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University of California  
Berkeley, California

Philip Freese

*Phil Freese: Innovator and Leader in the Practice of Winegrowing*

Interviews conducted by  
Martin Meeker  
in 2017 and 2018

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Phil Freese

Photograph courtesy of Vilafonté

**Philip Freese** is a co-founder and co-owner of Vilafonté, a South African winery that produces varietal red wine. Freese was born in 1945 in Indiana. He was educated at Purdue University (BS) and University of California Davis (PhD) where he studied biochemistry. He left the field of biochemistry to pursue a career in the wine industry in 1978, first working as vineyard manager for a CalPlans vineyard in Napa County and then, beginning in 1982, as a winegrower for Robert Mondavi, eventually becoming Vice President of Winegrowing. In the 1990s he started both a wine consulting firm, Winegrow, and, with his wife winemaker Zelma Long, the winery Vilafonté in South Africa. In this interview, Freese discusses the following topics: upbringing and education in science; early career as a biochemist; the evolution of the California wine industry from the 1970s through the 1990s, with a special focus on Napa Valley and viticulture; the multiple facets of viticultural practice and research, including the definition of “winegrowing”; the North Coast Viticultural Research Group; Robert Mondavi winery in the 1980s and 1990s; vineyard consulting practices; the wine industry in South Africa from the 1990s through the 2010s; and Vilafonté Winery in South Africa.

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## Interview 1: August 17, 2017

01-00:02:39

Meeker: This is Martin Meeker interviewing Phil Freese. This is August 17, 2017, and this is interview session number one. And we are here at Phil's home outside of Healdsburg, California. We begin interviews the same with every person we interview, and that is, tell me your name and your date and place of birth.

01-00:03:11

Freese: Phil Freese, born in Indiana on June 9, 1945. Actually, that's not quite correct. I was born in South Bend, Indiana, and my parents were in the process of moving from South Bend to the little town of Akron, Indiana, which I consider to be my home. Went there as a very young child and lived there until I left for the real world.

01-00:03:40

Meeker: Well, tell me a little bit about the circumstances into which you were born, maybe what kind of work your parents did, and what kind of town you were raised in.

01-00:03:48

Freese: Right. So I said South Bend, because my father was, at that time, working for Bendix Corporation. Of course, it was during the war. I don't know exactly what he was doing, but Bendix Corporation was very important in making key precision parts, and I think what he worked on was airplane parts, and so forth. So he was a real high-level machinist. He and my mother—and I have an older brother, myself as middle, and then a younger brother—they didn't want to live in South Bend forever. And so they had arranged to purchase a property in this little town of Akron. So if you were in South Bend and you went to the south, a major north-south highway, Highway 31, and then a little bit off to the, what would be the east, there was this small town of Akron. And outside that they bought a parcel of land that was a farm.

It was a working farm at the time with an old farmhouse that was on it; two story. And they were busy making a new homestead there for themselves. And so, they would go down on weekends and from summer vacations and things like that and work on the farm, principally getting the house ready to move into. So as a very young child, I moved with the family there, and then there was a period of time when my father actually commuted. He would go up to South Bend, like a modern-day commuter. It wasn't very far; it was about fifty miles, but in that era, it was a bit of a mission. And so they were weekend farmers, and during the week, he worked.

My mother, at that point, had stopped working. She had worked for a period of time. Indiana has a number of small military schools, and there was one that was fairly close to my father's family. It was called Culver Institute, and she worked there for a period of time as, I think, waitressing, and doing some things like that. So eventually, they got the household moved to the farm

outside of Akron, Indiana, and that's where I recall growing up. To me, that was home.

01-00:06:33

Meeker: How much acreage was there at the Akron farm?

01-00:06:36

Freese: That's a good question, I think. I'm trying to remember. It was probably about eighty acres or something like that. Things tend to be subdivisions of a square mile, of 640 acres, and I think it was about eighty, and that was the core, yeah.

01-00:06:58

Meeker: What kind of crops did your family grow?

01-00:06:59

Freese: So it was mixed. It was mixed agriculture. So I remember as a kid, there were some pigs. There were a couple of cows, and it was one of these sort of, probably now, kind of imaginary, bucolic kinds of situations. So mixed grains, some wheat, wheat and oats, corn crops, things that could be used as animal feed. Raising some pigs, and as I mentioned, a couple of cows, so we had cows that we'd milk. I remember the old crank-operated cream separator that was in the kitchen, and it was kind of a back-to-the-roots kind of existence.

We had electricity and telephone. So it was all the modern conveniences, but the telephone, at that point, I remember as a young kid, was the party line, with the big wooden box on the thing on the wall. And you'd pick up the receiver, and it was a party line. So you'd crank the little crank, and I forget what our number was. It was two longs and a short, or something like that. You'd hear ring, ring, ring-ring, and that was you, okay. And my mother was an avid gardener.

And so I reminisced for a long time about growing up where, coming home from school on the school bus that was about probably a half an hour ride into the town to go to school, all the way through elementary through high school, as they would usually, in the summertime—there would be one type of receptacle. And I would seem to be the target for this, but if it was a certain square pan with a certain knife in it, when I got off the school bus and walked up the driveway—it wasn't that far, but it seemed like as a kid, it took a while. There'd be a pan sitting out on the kitchen table. And if a certain pan, it meant, go down to the creek and cut fresh watercress, because we're having a wilted watercress and home-cured bacon salad as part of dinner. And if it was another kind of receptacle, it meant, go out and harvest a certain number of ears of fresh sweet corn, or green beans, or tomatoes, or something.

And I'd always give this little kind of pushback, but I loved that. It meant, get your shoes off and walk through the meadow or the pasture down to the creek and wade into the creek, and cut watercress, which took extremely long period of time because it had to involve chasing the turtles and seeing what minnows

were around, and being distracted by things. So yeah, it was a great way to grow up.

01-00:09:57

Meeker: What were your parents' names?

01-00:09:59

Freese: So my mother, Irene, and her maiden name was Sampsel, and I'll come back. Part of the reason we moved into that area, it was fairly proximal to where my mother grew up, not too close, but not too far away. And then my father, Francis—Fritz was his nickname—Freese, and, yeah.

01-00:10:23

Meeker: Did they both come from agricultural backgrounds?

01-00:10:26

Freese: My mother, she and her brother, grew up in this area that wasn't too far from our house. It was a nice distance, not too close, not too far away. Her father was into heavy construction, like earth moving and a lot of digging of ditches and drainage, cellar basements; things that required fairly large digging equipment, kind of the most modern at that time sort of materials and of equipment. And eventually, my uncle, or my mother's brother, went into that business as did his son. So it became a family business.

Let me just insert here. My dad died when I was fairly young, and I was probably, I'm going to guess, probably about five or six years, maybe a little bit older. And so, his mother, or my grandmother on his side, at that point, lived in the closest larger town, Rochester. And it was kind of a resort, in a sense. It had a fairly large lake. People had resort houses there. It wasn't a resort like we think about it today, big and commercial. It was a lot of private homes. People could still own property there. It was fishing, a lot of fishing there, and just kind of generally a nice place to be. People would come from South Bend or they'd come out of Indianapolis, which is further south, and they'd have summer places there. And actually, one of my cousins, the son of my uncle, he and his wife and family lived there on the lake. We didn't do a lot of recreation there, but it was kind of a recreation area.

But my father's mother, my grandmother on my father's side, all I ever knew of her, she lived in an apartment in the town of Rochester. And my vision of her [laughs] is kind of the vision that you see on the grandmotherly picture on a box of Mrs. See's candy. She has white hair pulled back. She wasn't a physically large woman. I recall her as maybe being slightly frail, but I have no reason why I think that. It's just that she wasn't as robust, for example, as my grandmother on my mother's side, who, while she grew up—while she, as I knew her as a grandmother—my grandfather was in this construction business.

But I know my grandmother on my mother's side. She would tell stories of growing up as a kid, the first car in the community, and when she learned to drive when she was nine years old, and making their own clothes, and didn't own a pair of scissors. They would cut patterns out with a really sharp knife on the floor, the wooden floor of the house. And things were really very, very basic.

But so, my grandmother on my father's side, I didn't really know her that well, and we had some linkage to the family on that side. I'll come back at some point and talk about that. One of the, probably, would have been an uncle on that side, was a dairy farmer, and they lived a little bit further away from us, but close to this Culver Institute, where I said my mother had worked for a period of time. And they were dairy farmers, a reasonable size. Not a huge one, but it was a family farm. So I never really knew my mother on my father's side of being associated anything except with the apartment in the town of Rochester.

01-00:14:57

Meeker:

Well, it sounds to me then like your parents, their decision to leave South Bend and move to this eighty acres, or roughly, it was kind of—I know “back to the land” has a certain connotation after the 1960s, but it feels like maybe there was a little bit to that. That they were not necessarily raised as farm kids, but wanted to start that in their own life.

01-00:15:28

Freese:

Yeah. I think that's probably it. It's interesting you say that. I hadn't thought about it, but maybe that's part of my whole thing about agriculture. I grew up thinking I never wanted to be involved in agriculture. What I realized is, I never completed that thought. I never wanted to be involved in annual agriculture. I love things growing, and understanding in how they work, and so forth. And one of the reasons I love the wine business so much is, it has longevity to it. You make a product, and it continues to live on.

But yeah, I think that was probably it, because with respect to my parents, I think my mother and my grandmother on her side, her mother, they were pretty close. They weren't the kind I see close today sometimes, where parents and children talk to each other every day and it's like all this stuff. It's like, really intense. That wasn't the thing. They would do things together. They would can, and they would make applesauce in the fall, and my grandmother still. She grew up, the agricultural part of—they would raise hogs and cattle, and in the fall, they would butcher hogs and cure hams, and she always had this. And she was a great, great one for canning summer produce, and she loved gardening as well.

And I never knew them to live on a farm, but she, my grandmother in particular, had that holdover from having lived that rural kind of life where, they didn't have a lot of—I don't know what her parents actually did, my

great-grandparents. I just don't really know. But my grandmother had all those skills, and that's why we would always have home-cured bacon, and she would have hams hanging, and she had a smokehouse on the property, and they did it. She did it less and less. My grandfather was involved, as well. He had all the same skills, but he was, I knew him really as, a businessman, a businessman working, running this heavy equipment. So they had some Caterpillars, big digging cranes, and so forth.

01-00:18:15

Meeker:

Did you learn how to smoke meats and butcher a hog and everything when you were growing up?

