you think variety is more known then the geographic indication of the place?
A: I think that… I am going to be a tad bit honest. The level we say, in Europe if we go to France, their denomination of origin and all that sell wines from the zones that they come from is very calculated and they have worked with it for 500 or 600 years. To get to this point, I think is very difficult for a different country or a country in the new world to put a place. For example, Agrelo. Agrelo you would want to say something like Burgundy. This would take a lot of time. It is very difficult and a lot of work. The level of Argentina which you could say is red blends… we have two red blends here… that generally are really difficult to sell commercially because they have the IG of Agrelo which is compared very little in wines than a Malbec because Argentina is known for Malbec. You know Argentina, but you don’t know Agrelo. Thus, people started to recognize this. It is very miniscule work to look for an origin. If you are looking for a Cab and you say Napa, you know in your head what type of cab it will be: rich, dense, or heavier. I think it is very important to generate a united terroir and geographic indication and it takes a lot of time to communicate this.

Q: **What do you think of no official AOC or DOC?**

A: I don’t think that these are good either. You could have a year where things go bad in the vineyard and you can’t produce wine because of these denominations of origin and the rules established by them. I don’t like the involvement of government in things that I can and can’t do.

Q: **Do the different regions have a general understanding of the type of wine that will be produced there?**
A: For example, Agrelo you can have different types of soils. Agrelo is one of the soil where you have wines with more round tannins. The terroir that we have permits you to give it wines that are rich and smooth, rich fruits. What is Agrelo at the level of terroir: it is sweet. After we have a little bit more like if we went to Vista Alba it is not as sweet but it is a little sweet this terroir and it has a little bit more minerality. If you go to Valle de Uco, you have very little sweetness. It is vibrant and has much more red and black fruits. Thus, yes, we have the defined zones. If you don’t have terroir and buy grapes in different places you are not going to have a wine profile that goes up and down. So, yes, it is defined today. But if you also didn’t have wines of terroir you could form different wines.

Q: Is your work as a winemaker important in expressing the terroir.

A: Totally. We were talking about the different types of wood. If you are not respectful to the terroir, you will use lots of wood. If you want to respect the terroir, you need to look at the theme of the wine. At the level of wood, the reality is that if you don’t use wood to create quality wine then you are going to produce wines that does not age long. Also, don’t use American wood that is going to interfere with the terroir. It is going to give tastes of vanilla and chocolate and this just ruins everything here in Mendoza that happens in the vineyards. Yes, the winemaker is fundamental in respecting the terroir because the decisions that you make in the winery are the bases of representing the soils and the climate.
Q: Do you think that single variety can produce better terroir than blend?

A: I think that with the blends if we are talking about producing blends that have grapes that are grown in the same land then no they are going to represent the same terroir as the single varietal wines. The blends are the combination of these two different grapes in the terroir. Thus, I think that the varieties like the blend that come from the same terroir are going to present terroir in the same form. When you speak of terroir, you speak of profiles differently with respect to the land.

Q: Do you think terroir is more important in the past few years to distinguish Argentina?

