EPISODE # 21 LUCIE MORTON/PART 1

SPEAKERS
Fred Reno, Lucie Morton

Fred Reno
I have Lucie Morton here in my studio today. Lucie, good morning. How are you?

Lucie Morton
Good morning, Fred, nice to be here. Thank you.

Fred Reno
Well, I have one question right at the top that I wanted to clarify. It's been over 50 years since you planted a vineyard here in Virginia, isn't it? 1973

Lucie Morton
1973 on the banks of the Potomac River in King George, Virginia.

Fred Reno
Oh, my God, that's over 50 years of wine growing Virginia. How about that?

Lucie Morton
I know. It seems like yesterday.

Fred Reno
Well, folks, Lucie is the world's most preeminent Ampelographer, and I'm going to ask her to spend a few minutes and explain what ampelography is and how she got to that position. So, tell them what ampelography is, Lucie.

Lucie Morton
Well, ampelography is essentially grape vine botany. It's how to identify grapes by their leaves, by their vegetative appearance.
That's distinguished from, say, DNA sequencing, where they're just looking at DNA extract, and they don't even go near the grape vines. So, for me, identifying grapes by their leaves was something I learned as a student at Montpellier. The key for me was that I studied viticulture at Montpellier in the academic year, 73/74 and one of my professors was Pierre Galet and Pierre Galet really is the world's preeminent ampelographer. And what was interesting was that back when I was studying, French was the language of the wine conferences internationally. So, you would go to Chile or Spain or Czechoslovakia, anywhere you went to an international wine conference. The common language then was French. So of course, Galet's books on ampelography, his big one was a four volume, 3500-page work called *Cépages et Vignoble de France,* grape varieties and vineyards in France. And he did table grapes, wine grapes, American root stocks, American species. Pierre was very comprehensive in his work, exploring publishing and illustrating how to identify species, grape varieties, and how to distinguish between them.

Fred Reno
I need another clarity here, because I'm really not clear in my own mind, you were talking about identifying the grape varietal by its leaf and its appearance and structure. What is DNA? Is that just sort of the roots or the core of the plant?

Lucie Morton
DNA is just the genetic structure. And so, you know how they can find a criminal by getting his fingerprints off of McDonald's coffee cup. So, the DNA is just what we all have. It's our genetic code.

Fred Reno
Essentially, grape stem cell, grape vines, each individual varietal, its leaf is different.

Lucie Morton
Yes. I can identify grapes by their leaves, but there's a little more to it in that you can get grapes that have exactly the same parents, even down to root stocks, like 3309C and 3306 were both bred by Couderc in the 19th century. They're both root stocks. They're both riparian rupestris. They're both male grapes, the 3307, actually is female. So that's helpful, but their leaf structure is different. And right now, what's interesting is that I can tell clones of grapes apart. A very important part of growing European vinifera wine grapes is what clones you use. Nobody calls the nursery and says, Hey, I want 5000 Cabernet Franc. They go, hey, I want Cabernet Franc on top 214, and 327, or fps, California,

another 11 or 12. But they give a number based on a clone. Well, I did an article, I guess, last year, the year before, for Wine Business Monthly, about clonal anthropography, because I'm pretty sure I'm the only person on the planet today who does that. This will lead up to when we talk about Norton and Cynthiana and some other work I've done with American grapes, but Fred I can tell a Cabernet 214, from a 327, by looking at the vine. And guess what? DNA analysis cannot come up the same because they have all these biomarkers. Let's not go off into the alphabet numerical soup. That is genomics. It's AABB, you know, and it's like to me, and I'm a little dyslexic, I really struggle to read all of that. But the bottom line is, currently, DNA analysis cannot distinguish between clones, and so far, has not been able to distinguish between Norton and Cynthiana, which is something I do want to talk to you about later. When I came back from Montpellier as a student in the 1970s and I went to the University of California, Davis International Vine Collection, which to me is heaven. It's like you going into a wine shop with wines from all over the world. I went there and I had no idea. Remember, I was a young history major from Virginia who went to Montpellier to an international graduate program. So, I did not have years of experience. I just had one year of international graduate education in five different countries by PhD's. I was highly educated, but I didn't know much about what anybody else knew, particularly Americans. So, when I went to California, and I'm there in the student ampelography collection, in June when there are no grapes on a vine. It may be in bloom there, but all you have are leaves and growing tips and tendrils but