01-00:18:21

Freese:

I did not. That's a good question, because it wasn't active discouragement from it, but it was. My grandmother was so taken with, and one of the things that had a really big influence on me, is how she was taken with where she came from and where she was. And I remember sitting with her. I was at her house. The first moon landing. You have to realize, she grew up with no electricity, and then, she saw, on her own television set in her own house, watched the film of somebody landing on the moon. And I remember her turning to me, and she said, "Is that real?" [pauses] I remember, as a fairly young person, having this sort of sense of, oh my God, will I ever see that range of change in my life, during the course of my lifetime, from a rural sort of existence? And she said they had one needle and no scissors. It was pretty basic kind of stuff.

And then she had all this joy about, first time that transistor radios got to be small enough they were battery operated. I remember she bought my older, and myself, and my younger brother, each a transistor radio. She said, "This is the greatest thing I've ever seen." [laughs] And I said, "Well, Grandma, did you get one for yourself?" And she goes, "No, that would be extravagant." And I said, "Well, I don't think it would be at all." So I remember somewhat later buying her a transistor radio that was significantly smaller than everything, and she carried that thing around with her. She loved it. But she loved the unfolding of the technology, and I'm just thinking. I'm not sure if she ever—yes, she did fly. She did fly. Not frequently, but I think several times, she had an opportunity to fly in an airplane.

01-00:20:54

Meeker:

You had mentioned your father passed away when you were about five. What impact did that have on your upbringing?

01-00:21:01

Freese:

I think when they were moved, my parents were moved down to the farm, and I know he was still commuting, because it was sort of like the day job that paid the bills. And I can remember a couple of times as a family we would go up, and there was this small house. I don't know if my parents owned that house, but it was a fairly small house. It was kind of, I remember, as this sort

of beautiful little, sort of cream or colored wood-sided house. It wasn't large, but had a little wooden porch on it and the turned columns in front, the small ones.

I think I remember things like him being sick, being in the local hospital. Not really understanding a lot about what that whole process was about. I remember the day of the funeral and the funeral home in the local town, and just kind of like, what's going on? It was confusing. But then, my mother, I remember then, she decided she needed to go to work. And what she did is, they, I think actually earlier, probably when my father was still alive, they essentially—what's the right term for it—sharecropped the farm. And there were a local person who was farming it, and I think what she got out of it was a certain rental income and maybe a sharing in the profits at the end of the—I don't know how the financial was worked out.

But she also decided at that point that she really needed to go back to work. It wasn't immediately, as I recall. There was probably a period of, I'm going to guess—time's sort of funny at that age—probably another four or five years. And I remember being old enough that, when she went back to work, she knew that, for example, I was at an age where—and my older brother was significantly older, four or five years older than me, that I know it was my charge, is that my younger brother and I was supposed to take care of my younger brother and [laughs] respond to whatever “pan” was there when we came home from school. And we'd do our schoolwork. And as boys will do on a farm, we'd run amok and get into all kinds of stuff, and have adventures, and so forth. But I don't remember the impact being of my father's death being a—sometimes those events are catastrophic on kids' lives. Things change so much and they have to move, or it's so stressful.

My mother was a pretty strong woman, and I think she came from pretty strong stock, pretty self-reliant. And I do recall she said that she had to go back to work, and she said that there was, through, I guess it was Social Security or whatever it was, there was a dependent. She could draw certain amounts. You got a monthly check that helped support. And I remember her saying, and it was probably a number—I was older—I remember her saying that she went back to work because she didn't want to use that money. So she'd been putting it away at the local bank, and I said, “Gee, what's that about?” And she said, “One day, you're going to use that to go to college.” And I did. So she had put away some money.

But the direct impacts were, I think were pretty highly buffered, because of their self-reliance. We didn't have to move. My mother was clever and my grandfather helped her organize, and there was a local person. My grandparents helped my mother. I'd forgotten about this. They owned a farm that was probably about two miles from us, and it was up on a major kind of east-west highway, Highway, probably 14, I think it was. And I think what eventually happened was, my grandfather said to the guy who was living on

that farm and farming it, sharecropping again, asked him if he would farm. And then he set up, my grandfather helped set up that organization. So I would say that transition was not great turmoil and trauma, but it was, yeah, it was this real—I perceived it as being different, and it was a period of time there.

01-00:26:59

Meeker:

Did your mother remarry?

01-00:27:00

Freese:

She did eventually. It's a good question, when that was. I was probably about fourteen, something, at that time. And the fellow that she married, my stepfather then, also lived fairly close, so, probably about a mile or two away, had a farm there, but his business, and that was—a lot of people had farms. As I call it, what do you say to a farmer when they win the lottery and get a million dollars, and they say, "Well look, I'll keep farming until it's all gone." [laughter] So a lot of times, farmers were, they'd have weekend farms because they loved to do it, and it was supplemental income, oftentimes didn't support them.

The farm that my grandfather owned, the guy who leased that and lived there, they were—it was larger and it was enough to be a real farm unit even though he didn't own it. Yeah, so, my stepfather at that time had a business. It was in this town I've referred to as town of Rochester, and that was a farm equipment sales business. He was a dealer for a line of farm equipment called Allis-Chalmers. It was I think they were based in Wisconsin or Michigan, something like that. Anyway, it was a pretty well-known, well-respected brand of equipment. So it was the sales of tractors and equipment, and also a pretty serious shop and service area.

01-00:28:54

Meeker:

Tell me about your experience of school. In particular, did you have good aptitude for the academic side of things? Did that take a while for you to develop into that?

01-00:29:07

Freese:

Well, so, essentially, my whole lifetime, I went to the same school. That's kind of a rare event, right?

01-00:29:18

Meeker:

You mean elementary school was the same actual school as—

01-00:29:22

Freese:

Physically, the elementary school, junior high, high school, they were all on one what today, people would call a campus. Then, we would never called it a campus. It was just small and integrated together.

01-00:29:35

Meeker:

How many buildings were there, roughly?



01-00:29:36

Freese:

There were two, just two buildings. So I think the primary school was through sixth grade, and then the high school, junior high, were in the same physical complex. In my graduating class, there were forty-three kids. I would say it was a pretty close-knit group, but because we lived outside of town, and I never was particularly interested in sports, per se, so, and my mother was working at that time, so there was no one to do the—what do they call it today, when mother's run a taxi service for kids?

01-00:30:29

Meeker:

Carpool?

01-00:30:30

Freese:

All kinds of after-school things. And there were no other kids immediately close that were of our same age. So it was a school bus to and from school, and then we would today, in today's world, be probably called a latchkey kid. We'd come home and as I said, do all the things we needed to do. A curious aside is the big event. Whenever we would go anywhere for an extended period of time, the big event in our lives was, try to find the key to the front door, because it was never locked otherwise. [laughs] And it was like, "Now where did we put it last time?"

But school was—I don't know. It was pretty, I don't want to say easy; it was comfortable. Because the classes were small, the kids got a lot of attention. School was easy for me, through the primary grades, in the transition into what we'd call middle school today, that junior high. Was really exciting for me because it was an opportunity then to—the whole concept of moving from classroom to classroom and having some independent time, and I always loved the one they called study hall. It was great because it was in the library, and there were all these books, and we could check out books and take them home.

01-00:32:09

Meeker:

Were you a pretty voracious reader then?

01-00:32:12

Freese:

I don't recall being voracious, but I loved it. And we were close enough, we could, from the class, in the particularly latter grades of primary school, each week, we would take a walk up to the Carnegie library, which was the classic brick building, and you walk up the steps, and the columns, and the card catalog as you came in, and the librarian who was like, "Shh!" [laughter]

01-00:32:49

Meeker:

Classic.

01-00:32:49

Freese:

Classic. And then we would, occasionally, with my mother, on the weekends, we'd go into town. She'd want to go do shopping or something like that. And so, she would let us go spend an hour or two at the library. We're checking

out books, and everybody was like, “Okay, well how many days until this has to come back?” If you go over, it’s a nickel a week, or something.

01-00:33:17

Meeker:

Do you recall the kind of books you were most interested in reading?

01-00:33:21

Freese:

Yeah, there’s probably part of that formative thing about exploring the world—other books about other places. I remember I mentioned on my father’s side, one of his sisters—he had twin sisters—one of them, at a fairly young age, moved to Los Angeles. Fairly young in that post-high school, kind of in the early employment years. One of the twin girls—they weren’t identical twins. They were fraternal. And so the one moved to Marquis, who we may come back to at some point. She moved to Los Angeles and went to work in, it was a fairly high-tech business of some sort. And I think she was also involved in, it wasn’t secretarial work. It was something professional, and I never knew exactly what.

I remember, as a kid, she was older and she’d come to visit, and she was this beautiful sophisticated, well-dressed kind of woman who knew the world, and we’d always go, “Whoa!” And her twin, Annabelle, who was married to the guy who I said had the farm—getting to the reading part—whenever we’d go to visit—they subscribed to *Smithsonian Magazine*. What else? *National Geographic*. So and they had two boys. And so there was always this thing of like, “Well, go play with your cousins.” And what I would tend to do is, I’d say, “Okay.” I’d sneak away, and I knew where they kept the stack of magazines. So I’d go hide away in this back bedroom, and read *Smithsonian Magazine* and stuff like that.

01-00:35:29

Meeker:

Interesting. Both of those magazines have a naturalism bent, and were you developing an interest in science and biology at this point?

01-00:35:46

Freese:

I think so. And somehow or another, in this time frame of the sort of mid, I don’t know, early teens or so, I somehow never got really interested. And I think it was probably really kindled when I went into middle school, because we were in the same building, and there was this science room, and it had a small lab area and classroom, and it was one big area with the chalkboards around. And I remember, and we weren’t supposed to do this, because I don’t think I had any classes there the first year, but I’d go sneak in and just take a look. It’s like, wow, look at all this stuff on the board, and they had these charts that you could pull down that were various things, and the periodic chart, and so forth.

But I got interested in chemistry. So our house, part of it, was two story. Sort of the kitchen and dining room area was single story, and then above the bedrooms and the living room was a second story. And there was a huge room

up there, and it was used mostly for storage, and it was always an area we'd love to go and explore. But near that, there was a smaller bedroom that was upstairs, just up the flight of stairs, and there was a little small room that was basically a large storage closet. And so I talked my mother into letting me convert that into, basically, what was a little laboratory. And so I got really super interested in chemistry.