A: In the past 20 years, this idea has been growing. We began to use the wood and the technology in 2002 – 2006 and after this we said that we are doing really well with Malbec. However, Malbec is grown all over the world like Syrah. Thus, we began to work with terroir. The problem that Argentina has is that many people say this wine is from Argentina and people respond with ‘what’? Thus, we need to pull out of the image of Argentina. First, we need to clean up the image of Argentina in the world as a producers of quality wines. Once the people understand this, well this has been happening in the past few years, people start to see Argentina as a producer of good wines. This gives the image of Argentina, today, that people are starting to know where Argentina is, that it is producing good wine, and that this Malbec is pretty good. The hope is that when someone wants to drink a good Malbec and are given options from Australia, Chile and Argentina, they say no I want a Malbec. Bring me the one from Argentina. This is what they should know. We are working in a culture that is very young. It was only in the past 20 years that we came out to the world. Thus, people are
just beginning to understand Argentina as a quality wine producer and even further a producer of quality Malbec. This is good. We are working with terroir and Denomination of Origin, like Lujan, Vista Flores, Pedriel, Agrelo, and we are working in this. Imagine if we are in Japan and you say this wine is from Pedriel. No one is going to know where this is. So, for this reason, I think Argentina has been working on the image of the country. Today, we are there and now we are working to maybe in the next 10 years to work in a mode that conveys these smaller places. We are working with IG and terroir to know that there are wines from Argentina that you like but some that you may like better than others and this is because it may be from Gualtallary or Agrelo. After this we could look at the bottle. This is one of our bottles about what we are talking about. Directly, we have Agrelo, Mendoza, Argentina. If you say to someone Agrelo (face of I don’t know), after Mendoza and if they know a little about wine they may know it and after that you say Argentina. After that we put Argentina, then Mendoza and when people began to learn a little bit more about Mendoza, we said Agrelo. Today, we are putting the names and place in the front. The next thing that comes is to say the Perfiel de Suelo. Thus, this is the path. I think this is very important. For people to know the path and creation of the wine. Thus, this is what is happening today, we put everything. The next step would be to get rid of Argentina and then Mendoza and get rid of Agrelo and only have Perfiel de Suelo. It is a form of communication. The case is that you have consumers who are experts and not. You are working with IG when you say Remolinas. IG is single vineyard. This is what we have in the new world. There are places that produce better wines than others. So, they need to be divided. It gives you reference to the small places that the high-quality wines come from. For the people who know this way of viewing
wine, it is easy to get to the place where it comes from. This is happening all over the new world thus it’s hard to compare it to the old world. If you were to directly say Burgundy, there it is, you know that it’s from France. It’s an area that is very small for the amount of acknowledgement and fame it has. It has thousands of years of being known thus they don’t provide the variety of the grape is because it’s not important. The issue is that to arrive to this it is a lot of work in the world and in the communication.

**Q: Do you think this will happen?**

**A:** Yes, it is the route, totally. I think one day all of this going to arrive here just as it will happen all over the world. Today with the internet, the mode of communication and knowing is very easy. I think the whole part of communication is going to happen. It is going to be more fluid and people are going to know more about the wine, the regions, and super regions. I think the moment we have right now, is to position the place. I think we need to communicate it. We need to emphasize quality in the communication of the different terroirs. This is what we are doing here in our project and the issue is that it take time, lots of time. The issue is if you are going to compare us with France we are not behind in a lot of work, but we are missing the communication. In quality, we are producing things that are very good. The issue is we need to communicate and generate the geographic indication.

**Q: How can you do IG here in Argentina?**

**A:** It is difficult. We could not cut Agrelo and say it is an area under these rules. You can’t do it because it is going to change the entire profile of your wines. The thing that
we do have is IG but it is not a region that is controlled. I think that IG is what we are working for. I hope in the future that we could arrange this but it is pretty difficult because every winery has a different method. There are many wineries that are not wineries that focus 100 percent on terroir. X buys grapes from Valley de Uco. There are very few wineries that are creating new zones and are placing regulations on them in the beginning.

**Q:** When did AOC and DOC begin?

**A:** They began with these small areas, worked with their neighbors. Here we began much more in an industrial way. We bought and sold. This happened the same in Napa. Today we have geographic indications. We don’t have DOC. IG is what we have legally.

**Q:** Are there many people that are doing IG?

**A:** Yes. There are many, but I think there are very few that work 100 percent with IG. Generally, they buy from distinct places. Wines of terroir are very few because generally they buy them from distinct vineyards. IG is only for your own grapes and your own winery. You can’t buy grapes.

**Q:** What are the next steps?

**A:** Today, with journalists, we are trying to distinguish the distinct terroirs, the different profiles of wine from different zones that we have in Argentina. The issue is these needs to arrive to the consumer. We are beginning to communicate a form that if a consumer doesn’t know anything it says Argentina and they understand. If it is Malbec, then they
will buy it. After, Mendoza, and the other you have a Perfiel de Suelo. The idea is to inform the buyer since they are interested in the mark and they can elect the one they want. Thus, the world Malbec is to embody a terroir a type of soil and geographic indication.
Appendix B.

Interview with Diego Chavarria on 17th of January 2018

Q: Can you give me some history of the area?

