

The Story of the Adrianna Vineyard

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"Words do not do justice to this beauty."

About Adrianna Vineyard

Luis Gutierrez, Robert Parker Jr.'s The Wine Advocate, August 2015.

"The 2011 Malbec Catena Zapata Adrianna Vineyard is a Malbec from the eponymous vineyard in Gualtallary close to 1,500 meters altitude from the plots where the soil is rich in calcium carbonate. The sense of place here is tremendous, it transfers you to the Gualtallary vineyards at the foot of the Andes with its stony, chalky soils. There is a sense of harmony and subtlety like you rarely see. The flavors stay forever on the finish and the lips are salty. Otherworldly."

(Excerpt from August 2015 Robert Parker Jr.'s The Wine Advocate.)

Written by Laura Catena: To tell the story of the Adrianna Vineyard I need to start with my Italian immigrant great grandfather Nicola Catena and with my father's childhood in the tiny village of La Libertad (which means freedom in Spanish) in Eastern Mendoza, Argentina.

The Early Years: From 1902 to 1957

It was July of 1955 and sixteen year old Nicolás had come home from the Liceo Military Academy - the only high school option for rural children in Mendoza - to ask his mother, Angélica Zapata, an important question. Angélica was a passionate educator, the headmaster at the local school in La Libertad, a town of less than 1,000 in the Mendoza countryside where Nicolás' Italian grandfather Nicola Catena had planted his first vineyard in 1902. Nicolás had come to tell his mother that after high school he would pursue a degree in Physics. At the age of 16, the slim framed, bespectacled Nicolás had yet to go through his growth spurt, but year after year, he had earned the valedictorian and long distance endurance award at the Liceo. "You should aim to win the Nobel Prize in physics," said Angélica without hesitation, "and I hope you won't go into business with your father; you are too bright to waste your mind on winemaking." A statement like this was sacrilege in a rural Italian family - the eldest son's future was always sealed at the side of his father.



Angélica Zapata and her students - circa 1948



Nicolás Catena Zapata home from the Liceo Military Academy, circa 1955

Two years later, Nicola and Angélica died in a tragic motor vehicle accident. Angélica's unruly curls of thick black hair could only be tamed by a certain hairdresser in the nearby town of Rivadavia, and Nicola, her father in law, was her usual driver. They hit a large harvest truck head-on. Angélica died a few hours later of severe head injuries. Nicola seemed to be pulling through, but unexpectedly, one day later he passed away at night in his hospital bed. The family was told that most likely an internal bleed in the abdomen had gone undetected. Nicola died peacefully, not knowing that his beloved daughter in law had passed away a day before. And so, Nicolás' future was sealed. He stayed in Mendoza to study economics at the Mendoza University and to help his

father and grandmother Nicasia (Angélica's mother) raise the family's three other children and run the Catena winery

The California Years: 1982-1985

Angélica had seen in her son qualities that educators know well: curiosity and drive. In the early 1980's after receiving a Masters degree in economics at Columbia University and growing the family winery over two decades, Nicolás came to Berkeley California as a visiting scholar in Economics. Twenty years of watching the Argentine economy on a roller coaster dive through inflation, debt and military governments had left him with an obsession to figure out a solution for his country's economic woes. On weekend visits to the Napa Valley with his wife Elena and their newly born daughter Adrianna, Nicolás heard about the Judgement of Paris and saw the Californians striving to make wines that could stand with the best of the world. He asked himself, "why not try this in Argentina?" Nicolás had never thought that the French could be challenged. His father Don Domingo was a great believer in Malbec, the grape that the Argentines called La Francesa, because it had come from France and had such deep color and rich flavor that it could improve any blend of table wine. Yet even Domingo, who like his Italian father Nicola was a great believer in the Mendoza wine growing region, did not think that any Argentine wine could ever compete with the great French wines. But the Californians seemed convinced that technology could help them make up for lost time, and Nicolás headed back to Argentina with a mission.