There was this company called, I think it was Gilbert Chemistry, or something like that, and they had these catalogs of things you could order, and I got signed up for it, and I would get the catalogs. And my then stepfather, I said, "What I really need is, I need a gas feed so I can have a Bunsen burner." And he goes, "I don't know about that." So I just kept on hounding my mom and my stepdad, and finally, he said, "Okay, here's what we're going to do." And those days, you do this stuff yourself. By that time, we had propane heat, young kid. We had a coal-fired stove, which was an experience of its own.

But so, he said, "Okay. Well, we'll dig a trench from the propane"—no, we didn't have to do that, because we had a propane furnace then in the basement, kind of blowing hot air. And so he said, "Okay, we can go off of this propane connection." And he got the copper tubing, and I remember, we worked on this thing where we cut the flow, or we tapped into it with a T and ran up the outside of the house that was on a side that didn't show. It was the formal entrance to the house, and it had these huge trees, and it was beautiful as a formal entrance. We never used it. So we just ran it up the side of the house, and then stubbed it through the wall and bingo. I had a Bunsen burner and propane up there.

01-00:39:26  
Meeker:

What kind of experiments were you running, do you recall?

01-00:39:29  
Freese:

Well I remember as a kid, there was this chemistry set, and I got infatuated with it and I started getting like, Christmas or birthdays, I would get what we'd call a chemistry set. In there, there were, it was mostly what I call inorganic chemistry. So it was little experiments you could do. You could make compounds of things, and I remember figuring out how to actually make the volcano as science project.

So I made the volcano so I could start this thing—and I did this outside [laughs]—and I formed it out of, I don't know, plaster or something. And in the middle, I put the right chemicals and the right thing would touch it off, and it would shoot sparks and everything for like three or four feet up in the air. My mother was terrified. I said, "Hey, look, I'm going to build this thing." And I showed it to her first, and she goes, "Oh my God. Don't start a fire." [laughs] I said, "No, I'll do it outside." It was always green there because we had summer rains.

01-00:40:45

Meeker:

Did you ever participate in high school science fairs or anything competitive like that?

01-00:40:48

Freese:

Yeah, yeah, yeah, yeah. I remember actually winning a prize because I figured out how to make synthetic fibers. So it was basically nylon. It was crude, but digesting the cellulose and doing the whole thing, and extruding it into—I forget even how you do it today. But you extrude this material into this liquid bath, and you get these fibers. And so, I remember having our local science fair and doing the little standup cardboard things that explains the whole thing, and being stressed out about having to do it so I could get the whole story on there. And there were no computers or anything like that, so it was all hand lettered, and I had the yardstick laid out. Over the dining room table, I would have the story, and I was trying to transcribe it and then make a mistake and I'd start over again.

But yeah, and then it got boosted up to the next level, kind of a regional science fair, and that was serious competition there. I don't think I placed all that well, but I walked around and I saw what these other kids were doing and I'd go, "Whoa!" Yeah.

01-00:42:04

Meeker:

Did you have teachers that were particularly influential, particularly around your pursuit of science?

01-00:42:15

Freese:

Yeah. I had one who was. Probably, he was not cut out to be a teacher. The guy was brilliant. He was absolutely brilliant. He couldn't teach worth a darn. He had no sense of how to keep a class attached or engaged, and he kind of looked like the old man scientist, and he was a really, really brilliant guy. I loved it. The thing that drove me nuts is because he never really—the classes—because he never really had control of the class, so it was just pandemonium.

But he assigned these writing assignments, and some of the kids said, "Hey, look, you don't have to do this. You just do a front page, and it kind of sounds like, and then, just, you can put anything in the middle of it you want to, because he never reads these. And he's too busy. He's too distracted; he never reads them." And I go, "But that's not the point. The point is, I want to do the project." So some of the kids used to say, "Ah, just try this. Just, you could put anything in there." And I said, "No, I don't want to do it." And then I started getting, like, my friends would go, "Hey, you're making us look bad if you do this."

So but anyway, so it was both a classroom and a physical part, so we would do stuff in this lab that was several benches in the same room. It was pretty rudimentary, but it was really interesting, and he loved questions. And so,

sometimes I'd just go hang out when we had this library period. And I realized that, one season, one year, that he didn't have a class that time, and he oftentimes hung out in there, and he was grading papers and so forth. And he was always amenable to having kids just come in and hang out. So I just, instead of going to the library through the study period, I'd say, "Well, I want to come work in here," and then it was usually peppering him with questions.

But talking about favorite teachers, but I have to tell you that, one of the things I'd forgotten about is that we were in that class, and it was in the laboratory part. Other kids would pair up, and there was this girl that was in the class that I always really was pretty fond of. And so, we were working. Pat, I think her name was Pat. I think that's right. And I said, "Look, in this part of the experiment, you can't put the acid into the test tube and then add water to it." And I said, "It's a"—what did I say? I said something. "It's an exothermic reaction and it'll blow it right out of the tube." And she goes, "Well, it's two clear liquids. You put them together. That can't happen."

Well, so, I turned around, and I was doing something, and she did the thing she wasn't supposed to. It actually blew out of the tube and hit her in the face, and I remember, we didn't have anything that was a basic chemical. There's a right dilution to neutralize it. So I just grabbed her and shoved her under this fountain. We didn't have, at that time, one of these eye wash stations, or that kind of stuff, but we had, in the sinks, we had this kind of curved neck, and it was high enough. I remember grabbing her by the hair and turning the water on, and just holding her there and throwing water in her face to try to neutralize it.

Fortunately, she did get some scarring from it, but it didn't influence her eyesight at all. And I remember the teacher came over and he goes, "See? Knowing about chemistry does work!" [laughter] And it was kind of an analytical comment. I remember the principal came in and he was aghast at the whole thing. And then, he was going on our teacher, and I remember saying to the principal, "It's not his fault. She did the wrong thing, and we talked about it, and I told her it's not the right thing to do and she still did it." Eventually, I think she went to the hospital and stuff like that. But when we had that conversation again, she said, "Yeah, I just did the wrong sequence. I did the wrong sequence of things."

And then, the poor teacher—the principal: big guy, overweight, but very stern, tall, always wore gray suits, a white shirt and some nondescript tie, has gray hair combed back. He was a very well kept, attractive kind of guy, but he was like, oh my God, the God figure in our lives. And I remember being called into his office with the teacher there, and I said, "The teacher didn't do anything wrong." And he says, "Well, it's his responsibility." I said, "But she did the wrong thing." And eventually, he, the teacher, eventually left. He wasn't a teacher. I never did find out exactly what his background was, but I

always enjoyed him. So yeah, he had a big impact. That was a divergence. He had a big impact.

And then we had a guy, he taught us physics, and he was a brilliant teacher. Big guy, really tall, very athletic, and he was also the coach, yeah, because teachers always had a couple jobs. My Latin teacher was our math teacher, and stuff like that. So yeah, so two of those teachers, from a science standpoint, and then probably, the other big influence on me was the woman I mentioned. Her husband was the local barber, and she was the math and the Latin teacher, and she was rigorous. When you were supposed to do something, you were supposed to do it. She was kind and understanding, but she was unforgiving, if you didn't do your homework or you weren't applying yourself. It was withering. But afterwards, she'd go, "Someday you're going to appreciate this. You need to discipline yourself to do this work."

01-00:49:38  
Meeker:

So you attended Purdue, which is in Indiana, correct?

01-00:49:42  
Freese:

Right.

01-00:49:42  
Meeker:

Where in Indiana is it?

01-00:49:44  
Freese:

So it's in West Lafayette, Indiana. So south. It's south of this main north-south highway, Highway 31, goes all the way from the Michigan border through South Bend, through Rochester, down to—I don't think it runs through West Lafayette, but very near that. So from where we lived, it was probably about sixty, seventy miles, something like that, maybe a little bit more.

01-00:50:11  
Meeker:

So you lived on campus in a dorm, I would guess, at first?

01-00:50:13  
Freese:

Yeah. First you lived on campus, in a dormitory, and there was a semester system. So two semesters there, and there were two of my closest friends, myself, the guy who was sort of the egg head, the brilliant guy in our class—everything was just a cakewalk for him—and one other guy. So there were five of us who went. Maybe there was another, one of the girls. I think there was six of us out of this class of forty-three kids who went to Purdue. And I look back on it and I think, at that era, so then, there were—Indiana University was our sports competitor and nobody ever thought very much of except for the basketball team. And I think there were two or three of the girls who went to Indiana University, and then one or two of them went to a closer college. It was called Ball State. That was kind of a teacher college.

And so, when I think about it, it was a pretty high conversion rate from kids out of high school at that time, out of that small of a class, and that small of a school. But it was pretty clear that, no matter how much I enjoyed school and did reasonably well, I never worked extremely hard, but did fine. I wasn't the top of the class, but I was okay. The great eye opener was the two boys who were the top of our class. One of them lasted the year, the other one lasted about a year and a half, and they both just burned out. They had never really had to work. What I figured out is, I'm going to have to work when I get here. And the pivotal experience there was my freshman chemistry class.

Went into this giant lecture hall and it probably seated 800 or 900 people. And Purdue at that time, was a large campus, even larger today. And I remember saying, "Okay, this is one of my first classes after going on campus." And opening of school, here's this young freshman. So I go. I find the building. So I think I walked over there the weekend before then, the Sunday before the Monday. So we got everything moved into the room, so I went out and my parents left, and I'm just thinking. I don't think my parents left. I don't think my parents took me to school. I think I drove myself to school. No, that couldn't have been, because we weren't allowed to have a car the first year. Okay, so my parents took me to school. I don't remember that whole thing. Everybody talks about kids moving into the dorms and so forth, but I don't remember the whole thing.

But so I walked over, I found the building. I figured out how long it would take me to walk from the residence hall to the building. I wanted to be a little bit early, so I got there early and I got a seat, and then I kept looking and this building, or this room, started filling up and filling up. And pretty soon, the seats were all full, and people were sitting in the stairway going down and on the stairways on the sides. And I remember, physically intimidating, so, this sloping long bench, must have been twenty-plus feet in length, set up to do a wet lab, if you could, for demonstrations. The front sides of the building, of the room, had blackboards on them, and across the front, it was all blackboards. So three or four huge blackboards, blackboards, blackboards on each side, and here I am sitting in this room that's full. And I've got the book and I'm going, "Holy shit."