A: You know 85 percent of the production in Argentina is in Mendoza. You can go from San Rafael to Uco Valley. So, it is a huge area. You also have Cafayate in the South. There are 7 more regions, but these are the three most important. You know that Mendoza is very dry. Do you know how much rain we get? That is important. It is from 200-300 mm per year. So that is one point. The second point it is a very continental area. It is 1200km from the coast/ Atlantic sea and you have a wall from the pacific that is 8000 meters high. You know that most of the wine world countries are near the ocean or a sea, river, lake because it is a positive interaction. So, it is very un-typical, but I like to say that it is very unique. There are factors to grow organic grapes with the very old vines. It is not normal in all the world. In all of the world, it is normal to use insert vines with American root because if not phylloxera kills the plant. It means that in order to have a good balance of quality and quantity per area you need not more than 40/45/50 years old of vines. Here we have 120-year-old vines. This is as old as the winery. Somebody planted those vines in 1906 in this vineyard. We have about 30 hectares in Drummond, more than 100 in Pedriel and Agrelo, and after we have more than 60 in Gualtallary. Here we are 800/900 m above sea level, 1000 in Pedriel, and 1400 in Gualtallary. So completely different.

So that is a point because Mendoza is unique. It is very close to the sun. It has 340 days of very clear days without clouds which is a lot. There is no rain which means there is not
a lot of time that you need to be in the vineyard to treat the vines. It means you can produce organic grapes. You can or don’t have to certify it but it is one of the best places in the world to produce healthier grapes. Pedriel, you know that Mendoza has alluvial soils.

**Q: What is terroir?**

**A:** Terroir is the interaction… the interaction… think about it as a triangle… between soil variety and water. If you change one of those factors, you change everything. Example, Malbec which is growing in Argentina but first in France is totally different because you change the soil and the weather. It is not necessary to have 1600 miles change between here and Gualtallary but it also changes inside the vineyards in the blocks. In some blocks you have some better portions. That interaction is between those three factors. It means terroir.

**Q: Is it better to use smaller barrels?**

**A:** It’s better for the oaky style. In the modern market, we are looking for more balance. We are moving towards a bigger size. Tonnels are very expensive so of course these are also expensive. We wanted to invest to get a good balance between the variety and terroir to the aging in barrels that everyone wants to buy. This is the highest respect of the terroir because there is very little amount of wood and toasty flavors. Only micro-oxygenation because the wood breathes. So, the winemakers put it in barrel not only for the flavor and toast but because there is a micro-oxygenation between the outside and the wine. You will have more round tannins.
Q: Why is this more acidic?

A: More acidity means longer life. These wines age longer in the barrels, between 12 and 24 months. It depends if they stay in the middle line and we produce a DOC. So D.O.C. is between 12 and 18 months.

Q: How does DOC work here? Most of the DOCS in Lujan are from the old vines. Is it still being produced in older style?

A: Yes, right, right not as much but sort of. Think about in this age, Argentina is as other countries have before passing through a huge change in production to move to quality. So, if the focus before was quantity now is the quality.

Q: So, it went from one extreme to the other and now its going back to the middle. Where you can we make quality wines in the middle of these two styles?

A: Yes. Also, people are not looking for just Malbec. They are looking for Malbec from?

It is going deeper into terroir.

Q: Do you think terroir is used in Europe to talk about differences but to also place emphasis on better regions?

A: Yes, I mean it’s a good word. I like to produce wine to be a winemaker because you speak about soil, history, culture. I think it’s a way to sell your product but also to sell where you are living in your life. It is good to put attention in the taste because everything changes. Think about to mix all of these wines, you can have a good wine, but
wine does not have 4 different wines. To speak about them as children, products of the soils in which you are living. I love my job because I work with the natural material that somebody grows in the vineyard and does a lot of work. Think about the very hot wines, I am so small and so I have a lot of respect for what the vines are doing. I keep the vines separate and speak about different areas. It is important to live up the motivation for what we are doing. I think the client, consumer, also wants this information because it is not only alcohol. It is not only a drink, but it is speaking about the world and speaking about the history, culture, tradition.

**Q:** *Do you think you will have DOCs?*

**A:** No, I think no. We don’t need it. Terroir is an old concept. I don’t think that DOC Gualtallary, Altamira, Vista Flores. They don’t need. They will speak about this only in the level and when the present Argentina to the rest of the world. The fiscal method to sell and move the wines in Argentina and outside the country is different from Europe. So, I don’t think they need it. I think we need to show it. More communication.