Nicolás, his wife Elena, baby Adrianna, Ernesto and Laura Catena in Berkeley, circa 1982

The First Revolution: 1985-1992

Nicolás sold every vineyard, building and piece of land that was not suitable for the highest quality of wine. He hired foreign consultants from France, California and Italy. The Californians had convinced him that the right technology, stainless steel and expensive French oak barrels held the secret to French wine quality. Much of the advice centered around keeping the oxygen out, the opposite of the traditional oxidative Italian method that Nicolás had grown up with. But in the end, it was a Frenchman from Bordeaux who made the greatest impact on Nicolás and his daughter Laura who soon joined her father in pursuing the dream.

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I am Laura Catena, Nicolás Catena's daughter. I am not the oldest son and I never planned to follow my father into wine. At the age of 17 I decided to study first biology and then medicine. I was fascinated by the two seemingly contradictory forces of change within science - precision and wild experimentation - and my goal was to do something that would help alleviate suffering around the world. At that time, it never occurred to me that the world, especially my Argentine world, could be changed and improved one vine and one bottle at a time. I did share with my father a deep admiration for the French, but not yet for their winemaking. As a devoted student of the French language and culture, first at my high schools in Buenos Aires and Berkeley, and later at Harvard University, I had become fascinated if not obsessed with the existentialist writers Sartre and Camus and by the French Surrealist art movement. So when in the summer of my second year of Medical School at Stanford my father called me to invite me to visit Bordeaux with him as his translator, of course I said "sí, por supuesto, oui!" I had almost taken enough classes at Harvard to minor in French and this was a golden opportunity to practice.



Laura Catena and her father Nicolás Catena Zapata

In France we visited Jacques Lurton, a Frenchman whose family ties to fine wine date back centuries. Jacques took us to see his family's chateaux and a few of their illustrious neighbors. The blanc from the Lurton's Chateau La Louviere was my first wine love; it had a freshness, a minerality, a certain fattiness of flavor that I will never forget. On our last day, my father decided to thank Jacques for his hospitality with a barrel sample of CATENA Cabernet Sauvignon that came from Mendoza's most historic wine producing region, Luján de Cuyo. Luján de Cuyo has a beautiful landscape filled with gigantic trees and small farms, but during a summer afternoon it is so hot that you are forced into a siesta nap. "It tastes like a Cabernet Sauvignon from the Languedoc," said Jacques with a half-smile. My father's face was serious and I didn't understand why because Languedoc sounded French and I thought that when it came to wine, French was always good. What Jacques meant was that our Cabernet came from a warm region. On that day, my path to joining my father in his journey to elevate Argentine wine had begun. And for my father it was the beginning of a new obsession: to find the cool climate limit of vine cultivation in his native Mendoza.

The Second Revolution - Discovering Cool Climate & High Altitude: 1992-2001

Back home, my father established weather stations throughout the Uco Valley. He placed stations all the way to the western limits of Tupungato, where there was no more water available and where no fruit could ripen, and South, down to where the risk of frost was so high that one could see abandoned fields of peach and quince trees. In 1992 he settled on Gualtallary Alto, the westernmost and highest district inside Tupungato, at a place where there were no vineyards planted because surely, if they were, they would be eventually destroyed by frost. But despite the fact that temperatures in Gualtallary Alto were lower than in the Southern Uco Valley because of the higher altitude, the risk of frost was less because of the protective mountain slopes. I should perhaps explain that my father had a great deal of respect for frost, a plight that had nearly bankrupted his father Don Domingo from winemaking altogether.

There were a few other things that my father liked about the land at Adrianna which was located at almost 1,500 meters or around 5,000 feet elevation above sea level. There was a small hill at the site and a slight slope. My

father had grown to respect the slopes of Burgundy and Bordeaux as particularly good terroirs. He went against the grain of planting on flat lands in Mendoza, and decided that the French theory of slopes providing a balance between water and nutrients might be right. The slopes also gave us a wonderful view of the valley: snowcapped mountains and a small Trappist monastery nearby. My father is an intellectual at heart and had great respect for monks who spent their lives in study and contemplation, and this sealed the deal for him.