In comes the professor who walks in through a door down at the front of the room, tamps out his pipe in the sink, kind of fusses with it a little bit, stands there, what seemed like an eternity, and he's looking around the room. And he said, "For anybody who does not have a seat, don't worry about that." He said, "We are required, because we're a state institution, to take you as residents of the state of Indiana, but we're not required to keep you." He said, "By the end of two or three weeks, you will not have a problem finding a seat in this room." And at the end of the semester, everybody that survived was down in the front part of the room.

It was ruthless. And I think sometimes, that was the last time I saw his face, because he then fussed with his pipe a little bit more. He picked up some chalk, and he went over to the side board and he started writing and talking, and writing and talking, and writing and talking, and writing and talking, till he filled up all the boards. He looked at his watch. He went back and then he erased and wrote, erased and wrote, and did the same thing again until he said, “Okay, that’s time. Here’s your assignment for next session.” That was my introduction. And I thought, I am in way over my head.

01-00:56:22

Meeker:

How long did it take you to catch on to what he was teaching? Was it fairly quickly, or did you really have to work hard to keep up?

01-00:56:33

Freese:

It made all the sense in the world, and I understood the concepts. And I think he started out talking about what was then known about valence and bonding and so forth, and I’m thinking, okay, I heard about this stuff, but we never really talked about it except very, kind of in elemental senses in high school. Then I reflected back on this one teacher, not the kind of interesting guy that got in trouble, but the other one, who really gave a pretty good introduction. So I was not completely in the dark, but, I worked. I said, “I am not going to be one of those people that is out of here and there’s an empty chair. That is not going to happen.”

And I remember talking on the phone with my mother, and she said, “Well, how’s it going?” And I don’t remember exactly what I said, but I think she left that phone conversation thinking I was going to be home soon. [laughs] Then I said, “This is a different world.” And my roommate, dining hall. I don’t know, seven or eight stories of dormitory. Kids in the dormitory. My next-door neighbor was then a world—it was two black guys, and the one guy was, what I learned was, he was a sophomore and he was a world-class sprinter. By his stats, he’s one of the fastest people on the face of the earth. And he knew all these football players, and fortunately, this guy Nate—I can’t tell you his surname right now, but he was a super nice guy and just bright and cheerful.

And we’d have this lights-out time in the hallways, where everything would go kind of dim, and I remember these football players walking down the hallway, and they’d be two abreast, and there was no place for anybody else, they were so big. And there were all these, the guys who were on the—we’d know their names from the football team, and they were hanging out there with this guy. He was a sophomore and still living in the dorm, and I think they required him to live in the dorm, because on scholarship, they didn’t want him living off campus and partying or something. So there were a bunch of, we’d call them, the jocks, in the dorm, and it was always fun.



01-00:59:18

Meeker:

Is there a moment during your undergraduate career that you felt like you reached a moment of—I'm not sure mastery is the right word, but comfortable confidence in the academic work that you were pursuing?

01-00:59:40

Freese:

Yeah, that's a good question. Yeah, I think there was. It actually came actually fairly quickly, I guess. It was when I made it through the first semester and I went home for Christmas holidays and the New Years, and I was—we'd get transcripts. And I looked at my grades, and I said, "That's not bad and I'm still there." And then I was hearing that one of my friends in high school had dropped out, and his grades had just gone completely in the toilet. I think he couldn't handle the fact that he wasn't the brightest kid, or the one who was. And I never really had a chance to talk with him about it. But the term that I figured out that I was going to survive; if I didn't thrive at first, I was going to survive. And so, I said, "I'm going to do this."

And I remember thinking, if I don't do this, what am I going to do? Because this is my key to do other things. And well, I didn't not like the time growing up as a kid in the small town and so forth, and I enjoyed it, but I knew that wasn't for me. I knew I wasn't going back there to stay. I'd go back on summers, and during summers during college. But yeah, that probably hit me at the end of the first semester. I said, "I see how many empty seats there are in these classrooms now, and I'm here. I can do this." And I end in some pretty difficult classes, but I said, "I can do this."

01-01:01:51

Meeker:

You enrolled, I guess, at Purdue, that would have been what? What year did you graduate high school?

01-01:01:58

Freese:

Sixty-three.

01-01:01:59

Meeker:

Sixty-three. All right, so, '63, there is starting to be some cultural tumult. Were you aware of this? Were you starting to feel a pull from maybe the coast or different parts of the country where more interesting things had been happening?

01-01:02:19

Freese:

Yeah, I think, at that time, I wasn't doing a lot of what I call current events. I don't know if we even had a place in the dormitory where there was a television room or anything. That didn't happen for me. I didn't have time to do that kind of stuff. So I don't remember being really a current events kind of person. I was like, I'm here to survive academically. So I studied a lot, but probably, there was news that was around. I'd see it in the student newspaper. I would go through the student union.

And when it gets to be wintertime there, one of the things you figured out is that, it's no fun to have a 7:30 calculus class Monday, Wednesday, and Friday during a winter term, because to get to class you had to go through the previous night's snowfall before anybody plowed the streets maybe, but the sidewalks, not. And so, you learned how to bundle up. And the route to any building was plotted through buildings, so you could warm up a little bit.

And I figured out, in the student union, which was this massive, big red brick building, humongous building, I figured out that there was an underground passage that went from at least that building to a couple of other buildings that were on my path. So and it was always warm in there. Any time of the day or night, it was always warm. So I'd go to the student union and I'd do this underground path and get over to the other buildings. But yeah, that, yeah, it was—

01-01:04:33

Meeker:

Well, I was asking you to think about kind of the broader world of what was starting to happen in the early to mid-sixties.

01-01:04:41

Freese:

I was thinking that—probably the things that I saw when I'd go through the student union sometimes. I'd stop for a cup of coffee. There'd be a student newspaper. I'd sit down and read the student newspaper a little bit. I'd see newspapers there, and so forth. So I was not unaware of events, but I was pretty absorbed in my world, at that point. Certainly, for the first year and then, I moved off campus, and then it was, the world broadened out for me, I think, at that point.

01-01:05:14

Meeker:

Did you ever go on weekend trips with buddies to Chicago or elsewhere?

01-01:05:19

Freese:

Yeah. Yeah, or we'd go down to Indianapolis. I had a friend who, he had a girlfriend who lived up on Lake Michigan, and I remember—and that second year, I had a car, and not very many of the kids had a car. No, I had a car the second semester. I think we couldn't have a car the first semester, but I had rebuilt—one of my mother's brother's son, like, my cousin, who was in the construction business, had an old car. And I asked him if he'd sell it to me, and then he said no, he wouldn't.

It was a 1947 Ford convertible, and it was just sitting there, outside his shop. I asked him. I said, "Doug, would you sell this to me?" And he goes, "No." I said, "Well, why not? You don't use it." He said, "Okay, I'll sell it to you on one condition." He said, "It's not running now. If I sell you the car, you're never going to get it running. So I'll sell you the car." And I paid him fifty bucks for it, and the deal was, fifty bucks, and he would help me rebuild the engine. And so, that's what they did. He did that since he was a kid. And so we pulled it, and then they had this big shop with huge roller doors and all the

right equipment, so forth. So we pulled it in there one winter, and it was an old flathead V8, and we took that engine apart. We didn't pull the engine; we did it in the car.

We rebuilt it, and he said, "That's close. It's not perfect, but it's close, and that old flathead," he said, "it'll run forever." So I then got it painted, put a new top on it myself, and that was my car. And it always started, and it was real high. It was sixteen-inch wheels, real high off the ground. And I took it to college the second year, and so, I was the guy who had a car in the wintertime that would actually start, and it would actually navigate. If there was very much snow, I could still get around because it was high wheels.

And I had a roommate that semester who loved, he introduced me to McDonald's French fries. I had never been to a McDonald's restaurant before. So we would go across and down across the river and to this McDonald's, and we'd get French fries. He was a jock, and he would walk down the hall on his hands. He was a gymnast. He was in a teaching program, but he was a gymnast. Anyway, so I did have a car.

Yeah, and so, but really, that second year, I think, is when I started to say, "Okay, I can put my head up and be involved in more things." And moved off campus and got a little more involved. And then I started to participate a little bit more in some student politics, and understand that there are things going on out there in the world that were confusing, and people were going places they probably shouldn't be going, and getting shot and shot at, and so forth.

01-01:08:52  
Meeker:

What kind of politics were you interested in at that point?

01-01:08:55  
Freese:

Well, it was mostly not real heavy duty. It was more in getting engaged and figuring out, okay, what's the whole point of this stuff? What's the government of the United States doing? I don't remember it being real radical. It was more like this big question mark, and I'd go to rallies and there'd be lectures and things like that. And I remember myself being sort of like, somewhat removed, sort of like, I'm here as an observer. I'm not really here as a participant. I'm just trying to find out what's going on. I wouldn't say I was really radicalized or anything like that, but starting to understand that there were things going on, and, I also began to appreciate the fact that, when I graduated from high school, I was obliged to go visit my draft board, which was in the little town of Rochester.

Akron was little. Rochester was probably a population of about 6,000 people, something, a county seat with a big, old county seat courthouse building and so forth that was fabulous. So anyway, I went to visit the draft board, as we called it, Selective Service, to register. And it's small, as you can imagine. And I knew the woman who ran the office. Or, I didn't know her well, but

knew her and family friends and stuff. And so she said, “What’s your plan?” And I said, “Well, my plan is, I’m registered, I’m accepted and registered; I’m going to Purdue in the fall.” And she goes, “Fine, that’s going to be fine. You won’t have a problem; student deferment’s not an issue.”

So I’m thinking I’m home free. It was a couple years later that—and I was supposed to go and check with her every year—when I went in to check with her and she said “The program of student deferments is really dicey right now. You may not be able to keep a student deferment.” This was two or three years later. And I said, “Well, I know if I don’t have a student deferment, I’ll tell you one thing: I’m not going in the Army.” She goes, “Well, we probably don’t want to put that in your record.” [laughter] And I said, “No, we probably don’t.” She said, “But” she said, “so few people from this county actually go to school and graduate from university.” She said, “Don’t do anything wild and crazy.” She said, “I wouldn’t share that opinion with a lot of people.”

And during that conversation, she took my file, and she went over to these rows of file cabinets, and four or five, four deep or something like that. And so, she’s talking all the while, and I’m sitting there, and she takes this file. She opens the bottom drawer in the middle someplace of these four or five different cabinets. She lifts up a bunch of stuff and she sticks my file in there. And she said, “It’ll be a long time before they find that.” Said, “Don’t drop out of school.” And I said, “What about coming back to visit you?” And she said, “When you graduate, you must come and see me. But until then, forget about me.”