**Q:** *It’s DOC but you can age it for more or less time depending on what?*

**A:** Depending on the tasting. You are free. You are very free in Argentina. DOC is the place, age of the vines, 12 months in oak minimum and 12 months minimum in bottle. So, there is a law but it is not as restrictive as in Italy of France but basically you know what you need to do for a DOC. Small, new, this is the more specific decision that is made in the winery.
**Q:** Do you think this is unique?

**A:** I like it a lot. Starting from the grapes and in the vinification process and after in the aging our jobs is to use chemical analysis with the sensorial analysis, tasting every day, of course a lot during the fermentation. It also is tasting the wines that are aging. It depends on the stock that you have of the previous vintage. If the wine needs more aging in the barrels, then they can be aged longer. It’s good.

**Q:** How do you compare the scope of Argentina to other places?

**A:** Don’t think about USA or Europe region. Think about Argentina. It’s totally different. In Argentina, it is a huge producer, but it is also a wine drinking country. Half of the production of all of the wineries goes to the internal market. So, we drink a lot of wine. These are the old vines. In Argentina you have the possibility to do mugrones which means you can have a new plant from an old root. So, you put in the soil one branch and you will have another plant. The result is that you use already production ready vines. You don’t need to wait a long time to have very good quality of the grapes.

**Q:** Can you explain the old vines?

**A:** The old style of growing the vines is shorter. So, you have always a good leaf wall and to think about the leave as the motor of this industry also with the roots. So very old roots, good wall of leaves, small quantity of grape per plant means better quality.
Q: Are there a lot of wineries with old vines?

A: I think in Argentina and Mendoza there is another concept of the land. You know about barrios privados. Think about this land with another owner should sell for making a private land. If you move to the east or to the Uco Valley where the production is younger you can find younger plants but in Lujan it is almost very old. When you see vineyards so close to the city it means that they are old. You can find new vineyards when the production is not enough for your needs.
Appendix C.

Interview with Lucho Beltrán on the 11th of January 2018

Q: What is your definition of terroir?
A: Well, classically the definition of terroir is it’s not just the land it’s the climate, the water, the people who work in it, but for me also terroir is a kind of tradition because for me all the genetic information that our vineyard has is because of our parents and the people who are living there. Now terroir as a concept has changed a lot. About 50 years ago, it was just the knowledge of the place. The sense of place has a lot to do with the word terroir.

Q: What is the history of Mendoza and Argentinian wine?
A: The thing was that even if you have a long tradition in wine it was holy mass wine. With the first immigration or movement from Europe all of the immigrants carried the traditions of all this stuff to the small wineries with making their own wine. The Italian and Spanish immigrants, in the late 1800s, found these kinds of varieties that were similar but also very different from their own. This kind of tradition started growing with these people. I think this is the most important fact much more important than the Spanish arrival in the 16th century. This was the very beginning of the Mendoza wine industry.