there are no grapes. So, I was out there with a couple of PhD students, and I'm like, Hey, I heard that California does not have the true Gamay Noir, as à jus Blanc, and they kind of looked at me. I said, Well, if this collection, and remember, it's first time I've ever been there, and if this collection has true Gamay, I assume it'd be over here. Here's your Chardonnay, here's your Pinot Noir. So, if they've grouped it according to origin, maybe the Cabernet Sauvignons with the Cabernet Franc or Merlot. I don't know how you've mapped this out, but I see over here is the pinot, let's go look. There was a dead silence. Everybody said, well, Lucie, how do you know that's Pinot? We don't have the map with us. You've never been there before. How do you know that's Chardonnay? How do you know, we don't have Gamay. I'm like, Well, how do you not know? Because to me, it's like I'm looking at a photograph of somebody in the yearbook that I know. The leaves are the face of the vine. I connected the face and the name, and I learned it. I wouldn't have graduated from Montpellier or gotten my diploma, if I hadn't had been able to go out in the collection with no signs on the vines. Actually, you know what Pierre did, he would bring shoots into the classroom. So, there was no chance you could cheat and look around on an end post for a sign. I turned it around. I asked, how do you identify grapes when you're in a vineyard, because the nurseries back then really had a lot of mixes. The Pinot Blanc wasn't really Pinot Blanc, and the Gamay was actually Valdiguié and Pinot Noir. But there are a lot of mistakes out there that I was aware of from my professors. And I said, "How do you do it? They said, "We look at the grapes. I said, you know what, in the world of

ampelography, that's considered cheating for one thing, the other thing is, it's not practical, because think about it, you plant a vineyard, how long is it before it even has grapes? If they've given you half Chardonnay and half Cabernet Sauvignon by mistake, you're not going to wait until the Cabernet shows up red and the Chardonnay shows up white a couple of years later. I said you got to be able to nip that in the bud right away.

Fred Reno
No pun intended, right? Yeah. Let's jump to Norton for a second. Virginia's grape, not Missouri. Virginia's grape.

Lucie Morton
Well, it was born in Virginia and saved in Missouri.

Fred Reno
Okay, that's a good way to clarify. Well, let's take that trail then for a second, because people probably don't understand what happened and how prohibition had such an effect on Eastern wine growing and what it did do to the Virginia wine business. It just decimated it.

Lucie Morton
You are correct, Fred decimated the wine growing east of the Rocky Mountains. From the birth of an Eastern American industry came about because we had what I'm going to call Heritage American hybrid grapes. These are grapes like Concord or Norton that were born in America. However, they had to have had a vinifera, European vinifera parent, usually

the Father. Because people from the colonial times, they were bringing their grapes with them. They brought slips of apple trees and pears. It wasn't just vines, right? And in fact, Brits really wanted their American colonies to have a wine industry so that they could tax it, so they didn't have to buy wine from France and Spain. They hated Spain. They were all enemies. And so, there was a lot of pressure to get going in Virginia, starting in the 1600s which meant that refugees like my family on the French side, the French Huguenots, they were fleeing Catholic prosecution, and I mean persecution. My seventh great grandmother had to leave France for Holland, and eventually ended up in Virginia because they were going to be killed as Protestants when they made Catholicism the national religion of France, and it was just awful what went on, but that's how my family, one part of my family, got here, and they were from the Champagne region, from our Ardenne, and they may well have brought with them Petit Millie, Chardonnay, Pinot Noir, Pinot Meunier. Those grapes were all in America.

Fred Reno
So cross pollination happened by, if nothing else, by accident or by wild right?

Lucie Morton
Right. People weren't really clear on exactly how new grape varieties came about. They did know it was through pollination with a male and a female. But the thing is, most vinifera grapes are perfect flowered. They can fertilize themselves. They are what they call perfect or hermaphrodite

flowers. So European wine growers didn't really think much about it because they didn't need to. When they wanted to breed with native grapes, unless they were super careful, If you're in Virginia and you plant your Chardonnay in your backyard in Richmond, all around you, especially think back then there were woods and wild grape vines everywhere. The pollen from the wild grape vines would pollinate perfect flowers, but the female parts of, say, a Chardonnay or of the vinifera grape, and those seedlings would become new American grapes, right?