01-01:12:51

Meeker:

So she sort of dropped you off the grid, so to speak.

01-01:12:54

Freese:

Yeah. So I went out of the grid. At that time, you’re hearing more and more kids, they’re changing the way they’re doing things, then they did this lottery thing. And so, I don’t remember. Obviously, I was in the lottery, and I remember getting a number, but it wasn’t really low and it wasn’t extremely high. And so I did go to see her, and I said, “What about this lottery number?” And she said, “I told you, don’t come and see me. When you get out of school, come and see me. Forget about a lottery number.”

And so I went back, and after I graduated, she said, “What’s next?” And I said, “I’m going to graduate school.” She goes, “That’s great. I think we can keep you as student again.” She says, “Don’t drop out of school.” I said, “Well, I’m going way out of state.” And she goes, “Don’t worry about it. Just drop me a note every once in a while, send me a transcript that shows that you’ve got grades and that you’re still actively engaged, and just mail it to me. We’re fine.” So fortunately, I was able to dodge that.

01-01:14:10

Meeker:

This interview, of course, is inching our way towards your work in the wine industry. I wonder if you can tell me a little bit about the degree to which you were exposed to wine or spirits growing up. Was wine part of your table experience, or anything along those lines, growing up?

01-01:14:37

Freese:

I would say absolutely zero wine. At that time in Indiana, if you wanted to buy an alcoholic beverage, you had to go to a, I guess you'd call today a state store. And you'd walk in, and there would be a sort of a u-shaped counter. There'd be bottles on the wall behind this u-shaped counter, and you, as a customer, couldn't actually go pick one off the wall. You'd have to tell the guy behind the counter what you wanted. And there was no wine or beer, anything, in the grocery stores. And so, it was pretty much a barrier, and I remember as a kid, in kind of a kitchen closet that was a pantry sort of closet, there was a bottle of whiskey in there. And I never remember having anything alcoholic until I went to college.

And then, of course, in my second year, I got a great opportunity we can talk about some other time, but I got an opportunity to work in a laboratory as a, it was a—what do they call it? It was a work study program, but basically, I got credit for it, and I got paid for it. And by then, I had learned the basics of distilled spirits, and that they were expensive, and that I liked gin. So I figured out: I'm in this laboratory. I worked these really weird hours and it was open twenty-four hours a day, and the guy would let me come in and work whenever, because I had specific projects. I was making stuff for the guys, chemical compounds for the guys who were the graduate students.

So one evening, I said, "I think I'll make some gin." So we had alcohol that ethanol that hadn't been denatured, and I basically knew the components that went into gin, and one of the main things was some juniper oil, and a couple of minor ones. I had gone to the grocery store, or not the grocery, the drug store, and gotten some little bottles of these essences of different things, and told the guy, I said, "I'm really interested in the aromatics," and stuff like that. Anyway, so I started making gin. So I was always popular at the parties because I could always be sure to provide a fifth of gin with no problem whatsoever.

01-01:17:35

Meeker:

A bottle of moonshine, or something. [laughs]

01-01:17:36

Freese:

Yeah. And I'd always open the bottle, when I'd go in, which was a recycled bottle. And so I would just pick up old gin bottles wherever I could get them out of the trash, and I'd always have one or two at home in the apartment. I'd say, "Oh, party on Friday night! Got to have a bottle of gin." [laughter] It was highly illegal.

01-01:17:57

Meeker: I'm sure, yeah.

01-01:17:58

Freese: Highly illegal.

01-01:17:58

Meeker: Absolutely. When was the first time you were exposed to wine?

01-01:18:09

Freese:

The first real exposure to wine actually, was when I came to graduate school in Davis. Because I was looking for, I had to find a place to live. I was in the Department of Biochemistry and Biophysics, and I remember the department. So I arrived. I drove out from Indiana. I arrived in the department, had a list of places of people that you could contact that maybe have rooms or something. And I remember looking at this list, and one of the guys on the list was a guy in plant pathology, which was in the same building I was in, but a floor down, and he was a post-doc. And I said, "Well, I'll just go downstairs and talk to this guy." So I went down and looked him up, and he's this British guy with a really heavy accent, and just a fun guy. I don't know. He's one of those guys you just meet him and you go, I like him already.

And I said, "I understand you've got a room in your house that you could rent out, and," I said, "I'm a new graduate student. I'm up in biochem." He says, "Yeah, come over for dinner. When are you free?" And I said, "Now." "Well," he said, "not now, but why don't you come over for dinner tonight?" So I did, and it turned out it was a house that the professor was on sabbatical leave. The professor was a world known, world famous plant breeder. And so I went over for dinner that evening, rode my bicycle across, one of the first things you get when you go to Davis. And so I'm having dinner with these guys, and they open a bottle of wine. And as I remember, it was a big bottle of probably jug wine of some sort. I think it was Rhine. I don't know what it was. It was a Gallo product, I think, of something. And they're having their dinner, like the chunks of cheese out there, and I'm going, "Hey, this stuff isn't sliced. What's going on?" [laughter]

And so it was, this guy was a post-doc from the UK. There was this guy who was a post-doc from Egypt, and he was in virology, doing a post-doc, and then there was an undergraduate from San Diego who was a surfer kid. And they had a fourth room in this fairly large house, and it was right on—you know where the Chancellor's Residence is, on the Davis campus?

01-01:21:28

Meeker: I don't know Davis campus so well.

01-01:21:28

Freese:

Okay, it's right across from the main campus. As you come out of the Memorial Union, you go across Russell Boulevard. There's kind of a loop street where chancellor's house is, and if you go down that street, it's a cul-de-

sac, but a long wide one, and then there's a path that goes through. And then right behind there, there's another kind of cul-de-sac, and that's where this professor's house was. So I went past the Chancellor's Residence everyday going to and from campus.

So we sat. There were chunks of cheese. There was this white wine that was, actually, it was pretty good, and then, they were fixing dinner, and it's like a bunch of guys fixing dinner and it was pretty eclectic. And I remember dinner being artichokes, which I'd never had before. I'm looking at this thinking, is this edible? [laughter] And so, Herb, and this guy, actually Herb Aldwinckle, has gone on to become—he's at Cornell now. He's a world famous plant physiologist. Anyway, Herb said, "Where are you from?" And I told him, and he said, "So you're a farm kid, is that right?" And I said, "Yeah, essentially." And he says, "We'll teach you a thing or two." [laughter] And you talk about an introduction to world politics, with an Egyptian, a guy from the UK, and a surfer kid.

But anyway, yeah, that was the first introduction to wine, and then it just escalated from there. And so, of course, the only wine store, the place that sold liquor, wine, was outside the city limits. They said to me, "Well, we've got this "kitty" in the house, and you put in so much this week and it's some stuff that we'll share." And I said, "Well, what do we share?" And he says, "Well, wine. If you want distilled spirits, you buy your own, but wine will do as the house."

And there were several other things, and one of them was: Herb got a mailed version of *The London Times*, and it was on this real thin paper, and it was exquisite. And I saw that the first night I went over there, and I said, "I've seen this newspaper, but this looks really funny." And he goes over to the airmail version—comes every day, and they ship it by airplane over, and it comes here and it gets delivered. And so I remember asking him. I said, "That must be expensive. Is that part of the kitty for the house?" [laughter] And he goes, "No, it isn't. No, that's my subscription." And I said, "Well, can I read them?" And he goes, "Yeah, that's what they're for." And then we'd have these heated discussions, Egyptian, UK, this graduate student from the middle of nowhere, and the surfer kid. And there were always other people around.

And so the wines kept getting better. And so I would go out and I'd see these bottles with corks in them, and white wines and red wines, and I go, "Well, what does this taste like?" So they said, "Well, that's a little above our budget for the kitty." And I said, "Okay, well"—I was on a stipend, at that point, so everything was paid for. Plus, they gave me money every month to live on, and living with these guys was fairly cheap, and so I had extra money. So I started buying better wines.

01-01:25:27  
Meeker:

Do you recall what you were buying at that point?

01-01:25:29

Freese:

Well, there was a lot of Louis Martini involved, and I used to, we'd open Louis Martini Cabernets, and they were like, three bucks a bottle or something like that. And Christian Brothers, they weren't vintage dated, but they were pretty reasonable wines. And people would come over, especially this Egyptian guy. I can't even remember his name right now. I remember saying to him one time after I'd moved in, "I thought you didn't drink. I thought, with your religion and background—" He goes, "You've got to open your mind a little bit." [laughs] He said, "I'm here. I'm in California. I'm trying to adapt to this social environment here."

And he had this sort of wry sense of humor, but, God, was he easily agitated. I wasn't used to Middle Eastern, wow, in your face. The first little thing that he thought was an opportunity, and he would launch all the missiles. He would just go ballistic. So we had some pretty heated discussions. And none of them were angry, they just were talking about introduction to world politics. Anyway, so the wines kept getting better and better.

01-01:26:58

Meeker:

Let's back up a little bit. How did you end up at Davis in the first place?

01-01:27:04

Freese:

So I drifted around a little bit at Purdue. I thought I wanted to be in the chemistry department. So I was in the chemistry department taking class as an undergraduate, found out that inorganic chemistry was really not my thing. And then I got involved in sort of the biology, and biochemistry, and I found out that there was a division of biochemistry inside the chemistry department. And so I had one of the tutor, or not a—what do you call them? The upper-level students who would—

01-01:27:55

Meeker:

Teaching assistant?

01-01:27:56

Freese:

Teaching assistant. So I would go to this teaching assistant because I was in a little bit over my head in some of the early parts of the organic chemistry I was taking. This guy changed my world. I don't remember his name, but he did two things for me. He said, "Look." He said, "You try to memorize organic chemistry." We'd worked together long enough. He says, "That's not going to work for you." What he told me, he said, "What your skill is, you know how stuff goes together to make things, so when you're introduced to something, think about how you'd make it. Or the chemical reactions and the displacement of hydrogen ions here and the bonding and so forth," he said, "think about how it's made, and then," he said, "it'll be easy for you." So I went from struggling to surviving the class to bang, everything went straight As.