Q: Can you talk about the high quantity to higher quality shift and focus on geographic indications?
A: Well, see is a lot of factors that go towards that. We have the economical factor then we have a very strong economy because one peso was one dollar so at the end of the day people could really buy a lot of machines from Europe and the US. We grew a lot out of the influence of technology. We stopped making a lot of stupid things in the wine. We changed a lot of our vineyards practices. You will see that many winemakers are young. Generally, because there were very few old winemakers who were able to captivate the change. Second thing, a lot of winemakers at the time started arriving here to consult. Consultants started arriving here because they were already in Chile five years prior. The Chileans wanted Chilean influence here and it’s a lot to do and a lot of winemakers were interested in seeing what was happening in Argentina. We have a very large wine culture inside the country and Chilean people don’t drink wine. The average Chilean people - they drink like hard alcohol. Argentinians are strongly marked by immigration, so all of our roots come from wine cultures and all of our dishes are related with wine. In the late 60s and 70s our [annual] consumption was more than 90 liters per person but now we have about 24 liters per person. In the 1990s what happens is that a lot of enterprise starts arriving in Argentina and the culture of Argentina changes as well. Usually, the Argentine day starts at 8 ends at 1, go to the house eat something, take a nap and continue working from 4 to 8. That was the normal way so when you do that you have time for drinking lots of wine and eating well. Now we just work. All of our day to day activities have changed a lot so people have stopped drinking everyday wine, cheap wines, easy wines, to start drinking on the weekends so that they can save money during the week, spend more money on the weekends but they want to drink something better. So, everything is related. A lot of social things happened apart from the arrival of European
winemakers. It would not be fair to say that two people changed Argentinian wine. We are a lot of Argentinian people living here for a long time. We have a very strong wine culture. What we take from the people that come from all over the world is to open our mind and say wow people from other countries are thinking that are wines are good! So, why don’t we export it? So, what do we have to do to export it? What is the American pallet, what can we do with that market with the UK market? These were the first things that started happening and this pushed all the rest of the industry in that direction. But everything changed very fast. After, everything turned to the land because we are now connected with the terroir. People started thinking these very low yielding French varieties that were used just to give some tannins to the big bottles of wine were much more appreciated. Then, they started working on where they come from. So why do we not compare Lujan to Maipu? Then they start really developing this appellation and they start looking for Pedriel and then people start fighting. In this area you can find a lot of the big guys like...the big guys were really pointed to Lujan de Cuyo and after a little while in the late 90s people started asking what about Valley de Uco.

Q: How do you think about Barolo GIS vs Mendoza grape-variety?

A: Well, the land is directly related to the variety. You know the Barolo you will find Nebbiolo. I think the circumstances are entirely different. Italy, Spain, Greece, France have thousands of years of tradition. So, for me it’s something very easy to recognize because they have failed much more than us. Appellations turned out to be very important to them to be distinguished in very small places between them. However, our population is organized in a very different way most of our population is organized in the
cities and there are very few people in the countryside. So, were don’t have this sense of place. On the other hand, we couldn’t present Argentina as Pedriel even if we know it is the best. First of all because people don’t know Malbec and second because people don’t know Argentina. So, all the new world: hello I am Argentina I have Malbec, hello I am Australia, I have Syrah. It’s easy to recognize country- variety it works. We can’t have 100-year-old wine with us. In some way, it’s something clever of the new countries. We are not trying to be France or Spain because we will never be like that because we are in our own path but I have to recognize that we have really improved our knowledge of terroir.

**Q:** *Terroir has been a used a lot for marketing- how do you see this working?*

**A:** It’s a free concept. You can use the term terroir as you want. If you want to raise a vineyard it doesn’t matter where it sits. The most important thing is that you believe that vineyard has something to show. That is it. You can put single vineyard. Even single block if you want because you believe that block has something special to show. All terroir has special things. I don’t know any terroir that doesn’t have anything to show. Even if you have deep soils and beautiful climate you can produce a lot of kilograms or tons that are showing your specific thing of terroir. Not many people can make a 100-dollar bottle. You can make a very beautiful wine from a specific terroir and say that this is for you and for me. This terroir is a very old concept.

**Q:** *How does Argentina compete with the wide knowledge of consumers about French wines?*
A: I have tasted a lot of horrible Boudreaux, heaps of them and very expensive for the cost. We can’t compete with that and I don’t think we are interested at all. We have different wines; we have different conceptions. We have different culture. We don’t want to be Boudreaux. At least I don’t. I want to make the best Argentinian wines possible. I want to drink Boudreaux because I like it. I want to know more about wine. The world of wine doesn’t end in Boudreaux.

Q: Are there any regulations that you have to follow when producing wines?

A: The only regulation we have is for calling a varietal the varietal it has to be at least 80 percent of the varietal. That is the only regulation.

Q: What is your goal as a winemaker?

A: I want to be a very authentic wine maker. I know that almost everything is invented but I will defend what I believe. But I also want to be creative in what we do. Innovation its very related with high quality high standard quality. My goal as a winemaker is to make the purest, cleanest, most focused wine that I can produce. I love clean, pure, direct, wines. I keep this goal every year but at the same times it’s something that I will never really get because I will always think that I can be better.

Q: Are there ways that wine production in Argentina is really unique?