Fred Reno
Exactly. So, Norton, and you're the Grape Sleuth, so you're on this. What was its parent?

Lucie Morton
Norton, I love the name too, because the full name is Norton's Virginia Seedling, because that's exactly what it was. It was Dr Daniel Norton who had a vineyard in his backyard, outside in Richmond, really, in what is now Richmond today. Dr Norton had a vineyard that included some grapes like Catawba, Isabella, some of the early American hybrids, but also vinifera. He had a Pinot Meunier, and what he wanted to do was to breed his Pinot Meunier with another very early American hybrid grape called the Bland grape. The Bland was named after Colonel Theodore Bland, who was in George Washington's army. Happens to be a relative of mine. If you can be related to grapes, I'm related to Norton and another grape called Cunningham, the only two historic Virginia grapes that are now in existence

and are important, but anyway, so Dr Norton had this Bland grape, which Colonel Theodore Bland had found on Virginia's Eastern Shore. I work with Chatham vineyards today, and they're on Virginia's Eastern Shore, and I've gone around Chatham, and there's lots of different types of Vitis aestivalis there. And so, the Bland grape was found there, but it may actually have turned out probably to have had Vitis labrusca also in it. And I believe there was, now I am really going back, yeah, kind of going backwards in time. The first Native American wine grape of note in the literature and in the history of early American wine growing was called Alexander.

Fred Reno
Isn't that the grape, if I can interrupt for a second, isn't that the grape that Thomas Jefferson talked about?

Lucie Morton
Yeah, Alexander was the one that Thomas Jefferson referred to. It was the best known, and it was a vinifera labrusca.

Fred Reno
After he had failed growing and being able to make wine from vinifera, he said somewhere in one of his books I read he referred to the Alexander Grape was the future.

Lucie Morton
Unfortunately, he didn't get to have Norton. I know Thomas Jefferson would have loved Norton. It didn't work for him to get it in time. But he did have Alexander, and he knew about

it. And what I think is, because if Thomas Jefferson had Alexander, all the colonial people wanted to have grapes in their backyard. So, Alexander was grown in Pennsylvania. It was grown all over the place, you know. Think about it, grapes are easy to root, right, particularly if they have Vitis vinifera and Vitis labrusca. I think what happened was Alexander was in Richmond or on Virginia's Eastern Shore, and a wild aestivalis pollinated that and created the seedling of the Bland. So, you can see that early on, if Bland, in fact, is a relative of Norton, which there's every reason to think it is, but we don't know exactly the genetics of Bland. If there is a Bland in France, and we're hoping to do the genetic genetics on that, but, so for doctor, the thing about for Dr Norton, he didn't know what the genetics of Bland was exactly, whether it was labrusca aestivalis, vinifera or what, but, he thought he was pollinating the Bland flower with Pinot Meunier, and he maybe emasculated, took the stamen off. But if he didn't put that cluster in a bag and really seal it tight, the pollen from a wild aestivalis could get in there. I'm certain that's what happened, and it was for the good. Because if Norton, in fact, were more than 50% vinifera, like he intended it to be, if it was half Pino Meunier, no way it would have survived its sustainability in the sense of its genetic resistance to cold, to downy mildew, powdery mildew, black rot, its ability to survive and phylloxera all dependent on the fact that it's maybe three quarters aestivalis and a very smaller fraction of vinifera.

Fred Reno

Well, Lucie, you've been giving me a really good history lesson. Lucie her take a sip of this Montagny Blanc and tell me what you think of this wine, because I love really good White Burgundy, especially at 11 o'clock in the morning. Your palate is never any better.

Lucie Morton
That is really delicious. It's a beautiful acid balance. I love how they do not over oak it. Probably the barrels are older. They usually are there in the really great places. I taste the salinity here, which I associate with limestone soils. So, I'm really interested in looking this up and seeing if, in fact, this wine is growing in limestone soils,

Fred Reno
It is in the north end of the Macon and probably has some undercurrent of limestone. So well, this is delicious. So now let's find this trail here of Norton. How does it get to Missouri?