And the other thing he said to me, he said, “You’re in the wrong place. You’re interested in the biology of and how these things come about, and how you make them and so forth. You need to be talking to the people in the biochemistry department across the campus on the Ag campus.” And I said, “I had no idea there were two biochemistry departments.” And he said, “Yeah,” says, “we’re the one that gets all the glory. They do all the fun stuff.” So I said, “Where is it?” He told me the building. So one afternoon, not too much later than that, I went across campus and I walked in, and I go, “Oh, crimony.” There were people doing rat experiments, and rabbits and animal things, and so forth. And I’m walking down the hall and it’s an old funky building and these big old wooden doors, and people’s names in gold letters on them and on. And I’m going, “This guy may be brilliant about getting me fixed up with organic chemistry, but I think this is the wrong place.”

But I’m walking down the hall and I’m looking at all these doors, and little names outside and something about it, and this funny little guy walks up and he goes, “Can I help you?” And I said, “I don’t know.” I told him whatever year I was in. I said, “I’m a refugee from the biochemistry department over in the chemistry, with a biochemistry specialty in the chemistry department, and this graduate student, or I think it was a graduate student, TA, told me to come over and look here because he said I didn’t fit over there.” [laughs] And this little rotund sort of jovial guy says, “Oh! Come in and sit down. You’ve had a little bit. Come in; sit down.”

So we walk in one of these doors and we sit down in his office, and I look around and I go, “This is a big office!” So he has this big desk, and so he says, “Tell me what you want to do.” And I told him. And he said, “Yeah, you’re really in the wrong place.” He said, “You ought to be here.” And I said, “But this is like, I see people doing rat experiments and it smells like animal cages and stuff in here, and,” I said, “that’s not what I want to do.” And he goes, “We do some of that, but that’s not very much.” He said, “We have a great history of nutrition and so forth, and there’s a guy here who discovered that South American diets are low in lysine,” and that “he actually bred a strain of corn that is high lysine. And so now they have a complete complement in the corn. They have a complete complement of amino acids, so, they don’t have this nutritional”—he says, “We’ve got people like that.” He said, “It’s really great.”

And he said, “In my lab, I work on the physiology of what’s the chemistry in muscles, and I do the chemistry of”—I don’t know, a number of other things, and enzyme reactions and so forth. And I’m going, “Enzyme reactions, yes!” So he said, “Yeah. Well, we’ll get you lined up.” Said, “We can help you do the transfer over here. And” he said, “and also, I’ve got a position in my lab as an undergraduate, if you want to work in the lab. I can set you up where you will get paid. It’s not a lot, but you can also get academic credit for it.” I’m going, “Yeah!” And he said, “The only thing is, you have to get an advisor in this department, and our advisor specializes in rat nutrition.” And he could see

me wilt. And I said, "I don't think I can do that." And he said, "You go, you meet with him once a year. You listen to him. He'll give you suggestions about classes, and then, you immediately come down here and you come in and see me, and we'll customize your classes and what you need to do."

So we walked out of his office and we walked out of a different door, and I realized that I had just left the chairman of the biochemistry department's office. And there's this huge office, a bunch of secretaries. It was like a beehive. And he could tell I was stunned. [laughter] And he said, "You'll be fine." Anyway, so he's the guy who literally, a year later, walked in one evening when I was working there, because I could work anytime of the day or night, and he said, "Where are you going to graduate school?" And I said, "Graduate school? I have no idea." And he goes, "No idea about what?" And I said, "Either one, going to graduate school or where I go to graduate school." And he said, "Okay. We'll get the first one out of the way: you're going to graduate school. You need to do that. And the second one is, we'll figure out where. So" he said, "next week, sometime, come in and see me."

And we sat in his office. And I remember it was fairly early in the morning. And he said, "Okay. Where are you going?" And I said, "I don't have a clue. Where are good? I love what I'm doing. Where are good places to go?" He said, "What do you want to do?" And I said, "I love enzymatic reactions." He goes, "Okay, great. So" he goes, "well, Brandeis is good. MIT is good. Harvard's good." And I go, "Whoa, whoa, whoa, wait a minute." I'm surprised he didn't kill me. I said, "I am not going someplace where it's cold in the wintertime." [laughter] And I could see, he was going to explode. And I said, "There are a lot of good schools on the West Coast." And he goes, "Yeah, UCLA, yeah, San Diego's good." Said, "UCSF," he said, "I don't think that's going to be a good fit for you. Washington, and," he said, "Davis, and of course, Berkeley." And I said, "Berkeley, that sounds good," because I'm thinking of all the stuff that's going on in the world.

So he says, "Okay." He picks up his phone. He says to his secretary, "Get Dan Koshland on the line for me." And I'm thinking, um, I know that name, because he's on one of the books that we're using. Gets on the line, says, "Dan, it's Barney." Barney. "It's Barney, at Perdue." He said, "Oh yeah." They had this little chat, and he goes, "Got a graduate student; looking for a slot for him to get into graduate school." And Barney turns to me and he goes, "Can you be there in September?" And I said, "Yes I can, but I have a little problem, because I graduate in the end of the winter quarter, and if I'm out of school for a whole semester, I'm going to get drafted." Bernie goes, "Dan, we need spring quarter." He goes, "Can't do it; it's not going to work. Don't have a TA-ship and this financial support and so forth." And I said, "I really need"—I was introduced to this concept of actually getting paid to go to graduate school.

And so he goes, “Okay, well, we’ll get back to you.” Barney hangs up and he goes, “What’s number two?” And I said, “Davis.” Calls his secretary. He said, “Get Paul Stumpf on the line.” And I’m going, “Okay, that’s the other book that we’re using.” And he gets on the line. Barney gets on the line with him and he goes, “Paul, got a guy, needs to come this quarter.” And they chatted awhile, and turned out that he didn’t actually have an opening for me, but he made one. So I didn’t have any classes, but I was officially enrolled, and so I looked like a student, but I didn’t have any classes. And so I went a semester early. And Barney and I never really talked about the political situation and so forth, but I knew he was sympathetic to me not going in the Army, and he was not very sympathetic with some of the national politics that were going on and the involvement in Southeast Asia.

01-01:38:20  
Meeker:

Had you ever been out to the West Coast before this?

01-01:38:23  
Freese:

I had not. So that summer, I took a trip, and I had purchased just before this, or contemporaneously with this—I was living off campus at Purdue in another house. And it was a two-story house, and it was a real animal house. And one of the guys there was in his senior year, and he was in ROTC program, and he knew his next move right after graduation was, he was going in as a second lieutenant in the Navy. And his assignment was a river patrol boat in Vietnam. And I said, “That sounds kind of exciting,” and he says, “Yeah, we basically draw fire so they can fly somebody over and bomb them.” And I said, “That doesn’t sound so much fun.” And he goes, “Ah, it’ll be great.”

I knew he bought a motorcycle. He bought a motorcycle, and he said, literally, two days before he shipped out, he said—I’d been talking about buying this motorcycle and we couldn’t come to a price. And he said, “Look, I’ve got to sell this motorcycle, because I don’t know where I’m going to be.” And I’m thinking, I don’t know if you’re coming back. I don’t know where you’re going to be. But so finally, late that night, we came to an agreement on a price. And I said, “I don’t have the money, but tomorrow morning, I’ll make a phone call.”

So I called my local banker back in Akron. My closest friend, the guy who I was a roommate with at Purdue for quite a long time, his dad was the banker at home. And I called him up and I said, “Mr. Groninger—” He says, “Call me Harold.” And I said, “Okay, Harold, I need \$800.” He said, “What for?” And I said, “A motorcycle.” And he said, “And? What are you going to do with a motorcycle?” And I said, “I’m going to ride across country to California. I’m going to look at graduate schools.” He goes, “Oh, that sounds like fun. That’s a good idea. How are you going to pay me back?” And I said, “I don’t really know.” And he said, “Okay, well, that’s not normally the way we do loans.” [laughter]

So he said, "Okay, I'll put the money in your checking account here at the bank. You can write a check on it. It'll be good by this afternoon. And I'm going to write up a personal loan, and I'm going to put down twenty-five dollars a month as a repayment plan." He said, "You think you can do that?" And I said, "Well yeah, I can do that." Then I said, "I'll keep the money in my account, because I'm going to go to the West Coast and you guys can just take twenty-five dollars a month." And he said, "Fine." And he said, "Anytime you want to pay it off, pay it off. The interest is, I don't know, like really low. Just have a great trip and let me know what you decide." [laughs] Because his son, who I went to school with at Purdue, decided not to go. He graduated but went back and actually worked in the bank and then had a farm, a small farm. And so he farmed. He worked to support the farm, kind of repeating what people did at that time.

And that was it. So eventually, I remember going back home after I had been in California and I had actually saved some money, and I walked in with the remaining \$300 or so, or \$400, that I owed him. I walked into his office and I put cash on the desk, and I said, "You made something happen for me, and here's the payback." And got up, shook my hand, and said, "Thank you. Glad I could help."

01-01:43:04  
Meeker:

I'm just curious about the chronology of this, the meeting with the department chair, when he was calling the different departments out here. That was before you did the tour to the West Coast, or after?

01-01:43:17  
Freese:

Yeah, it was just before, because I was actually looking at what was going to happen afterwards, and that's when he walked in and said, "Where are you going to graduate school?" Because I finished at Purdue after the winter semester, that was probably the end of the spring, the previous spring semester. And that was when this guy was leaving to go into the Navy. And because I had the motorcycle over the summer, then I was back on campus with it. No, that wasn't true, because it was that summer, after I bought it, that I went to the West Coast, and I spent most of the summer getting there.

I never brought the bike back. I realized I was going there for graduate school. Not so much because all the arrangements were made, but I just said to myself, I'm coming to Davis. Because I had visited. I'd gone to LA. I went zigzag across the country. I went to LA, visited UCLA, and I said, "Look, this is way out of my league. I don't want to be in this big city." Came out to the coast. I went to San Diego, UCLA, came up to Santa Barbara, came up to Berkeley. Loved the Berkeley campus, but I knew I probably wasn't going to get in there, and then it was confirmed with this other conversation. Went to Davis, loved the campus, said, "Okay, this is number one." I said, "Well, I'm going to go to Washington, as well." And then I said, "You know what? Just

hang out in California until you have to go back.” I don’t think I ever went to Washington on that trip.

01-01:45:36

Meeker:

What was it that you liked about the Bay Area, in particular?