He brought cuttings of Chardonnay and Cabernet Sauvignon from France, and Malbec cuttings selected from lot 18 of our seventy year old Angélica Vineyard. Everyone at the winery told him that it was too cold for later-maturing red varieties, but my father would not be dissuaded. He planted the vines, and named the vineyard Adrianna - after his youngest daughter, my sister.



El Mirador at the Adrianna Vineyard

The Third Revolution - Soil and Parcel Studies: 2001 to Present

During the decade of the 1990's we continued to plant at Adrianna and also in other locations throughout the Southern Uco Valley. From the beginning, we saw a big difference in flavor between Gualtallary Alto and areas further South which were at lower altitudes, such as Altamira, La Consulta and Eugenio Bustos. We were also getting extraordinary fruit quality in these other areas, but the flavors were different. We consistently had more minerality and more acidity in Adrianna. The Adrianna Cabernet Sauvignon had more pyrazines - the molecules that give the variety its classic peppery aroma and flavor. The Malbecs had more grip and denser tannins, and the

Chardonnays were both mineral and "fat." Yet, preparing the field for planting in Gualtallary Alto had proved quite difficult because there were so many more stones and boulders than we had imagined. At that time we didn't understand the geological origins of the site and how this diversity would become part of the magic. I remember one year when I was doing my usual rounds with one of the viticulturalists; it was a beautiful sunny and breezy summer day. We walked up the hill in the center of the vineyard and looking down I saw several areas where the vines were either too vigorous or where they actually looked so small that I wondered if they were diseased. I couldn't understand this: how could it be that our best vineyard had areas which were clearly not being well cared for? "I can think of one way to fix this vineyard," said the viticulturist, enjoying my questioning, "and it doesn't involve me working longer hours every day. I would actually suggest ripping up the whole vineyard, mixing up all the soil together, and then replanting; had I been around, I would have recommended doing this before the vineyard was planted." How could this viticulturist talk about ripping up our beautiful family vineyard? I asked myself, as I sat pouting during the whole drive back to the city. This moment was the beginning of my own determination to understand the soil variability and the different parcels within the Adrianna Vineyard. After a decade of study, we have now subdivided Adrianna into over 200 distinct parcels. This is what has made the greatest impact on the flavors and textures that are present in our wines from Adrianna today. And I have yet to pay my debt of thanks to the viticulturist who helped me understand Adrianna so many years ago.



Laura Catena holding a limestone covered stone at a soil pit in the Adrianna Vineyard

The geologic origin of the Adrianna vineyard dates back to the Eocene period, over 50 million years ago when the Andes Mountains were formed and volcanoes and earthquakes ruled the land. Adrianna's canto rodado (round boulder) subsoil made of volcanic (igneous rocks solidified on the surface) and plutonic rocks (igneous rocks solidified below the surface) was laid down and then covered by marine fossils that dispersed as the mountains rose over millions of years. During the subsequent ice ages, the melting glaciers carried down stones and pebbles which were deposited on top of the volcanic subsoil. This volcanic subsoil holds one of the secrets of Adrianna: it's phenomenal drainage. No matter how hard it rains, it is impossible to get very high yields or botrytis rot at Adrianna, because the water seeps so quickly down through the large boulders in the subsoil.

The geologic events that explain the particularly heterogeneous topsoil of Adrianna, so rich in limestone and gravel, are more recent. Most of the differences throughout Adrianna lie in the topsoil, which is predominantly of alluvial (formed by the passage of rivers and glaciers) and eolic (formed by wind) origin. When we first started studying Adrianna's geology, we couldn't understand why there were so many parcels dating to different geological times, yet all with the structure of a dried river bed. What we found was that during the formation of the Jaboncillo and Peral hills to the North, the river that went through Adrianna had been forced by seismic activity to gradually move down South, creating a series of terraces where as the river dried, limestone deposits formed. And depending on the speed and violence of the earthquakes that formed the hills, the river would move its flow in different directions and leave behind the white stones and limestone deposits that we find all over the vineyard today. Because of the constant movement down the river, the stones became rounded and smooth. But as the rivers dried out, the calcium carbonate (main component in limestone) would make the stones turn white and form layers of limestone and chalk throughout. Limestone soils are ubiquitous in many parts of France, including Bordeaux, Burgundy and the Jura, and many people think that they hold the secret to the elegant flavors of French wine. Yet, in Bordeaux for example, great wines are also made in areas that have gravel and clay rather than limestone, so I have always been somewhat skeptical of the "limestone cult." What we do find particular about these limestone soils is that they have two seemingly contradictory properties: they have excellent drainage but they also retain water for a longer time than gravel, but less than clay. This structural