Lucie Morton
What happened to Norton and also another Virginia grape, called the Cunningham, which we can get to. But what happened to both of these? They called it the Prince Edward grape and Norton both by 1822, had been sent to William R Prince in Flushing New York on Flushing Long Island and the Prince nursery, which was actually the Linnaean Botanical Garden, started in the late 1700s by William Prince's father. They imported everything. Mulberry trees. Remember, they wanted to have a silk industry in Virginia. Mulberry trees,

Peach trees, apples, roses. I mean, the Prince catalog had everything, including grapes. And early on, they had Alexander, they had Vitis riparia. I've seen their catalogs from 1790 to when they finished. I think they went out of business maybe in 1860 so think about this time period. Norton bred his vine around 1820, but time is very important when you're trying to understand what happened to these grapes. You're asking yourself, well if, if the Norton was a seedling in 1819, or 20, how did he know it made great grapes in two, three or four years? Well, because back then, they would get a seedling and they would really fertilize it and push it and push it to flower soon, so they could see the grapes, and then think about one really well taken care of seedling in that first summer when it goes dormant. Let's say it was dormant in 1820, each one of the buds on that shoot that was the new vine has in it the potential to make a new vine. I don't think people appreciate how important a grape bud is. Inside every grape bud is not only a cluster or two of grapes, you know, primordia, but it's the ability to root and to make a new vine. What they would do, and I don't know exactly, but they already knew about grafting them. So, they would sometimes take a bud of a new vine like Norton, which is hard to root. So, we can talk about that in a minute, but you could grow that bud onto another vine, and that one Bud would grow vigorously. The next year you could get fruiting quickly. I don't need to get into all the botanical details. But the other thing that they would do, they would take the seedling, I mean, they would take the shoot that grew the first year, lay it down, cover it with dirt, and every single one of those buds, the ones that were alive and viable, would grow up. If

you put it underground and you kept it watered in the springtime, those buds are going to want to grow. They grow a little shoot, and they grow roots right there. And it's something that they call layering. But layering, all that means is you take a grape cane while it's still attached to a mother root system laid in the ground, and all those little buds will come up and make new vines, and you can cut them off. So, Norton sent cuttings or buds, that's the thing, I'm not sure exactly, to Prince to propagate, and back then he would also have sent him a bunch of grapes to show him what they were like, so that he could describe it in his catalog. When William Prince, who already had Isabella, Catawba, and these other early American grapes in his catalog. He just kept building on it, and he added Norton. And he added Cunningham. Once he did that, he made those grapes available to anybody who wanted them. So now they're taken out of the context of being a Virginia grape, and they're a grape that was born in Virginia but ready to travel, right?

Fred Reno
Basically, Prince, what you're painting a picture of here was the preeminent nursery in the eastern part of the United States. So, if you're a German wine grower in Missouri, that's where you're going to go.

Lucie Morton
Exactly. People don't realize. And I have just done this article for Wine Business Monthly that will be published in their March 2025 issue where I have a map from the USDA, showing the grape production in the United States in 1859, at

that. And it's fun, because it is just before the Civil War, and West Virginia and Virginia are still one state. You know, my grandmother never did admit she lived in West Virginia. She always called it Berkeley, Springs, Virginia. But that's another story. So that, getting back to 1859, there was no West Virginia, and there weren't any grapes, but Virginia was starting to have some grape production. But the number one wine growing state, ahead of California, which was number two, was Ohio. That got started with Nicholas Longworth and his wildly successful Catawba, sparkling Catawba. Ohio, for one brief shining moment, was the number one wine growing state in the United States. They were growing all of the grapes. So, they had Norton. So, I believe Norton came to Missouri actually in the 1840s. Norton did get to Missouri with the German immigrants who wanted a wine culture, who wanted a red wine. Remember, Catawba was white wine. Delaware was white wine. They wanted the Norton. So, Norton got to Missouri in the 1840s.

Fred Reno
So, how does, because we're both are on this trail, to point out the difference between Cynthiana and Norton, because they are folks not the same grape, even though people can label them the same. So then, how does Cynthiana come into the picture? Because they definitely had to have it in Missouri.