01-01:45:44

Freese:

Well, immediately, I figured out the climate, and it was fairly simple, kind of real basic stuff. I loved the climate because it wasn’t humid, and it was hot, but it was also dry. I loved the general feel, of kind of the California openness feel. Berkeley was, as a city, and the Bay Area, was large, but you could get out of it. In LA, I felt constrained. An hour on the freeway to get out of the place was just not going to work for me. And I think the Bay Area, I just loved the whole concept of proximity to the sea and so forth, and I thought, well, Davis is pretty close, and I don’t know, just fell in love with it. And I loved the campus and the fact that people ride bicycles, and yeah.

01-01:46:40

Meeker:

Cool. Why don’t we wrap up for today? I want to make sure that you’ve got time to get ready for your one o’clock, but I think we’ve made a good amount of progress. And so next time, we’ll spend some more time on your graduate career at Davis. What did you say? What was it that you did right after Davis?

01-01:47:06

Freese:

So from Davis, I went to University of Massachusetts. There was a guy who was doing a post-doc in the lab that I worked in for my PhD thesis work. There was a guy there who was doing a post-doc.

01-01:47:29

Meeker:

Was that Amherst, you went? Amherst or Boston?

01-01:47:32

Freese:

So I met the guy in Davis. He went to UMass Medical School, which was in Worcester. And it was a new—they couldn’t decide whether to put the med school in Boston or in Amherst. So they did a very egalitarian thing and said, “Well, let’s put it in the middle.”

01-01:47:52

Meeker:

In between. [laughs]

01-01:47:53

Freese:

And so they put it in Worcester, an old Rust Belt mill town, and they desperately needed the input from the economics. But yeah, that was it. So that was—

01-01:48:09

Meeker:

And so you were there for, it was a post-doc that you went to then.

01-01:48:12

Freese:

It was a post-doc, yeah. And then—

01-01:48:15

Meeker: It was a year or two?

01-01:48:18

Freese:

It was about two years. It really violated my cold weather thing, but the reason I went there, predominately, was because of this guy that was a post-doc in the lab I worked in in Davis when I finished my graduate work there. He was going there, and he and I were working together pretty closely. And so we were busy on some work that was eventually going to get published, and he said, "Look, I've got money for a post-doc. Why don't you come, come out to the UMass, to the medical school, and," he said, "I think you'll enjoy it." And he said, "I've got a boatload of money. They're looking for people to start up the basic sciences side of the medical school, and you'll be pretty amazed." And I was.

I got there. We had the whole half of this academic building. It was four, five floors. We had a whole floor, and there were only like three or four faculty on staff at that point. All these empty labs, and they were brand new. First, when I arrived, he says, "Walk down and find a lab that you like." I said, "I want a view." And he goes, "Okay." [laughs] And he goes, "You know, the hall runs down the middle, and the inside and the outside, they've all got some kind of view, so choose the one you like." And I said, "Okay, that's the one I like." And he said, "Okay. Follow me."

Big storeroom. He said, "When you get ready to set the lab up, there's a sign-up sheet on the back of the door, and there's all this equipment in there. You just sign out whatever you want." I said, "Ultracentrifuge?" He said, "Yeah, fifty thousand dollars, not a problem. Just sign it out, and the physical plant guys will come up and move it for you and put it in place." It was like a kid in the candy store. Anyway. And then, he eventually left and went to Berkeley, has a faculty position there. And he came in and he said, "I'm leaving." So I said, "Okay, well, I hope things go well." He called me about six months later and he said, "I need your help." So he said, "I've got money for a post-doc. Come work in the lab." And I said, "Okay."

01-01:51:04

Meeker: You were ready to leave Boston or Mass, yeah.

01-01:51:08

Freese:

The then chairman of the department that I was in at Mass, he wanted me to teach microbiology to medical students, and it wasn't going well. He used to come down the hall. He wore these really hard soles. I could hear him coming, and I could hear when he was in a bad mood, and he would come down. He said, "Look, I'm getting all kinds of complaints from the medical side about this class." He said, "You're being hard on the kids." And I said, "Well, I have this sort of basic assumption they're going to need to know about microbes and infections and stuff like that, so I expect them to read the book and to pass the tests." And he goes, "Okay, that's a reasonable thing to expect, but you

need to figure out how to lighten their loads.” Said, “These guys are really busy.” And I said, “Anytime you tell me that microbiology is not important to their futures as a medical doctor, do whatever you want.” He was English. He’d huff out the door, and then I heard him coming down the hall the day after I had this call. And I said, “Okay, Donald, solved your problem. I quit.” I was out of there.

## Interview 2: August 30, 2017

02-00:00:01

Meeker: This is Martin Meeker interviewing Phil Freese. Today is Thursday, August 30, 2017, and we are here at the office of Phil Freese, and—

02-00:00:28

Freese: The world headquarters for—

02-00:00:30

Meeker: The world headquarters for WineGrow.

02-00:00:32

Freese: Yes, exactly. [laughter]

02-00:00:35

Meeker: And, you can hear the bustling secretaries and—

02-00:00:39

Freese: The hum of activity.

02-00:00:41

Meeker: —statisticians all around us. This is interview session number two. So, just a brief review. Last time, we spoke for about two hours, and we took you from your birth up through your undergraduate program at Purdue, and into your graduate program in biochemistry and biophysics at UC Davis. And, we were just about to move from there to a discussion of the post-docs, the post-doc positions, and why don't we start there? And, why don't we pick up with you giving me a sense of, when you graduate Davis in 1973, what you think the future held for you? What did you think your future would be like, at that point in time?

02-00:01:40

Freese: Yeah, that's a great question. I think, at that point, when I was finishing Davis, I was full tilt in the track of, finish the PhD work, do a post-doc, go to work in an academic environment, matriculate up through a department, or the typical kind of things we sort of work through the academic chairs, through the hierarchy of institutions and positions and so forth. So that was pretty much the path. Yeah, so, I left. When I left Davis to go back to University of Massachusetts in Worcester, that was the path, okay, post-doc two years, or two-and-a-half years, and then at the same time, sort of launching out, trying to get in the game academically: visits, seeing people, professional meetings, giving presentations, talking about research work, and communicating with people in various areas. So that was, yeah, that was the bent, yeah.

02-00:02:58

Meeker: What was the nature of your research? What were you pursuing?



02-00:03:01  
Freese:

So, I got interested in, really, the question about how does—probably, the big picture is—how do cells know what to do, when, in complex organisms, and that’s just too difficult to study. And so, I happened to have an opportunity to meet the fellow that I did my dissertation work with, Roy Doi, and we talked about him a little bit. Great impact. Key people have key influences on your life, and so, Roy was one of those key people, and what he was working on were, he had a multi-faceted research program. Some of it was pretty basic. He was an enzymologist, sort of by adoption, not necessarily that he—because it was an area of understanding configuration of enzymes and what they do, and how—often times, they’re studied in test tubes, extracted, studied in test tubes, and people characterize turnover rates, how fast do they convert a substrate from A to a product B, and what are the factors that influence them, chemical, environment, and so forth.

Well, Roy was interested in that. He was also interested in the larger question of in a natural situation, what influences those activities, and those activities, how do they—activities being substrate into product—how do those activities fit into a larger context of, so what does it mean to the organism? And I’m not sure he would have, probably, or we probably posed the question quite that way, because it was all pretty much a new field. But what I came to realize is, that’s really what I was interested in. And in particular, Roy had experience with a particular bacterium. It’s a soil bacterium. It’s a pretty common bacteria that’s in probably almost all soils, and it’s a durable little guy.

It grows free living in the soil, and basically working on breaking down natural products in the soil. And, when it comes into tough times, it has a plan B. It goes from this free-living organism into what we call spore form, and it’s essentially like a seed, or, it’s a way to deal with the fact that the environment’s become hostile, in that it’s built up a lot of byproducts, because it can’t move very far, or that it’s run out of goodies to grow on, or that something’s happened: the soil became very dry, it was acidified, something changed the makeup of the soil. So, this bacterium senses it, and metaphorically, [laughs] it says, “Okay, I need to do something to last this out.”

Well, these spore forms, people have isolated these spores from, as an example, from these Egyptian tombs and these hermetically sealed jars that have been underground for a couple thousand years. They open them in a very sterile environment, and then they say, “What’s in there?” And one of the things they find is this particular bacterium. It’s called *Bacillus subtilis*, and there are lots of *Bacillus* species, but this particular one we were working on because people were starting to work on it for other reasons. There was an era in popular use where, when it’s a little bit under stress, it produces an extra cellular enzyme that will chop up big pieces of organic material, particularly proteins and some things like that. It’ll chop them up into smaller pieces that

the *Bacillus* can then absorb them through the transport, in its cell wall and cell membrane.

That particular enzyme, people figured out it was really a clever idea to try to get stains out of clothes, and so, some of the detergent companies starting isolating that enzyme, and they'd put it in the soap powder. And you can tell it's durable, because most enzymes, when they come in contact with something like soap, it denatures the whole structure and they fall apart and they don't work. Well, this thing was so durable that you could mix it with soap powder, put it in the washing machine at home in the solution, and it was still active, and it would chop up grass stains, blood stains, oils and greases, and so forth.

So anyway, it had its practical side, but that same enzyme also had a very specific kind of activity that we found out, that inside the cell when the cell was starting to go under stress, it would make this enzyme, and the enzyme would actually chop a piece off of the enzyme that reads the nucleic acids. It would chop a piece off of this enzyme such that it then would—or the enzyme was elicited because it was under stress—it would chop a piece off of the RNA polymerase that was reading the genetic material. And, when it started reading different genetic material, what the bacteria actually did is, it started reading out and then making products that would lead it into this spore, this resistant strain that, when it was completed, was durable for thousands of years, potentially. So it was an interesting kind of model where an environment changes something that then changes something else, that then changes the reading of the nucleic acid and you get a different form of the bacterium.

So it was really, really fun kind of model system, and something we could work with in the laboratory that showed environmental impacts and outcomes to the biology of the organism. And, it was interesting because we could grow the bacterium in synthetic media. We could then do something to it. We could change the media so that it said, "Ah, I'm bad conditions. Start doing this other thing." And we could then isolate the enzymes along the way, the one that was both elicited that had this ability to chop up the RNA polymerase, and then also study the chopped up RNA polymerase. So one of the things that I did was, I was trying to track what actually happened with that enzyme when it was changed, and also, and physically, what did the changed RNA polymerase actually look like? And I figured out a way to separate the—and it was subunits of the RNA polymerase, and there was one particular one of those subunits that I could see that got a piece chopped off of the tail of it, and it changed the way it read the nucleic acid.