property makes them ideal for certain vine stress situations where intense sun and heat follow rains, and vines that have access to small amounts of water fair better during droughts. Also, vines from limestone soils tend to have lower brix (and eventually lower alcohol) but very high acidities, and that is often what we winemakers are looking for.



A Soil at the Adrianna Vineyard which has both limestone and white stones



Limestone covered stones and volcanic gravel of alluvial origin in the Adrianna Vineyard

When we started studying the soils of Adrianna over a decade ago, we were making 5 soil pits per hectare. Today, with 70 soil pits per hectare, we have a much deeper understanding of the vineyard. We vinify between 200 and 300 separate lots at Adrianna and usually keep them completely separate in barrel, so that they can each run their natural fermentations. The Adrianna vineyard, because of its particular location surrounded by hills and near the Las Tunas River, is covered by a light mist in the mornings, which makes it particularly rich in native yeasts. These native yeasts and their interaction with their various parcels of origin are

part of the native flavor of Adrianna.



A soil pit in the Adrianna Vineyard

The Catena Malbec Cuttings:

Adrianna was planted with the original Catena Malbec selection from Lot 18 of our old Angélica Vineyard named after my grandmother Angélica Zapata. These select cuttings were chosen because they had low yields, small berries, concentrated flavors and an optimal balance of sugar and acidity at harvest time. The Chardonnay and Cabernet Sauvignon at Adrianna originate from France, but we have also planted our own selections, taken from some of our family's older high altitude vineyards. Although Malbec is Argentina's most widely planted fine wine variety, and certainly the grape that best adapts to our climate in Mendoza, there is also a long history in our region for Cabernet Sauvignon and Chardonnay. Both Chardonnay and Cabernet Sauvignon were brought to Mendoza at the same time as Malbec in the 1850's. Therefore, many old vineyards of these two varieties exist where farmers made selections over the decades to choose the best adapted cuttings.

The Effects of High Altitude:

My father planted the Adrianna vineyard in Gualtallary with a single goal in mind: to find the coolest location for growing vines in Mendoza. At that time he did not know that the soil composition, a mix of calcium carbonate covered stones and gravel and layers of limestone, would come to have such an important impact on the flavors and balance that are native to our wines from Adrianna. But what about our viticulturalists' original fear that Bordeaux varieties such as Malbec and Cabernet Sauvignon would not ripen in Adrianna? In terms of the Winkler classification, a method developed in California to add degrees and categorize regions according to their

climate, the weather at Adrianna is between zone 1 and zone 2 depending on the year, which would put it between Burgundy and a very cool part of Bordeaux. Yet, no Frenchwoman would dare to plant Cabernet Sauvignon or Malbec in Burgundy, and that is exactly what we did. The difference lies in the hours of sunlight and in the brightness of the sun, which permits photosynthesis to run freely and ripen aromas and tannins while the cool climate allows the vines to preserve acids and keep the sugars in check. Whereas in the lower altitude areas of Mendoza in the East, most musts need to be acidified, the natural grape acidities at Adrianna are optimal, and no additives are necessary to make balanced wines. And because of the slow ripening in cooler climate, fully mature tannins can be achieved with brixes below 24 and resulting alcohols in the 13% range.