A: The way that is very different in Argentina is that it is very open minded. Here you can find heaps of new products every year. There are a lot crazy winemakers making around making whatever they want. You will find here in Mendoza crazy things. Crazy
good things. The Argentina wine making is very open minded and we love to travel. Most have made one vintage around the world. I have made 7 vintages, harvested around the world. What we do, we see we touch and after what can I do with this plot of Malbec or I want to plant a new varietal.

**Q:** Do you think the industry resembles the culture of immigration?  

**A:** Could be. The big deal with Argentina is we are very proud of Argentina when we are not in Argentina. It is very difficult to find some winemakers of more than 20 years here. We are changing all the time.
Appendix D.

Interview with Tomás Cuminetti on the 11th of January 2018

Q: What is terroir for you?
A: For me, terroir is a mix, a blend between the climate, temperature, land that in general represents the place that the vineyard is located.

Q: How do you distinguish the different places?
A: What we are trying to use a lot is that looking at the area south of Mendoza, we have Lujan de Cuyo that is at 900m, To the east of Mendoza, we have Maipu 300m. All of the high part of Mendoza in Valle de Uco is a lot more extreme and all of the climate is much harsher. The lower zone that is here is Lujan is much softer. Also, due to the tectonic plates all of the higher regions in the mountains have more rocks and thicker soil whereas all of the parts here in the lower areas have much more sand in the soil. In this case in the lower and middle zones, it is hard to find the different barriers between the different areas but in the Valle de Uco, you can find these different terroirs in the different side of the mountains.

Q: What does this IP Mendoza stand for on your label?
A: In Mendoza up until recently, we didn’t have the possibility to put DOC or GI. What we could put was an IP. IP which is an indication of province. What this IP does is informs you of where this wine was processed. So, for an “IP Mendoza” it means that it was worked on and processed here in Mendoza.
Q: Do you think terroir is important in Mendoza?

A: Without a doubt, terroir is important. There is a difference between the different areas. It is hard to find these areas because we do not have them officially regulated. We do not have the possibility of putting D.O.C. or IG on our labels. So, we put IP which indicates the province that the wine comes from. What this label is telling us is where the wine was processed. In this case it is from Mendoza because it was grown, worked on, and processed in Mendoza. For example, you can have an IP that is from Salta or Cafayate. You have to discriminate if your IP if from one of these. You can’t be from both.

Q: What do you think is happening with regulation systems today in Argentina?

A: I think that in Argentina in the past 2 years we have begun to work a lot more with the micro climate, the micro terroirs within the Lujan de Cuyo region. There are different terroirs. We are beginning to distinguish the difference in these terroirs. Today all of Mendoza is trying to express much more information to the consumer. For example, our wine is not just Malbec, but it is Malbec that comes from Lujan de Cuyo and then within that comes from Pedriel. Thus, what is this Malbec in the specific case of terroir? It is something that can express the distinct characteristics of a Malbec from Pedriel from Lujan de Cuyo.

Q: In your labels, why do you have only Mendoza?

A: In our case, our entry level, the concept of this wine is the expression of Malbec, not just from as specific terroir. We harvest all of our Malbec vineyards, we have five, from the lowest to highest zones throughout the region. We make a version of Malbec that
expresses a Malbec from Mendoza with our vision of how we understand Malbec. For this winery there are three characteristics that are important in Malbec. The freshness in the mouth, the expression of the nose, the quality of the fruits, and after in the mouth a good roundness and structure that is accompanied with these characteristics with the freshness and fruit smell apparent in the nose.

**Q: Why is there this reason to produce a Malbec from Mendoza?**

**A: Malbec is French. It is from France. A chemist 200 years ago brought it from France to Argentina. I think that Malbec has adapted a lot more to the climate and terroirs in Argentina than it has in France. But at the same time the Malbec from France is quite good also, but it is entirely different. It is also different in the thinking in the ways that it is produced. Obviously, it has a form of production that is much more French. The wood is much stronger. It is distinct from the wines in Argentina which focus much more on the flavors of the fruit. The majority of winemakers are looking for more of the expression of the fruit. We use the wood to accompany the fruit flavors that we are looking for. I don’t think that one way is better than the other, but I do think that it is distinct. It is a variety that is feeling much happier here in Argentina than it did in France.
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