Lucie Morton
Let's just talk about Hermann Missouri. Hermann and Augusta Missouri were the centers of that industry, but

specifically Hermann, Missouri had two very important wine growers, Friedrich Münch, and George Husmann, both of them who wrote books on American wine making and grape growing. And they both made wine and had wineries, right? So, these guys, to me, are primary sources of what happened with regards to Norton and also Cynthiana that came to Hermann later and Prince, because, as you said, Fred Norton and Cynthiana are difficult to tell apart in the vineyard. Let's just say, right from the start, everybody said Norton and Cynthiana look alike, but the wine is different, that's what they said. But you know, it's easy for the nurseries if you can't really tell them apart. It's kind of easy for these things to get mixed up. Didn't we just start the conversation with Gamay in California? You know, Gamay Beaujolais from Beringer was actually Valdiguié. So, so this is nothing new, that there'll be a mix up, but that was what I had to do to prove, or to understand, where does Cynthiana come from anyway? That's the key. We know the history of Norton, right? We know it was born in Virginia, went to Prince catalog, went to all over the place, and Prince would send it to different places. But Cynthiana, where did that come in? It has bugged me my entire career. I knew that they were not the same grape, but until I can see one, how will I know? How will I know? And the DNA work that was done on quote, unquote, Cynthiana and Norton, I'm going to say, in the last 10/20, years, the problem was they didn't know that they had a true Cynthiana. They just had to take somebody's word for it. There was one important study that came up and said, we've done the genetic analysis and we've shown they're identical. Well, I'm like, Hey, you didn't use enough

microsatellites, because they're not identical. They may be very close, but they're not identical. But one of them has some pictures of the leaves. I said, "You know what? You're right. You're Cynthiana and Norton are identical because you used two Nortons in your study. So, congratulations on that one.

Fred Reno
Well, you know, I'm looking at the book. You just referenced from George Husmann,

Lucie Morton
Yes, In 1866.

Fred Reno
Yeah. You know even he has this, what you believe to be inaccurate, he talks about Cynthiana, and I want you to touch on in a second the Red River reference. He says origin, unknown, so he doesn't know, said to come from Arkansas, this grape promise is to become a dangerous rival to Norton's Virginia, which variety resembles so closely in wooden foliage that it's difficult, if not impossible, to distinguish it from that variety.

Lucie Morton
Right? And he was correct, but you have to read what Husmann said in 1885 was that the difference was the wine. He comes right out and says the wines were different and how they were different. But I'm glad you read that, because I'm like now, where did the grape Red River come in? Well, I

went back and that is what I do love about digitization of old material. I downloaded every single Prince catalog I could find, and I looked at them from 1822 and I kept looking for Red River. Red River. Guess what? I found it in 1840 he carries a Red River. He doesn't say much about it, just that it's a red wine grape and late ripening, you know. There is not a whole lot of description. But every Prince catalog, from 1840 to 1858 has Red River. Well, guess what? Or through 1857 Well, the 1858 catalog comes out and poof, it says, Cynthiana, parentheses, Red River. And ever after that, there was never a mention of a Red River grape variety. I've never been able to find one. To this day you look for Red River grape variety, it's not there. I think what happened was that Prince rebranded it Cynthiana. He says in his catalog, Cynthiana, parentheses, Red River. So then by 1859 I think Husmann might have thought, well, there's a Red River in Arkansas. Maybe it came from there, right? I just think that was pure speculation. Frederick Münch, however, six years before in 1859 here's what Fred Münch wrote the Cynthiana, parentheses, Red River originated in Ohio. In its appearance, it is very much like the former, Norton. It makes a wine, however, of lighter color, which is sweet, of fine flavor, and excellent if the fruit is left to ripen thoroughly in the future, it will stand next to Virginia Seedling.

Fred Reno
That would make more sense, Ohio was the largest wine growing state at that time. Why would Arkansas have this? When Ohio was the largest winegrower at the time?

Lucie Morton
Well, if you look at my map, figure one in the article of the USDA, there is a Red River 45 minutes north of Cincinnati, the heart of the wine industry. It's in the southwest corner of Ohio, in the area of the densest grape growing and guess what? Arkansas didn't have a grape industry then. Their industry got going later in 1870.

Fred Reno

There may be a correlation if you will, between Cincinnati and Cynthiana. It could be there's a real, I mean, tongue twister there of some kind.

Lucie Morton
Yeah, I looked at all the history and I know the people who've done biographies on the Princes, there are no Cynthiana's in the family that we know of related to the Princes. Well, we know that the Isabella Grape was named after Colonel Gibbs wife because she found it in their backyard in South Carolina. I mean, we can trace the female names of some of these, but Cynthiana there may be a little town called Cynthiana in Ohio. Perhaps that's where it came from. It did not come from Arkansas.