Region	Classification	Sum °C	Local Areas	International Areas
I	Cold	<1389°C/2500°F	Gualtallary Highlands >1500 m- 4950 ft asl El Cepillo – Square Stones	Burgundy and Champagne
II	Cold -Temperate	<1389°C/2500°F 1667°C/3000°F>	Gualtallary <1300 m- 4300 ft asl to 1500m-4950 ft>	Bordeaux (France) Barolo (Italy) Cote Rotie (France)
III	Warm- Temperate	<1667°C/3000°C 1944°C/3500°F>	Altamira Agrelo Villa Bastias Gualtallary <1100 m- 3630 ft asl to 1300m-4300 ft>	Cotes du Rhone Napa Valley Chianti Clasico
IV	Warm	<1944°C/3500°F 2222°C/4000°F>	Lunlunta	Chateaufneuf de Pape (Rhône Valley-France)
V	Very Warm	>2222°C/4000°F	---	Fresno

Winkler Chart



Adrianna Vineyard in winter

The bright mountain sunlight, which is much stronger at high altitude than at sea level, would prove to have an impact far beyond that of extending photosynthesis. It took many years of study and observation to figure this out. One of the first things I did in the mid 1990's when I came to work with my father was to start a research

department that would be solely dedicated to understanding and advancing our vineyards and region. I had done a fair amount of research while studying Biology at Harvard and microbiology at Stanford, and I was aware that understanding all the variables that go into making extraordinary wines and figuring out their effect would require a great deal of effort and scientific rigor. I understood that much of the credit for French wine greatness came from decades if not centuries of trial and error, and I was hoping to figure this out during my lifetime! Our research institute, named the Catena Institute of Wine, does over 1,000 microvinifications per year. I was not surprised to find that the wines of Adrianna had better natural acidity, but what did surprise me was that the levels of polyphenols and tannins were so much higher than for similar plant populations at lower altitude. From the beginning, we worked with students doing their PhD's at the local Mendoza University, and one of those students, Federico Berli, was studying the effects of sunlight intensity. He found that sunlight intensity caused significant increases in the skin tannins of our high altitude Malbec. He was able to separate the effect of sunlight from the effect of cool climate by covering the vineyard with transparent sheets that only shielded the intense high altitude rays but not the sunlight needed for photosynthesis to happen. My personal theory about this natural adaptation is that the grapes develop thicker skins at high altitude to protect the seeds from the sun - a sort of natural sunscreen. Every year that passed I began to believe more in my father's theory that the greatest things in life come from luck rather than from planning or intelligence. For how lucky had my father been that he set out to find cool climate and ended up with extraordinary soils ideal for making balanced wines, and increased tannins - the main conduit to ageability - from sunlight.

Poor Soils and the Rhizosphere of Adrianna:

One of the mysteries that had baffled me for years was how we could make such extraordinary wines in locations where organic mater is so much lower than in other parts of the world. In fact, we have 100-200% less organic matter in our soils than they do in Bordeaux for example. You can understand this clearly when you go to Bordeaux or Tuscany and you see pine trees growing everywhere. If we plant pine trees in Mendoza, it is a struggle to get them to grow high even with abundant irrigation. Recently, an expert in soils from France, Olivier 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. My theory, and this is something that we have only started studying over the past 5 years, is that our vines' adaptation to these infertile soils is related to a rich population of rhizobacteria. Rhizobacteria live in symbiosis with the vine's roots and help the vine withstand stress and absorb nutrients. At Adrianna we have found particularly high populations of rhizobacteria, and different bacteria than those which are found in other parts of the world. This also might explain why vintners around the world are finding qualitative improvements with organic and biodynamic farming. I recently spoke with winemaker Shun Ishikubo at Ridge Winery who told me that quality seemed to have increased during the last few years of California drought, despite all of the experts' opinions that the drought would prove terribly detrimental to quality. And you can imagine that for me as a biologist and doctor this makes a lot of sense, because in medicine we are also finding so many instances where the healthy bacteria that live inside our bodies contribute to the absorption of nutrients and to the prevention of cancer and autoimmune disease.



Petri Dish

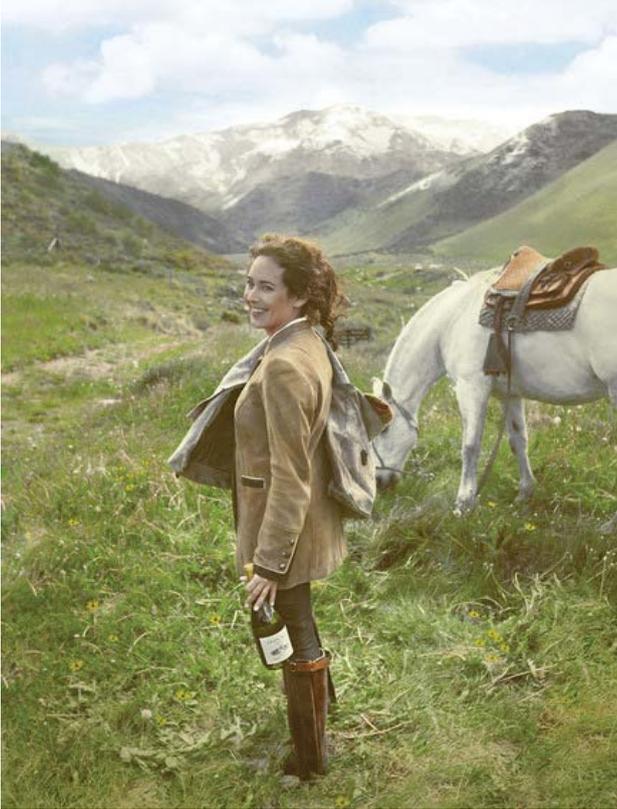
Adrianna and Ageability:

One of the important questions that my father and I asked ourselves throughout the years was whether our beautiful Adrianna wines would be able to age as long as some of the wines from the old world that we had enjoyed together. I know that over 99% of wines are consumed in the first year after they are made, but the greatest wine moments that I can remember come from drinking old vintages, such as the glorious bottle of 1939 Latour that my husband, my father and I drank at Tegui in

Buenos Aires for Papá's 70th; or the bottle of 1995 Gaja Sori Tildin that I drank with my brother Ernesto and nephew Tikal Catena, to celebrate Tikal's birth year during a family vacation. Ageability is an incredibly important topic for most wine lovers and winemakers, yet one that has not been rigorously studied. We know that good acidity, tannic structure and sulfur dioxide levels play an important role in predicting ageability, but why two wines with similar analytic results might age better or worse, and why some of the most famous wines in the world are known to age well is not well understood. At Adrianna we have been following forty separately vinified parcels, and plan to taste them over the next century (I am preparing the way for my children, nieces, nephews and grandchildren) to evaluate their ageability potential. Our experience with the hundreds of Adrianna parcels that we vinify yearly has shown us that a component that makes up just 1-2% of the blend, can make a difference in the final wine. So understanding each parcel to the smallest detail, its soil composition, its microclimate, its soil bacteria, its response to different vintages, is all part of taking the small steps that will help us make as great a wine as our beloved vineyard will give us.

The Name Adrianna:

The Adrianna Vineyard is named after my younger sister who was at home with my father while he dreamed of what our Gualtallary Alto vineyard would become while my brother and I had gone abroad to study. Adrianna's name was inspired by the romantic Adriatic Sea, my great grandfather's departure port on his voyage from Le Marche to Argentina. And Anna was Nicola's wife and my father's beloved grandmother whose skills as a cook have prompted him to declare that he has yet to find an Italian chef as good as his grandmother. To me, the Adrianna Vineyard represents our family's more than 100 year journey to elevate Argentine wine and our dreams for the next century and the next generations. The dream of Adrianna started in 1898 when Nicola Catena left Italy to find a place in the new world to plant a vineyard of his own and to raise a family. My dream is that the wines of Adrianna will age for the centuries to come and give pride to the people of Argentina and of South America.



Adrianna Catena

"The awesome 2010 Catena Zapata Adrianna Vineyard has me daydreaming of Gualtallary and the amazing Adrianna vineyard...The combination of high altitude and calcium carbonate-rich soils produces wines that are both intense and fresh, true to their origin",
Luis Gutierrez, Wine Advocate April 2014.