I mean, it was just kid-in-the-candy-store kind of stuff, but it was pretty sophisticated in the sense that, for that era, that we didn't have these ways to quickly read and sequence proteins and nucleic acids and so forth like people do today. It's just off the shelf. That stuff's so quick and easy. So, yeah, that

was a process, and it's a somewhat simple story, but it took development of certain techniques to isolate, and then separate these changed subunits of the RNA polymerase.

I figured out a way, and electrophoretically, where you separate proteins on the basis of their both size and electrical charge. We were putting stress on the bacteria cultures, and I'd take samples out of there, stop them really quickly, and then isolate the RNA polymerase, and I could see it changing over a period of time, where it went from these say, four subunits that are all the same—well, I could separate them, but—and then one of them would start to go away, and another piece would then start to show up somewhere further down the gel. It's a little bit smaller and had different characteristics. And concomitant with that, I could see that the products that were being read out were different. Now, we didn't know a lot of specificity about what those products did, the different RNA polymerase copies and so forth, but we could at least see that there were some changes going on.

So it was fun stuff, and then, alongside that, there was this fellow came in as a post-doc who was really good at both a combination of understanding the genetic parts of the nucleic acids parts of it, and also, that I was working really closely with regard to this change. There was a drug, that's still used today in human therapy, that we could see that would inhibit some of the RNA polymerase, and so what we started doing is looking for bacterial selections that were or were not influenced by this particular drug. So then, we could say, "Okay." We could turn off or turn on. We could turn off or allow to turn on the RNA polymerase by the presence or absence of this drug. So we could then get a little bit more complex about what was being read and what wasn't being read. So then, he was the fellow; this is the fellow I mentioned: Terry Leighton. He then left after his post-doc in Davis, the same lab I was working in, and he went to UMass Medical School.

02-00:14:09

Meeker:

We did talk a bit about you following him there. Did you continue this kind of research at UMass Medical School, or—

02-00:14:17

Freese:

Similar, along a similar track. We were trying to work with a more complex organism at that point, something that you carry out that actually had a nucleus, and we were trying to see if—and it, in working with yeast, and yeast will actually go through a very similar kind of program when they go under stress, but a much more complicated system of regulation and so forth. He said, "Yeah, come work on that. We want to notch this up to the next level." And so that's what I went to work on.

02-00:14:57

Meeker:

And you stayed there for, I believe, a year or so?

02-00:15:01

Freese: You know, I need to—

02-00:15:01

Meeker: It was a short, short period of time.

02-00:15:03

Freese: I need to work on my timelines, because I don't think I've got my timelines correct, and I'm doing it from memory, and I'm looking to see if I have a copy of—I don't think I have my CV here. Yeah, that'll do it. Okay. So, this is what I'm looking at. [laughs] You'd think I'd have this; I tend to not pay attention to history too much. I'm like, forward focused. Okay, so. So February of '73 to December of '74, post-doc at UMass Medical School. Okay? And then December, '74, to December, '77, was a post-doc at Berkeley. Okay? And then January of '77 is when I left—

02-00:16:05

Meeker: You mean January of '78?

02-00:16:10

Freese: Yeah, '78, yeah. This is a mistake. So January of '78 is when I left to go to work in this vineyard management and winery brewing business, okay.

02-00:16:33

Meeker: Well, let's talk about the years that you spent at Berkeley—because I know that last time, we talked about your departure from Worcester—and what drew you to Berkeley, and what kind of work did you do while you were there?

02-00:16:48

Freese: Well, it's again, a similar theme. Terry had left. He had left. So he was on this same track I was on, right, only he was just steps ahead of me. And so, Berkeley, microbiology department, offered Terry a position, and it was a teaching and research position, heavily loaded on the research side. And so Terry left and I was thinking, okay, I'm going to continue, finish out my time at UMass. And he got to Berkeley and he called me up and he said, "You know, we desperately need to go back to this *Bacillus subtilis* project, because the story isn't really fully developed there." And by that time, this is when molecular biology is really being just, not discovered, but as a field where people are starting to understand that you can look at biological problems at a molecular level.

And we were already doing this work, and he said, "You know, the yeast system is going to work, but it's a long ways off. Come back to the prokaryotic version. We can work with that, and we can, with some new tools, we can really boost that up to the next level." And, I wasn't particularly thrilled at UMass. It just wasn't a good fit for me, and I had some teaching obligations I think I talked about that, I wouldn't say they were unsatisfying; they were just frustrating because the medical students were so involved in

everything. And I thought, of course, the stuff I was trying to teach them was the most important thing on the face of the earth, and that, how would they ever have a successful medical career if they didn't understand microbial situations? And while everybody appreciated the concept, the practicality was that they couldn't, in fact, read the entire three-inch thick microbiology book that they had.

So anyway, Terry called me up one day and said, "I just got this huge grant. I've got money, sky's the limit. Everything's flashing green. We need to do this project." And the call happened to come at an opportune time when I was getting crosswise with my department chair again, [laughs] because of my expectations. And so I figured out, probably, the best thing to do was for me to get out of the winter and go to California.

02-00:19:59

Meeker:

So you arrive in Berkeley, it sounds like, in December of 1974. Is that correct?

02-00:20:08

Freese:

Yes, mm-hmm.

02-00:20:10

Meeker:

Can you tell me about your return to California, what you were looking forward to do, where you lived, what life was like for you when you arrived in California in '74, at the end of '74?

02-00:20:26

Freese:

Okay. That's a good point, because it catches something that we haven't talked about, because when I came to Davis, graduate school was, to me it was, like the greatest thing that ever happened. So, in this kind of intellectual process, and I could work any time I wanted to, I was independent, doing all this stuff. But alongside of that, I had this great inspiration to get married. So, did that, got married, had a son, and long story short, the marriage didn't work out that well.

02-00:21:18

Meeker:

What year did you get married, roughly? It was while you were in the PhD program?

02-00:21:24

Freese:

Yes, yeah. You know, [laughs] history. It was—[makes stuttering blowing sounds] that's a great question. I don't even remember.

02-00:21:38

Meeker:

Somewhere between '68 and '73. [laughs]

02-00:21:40

Freese:

Yeah.

02-00:21:41

Meeker: Okay, fair enough.

02-00:21:41

Freese:

Well, my son was born in '70. We were married in '69, I think it was. Yeah. So, I do remember his birthday, that's the important part. So when I finished, and there was this: the reality was, my then wife, my son's mother, was not completely finished with her development of what she wanted to do. So when I left to go back to Massachusetts, I said, "Okay, great. This is going to work. You'll have custody of Matt." And what I really came to understand is, she wasn't really prepared to even do that adequately. Just a phase in life. And so, I think also an influencer on me coming back to California was that he was here; I didn't think that situation was all that great.

And so when I came back to Berkeley, then I said to his mom, "I was brewing an idea. I'm going to be in Berkeley. I want to have him come and live with me." And she had this great moment of clarity, and she said, "You know what? That's a really good idea, because it's a better situation for him." So that, I think—well, I know that that was a big part of me coming back at that point. And it worked perfectly, because I was thinking about it, what am I going to do with this situation, and then this phone call comes and said, "I've got money. We've got this great project." So, and then I—

02-00:23:43

Meeker:

It was meant to be, it seems like.

02-00:23:44

Freese:

Yeah, it was meant to be. So, I've always operated on this principle that I call the, "that chance favors the prepared mind," and that has its own little side story. But, yeah, so then I said, "Okay, I'm in. Let's go." So I packed up and came back, and found a house to share up in the Berkeley Hills. It was this glorious house that looked out across the Bay, and you wake up in the morning and be just above the fog and everything down below would be in fog, and you know, there you are. So, I'd go to work, and it was about two blocks or three blocks from the Lawrence Hall of Science up there, and they ran the little shuttle bus that comes up through campus and comes up there, and turns around and goes down. So, I would gather up Matt and we'd ride the bus down and I'd drop him off at school, and had figured out a woman who would watch him after school, and then I'd collect him and we'd get on the bus and come home.

02-00:24:57

Meeker:

Where was your lab?

02-00:24:59

Freese:

Where was it? It was in the microbiology department. In what hall was that? Big old building, monolith building.

02-00:25:08

Meeker: I don't know. Life Sciences Building?

02-00:25:09

Freese: Life Sciences Building, yeah.

02-00:25:10

Meeker: It's now called the Valley Life Sciences Building, but it was, yeah.

02-00:25:13

Freese: It was what I call throwback. It was a pretty old facility, but to get Terry, they gave him not a hundred percent makeover, but a do-over of the lab that modernized it some. But there was still, down the hall and around the corner, was still the animal facility, or maybe—no, I think it was on the floor below us, on the third floor, rat cages and stuff like that. One of the other things that I—and I'll forget about this otherwise—one of the other things that was fabulous about that period of time is, there was a guy down the hall from us who—and I'm forgetting his surname, Jeremy—who had come as a new faculty member, as well. And he had this woman who came into his lab as a post-doc, who had worked on yeast and was doing some other things.

Anyway, I got to know her, and it turned out to be a very fortuitous kind of crossing of paths. Her name was, is, Linda Bisson. She is one of the stars of UC-Davis's vit and enology department. She was chair of the department for a period of time, and she has spent a lot of time in the Academic Senate as a senate member. She is blisteringly brilliant, yeah, and a woman of great focus and dedication. When she decides she's going to go someplace, she's going to get there. Anyway, so she was down the hall, and I met her. And we didn't really work together a lot, but we were there at the same time, and see each other at the ice machine, or at lunch, or in the hallways, or whatever.

02-00:27:11

Meeker: Was she studying enology at the time?

02-00:27:13

Freese: Uh-uh. No, she was working on a yeast project, yeah.

02-00:27:18

Meeker: You had mentioned doing studies on yeast at UMass, and which was somewhat related to your dissertation work, and then, mentioning Linda Bisson [sic]?

02-00:27:32

Freese: Bisson. B-i-s-s-o-n.

02-00:27:35

Meeker: B-i-s-s—sounds like a name that I recognize, now that I write it down, had done work in yeast. Was that kind of a gateway research topic for a lot of people who later went on into enology and viticulture?

02-00:27:52

Freese:

I think so. If you look at the academic backgrounds of a lot of people who come in, and I'm going to use viticulture and enology as an example, quite frequently, they are in a kind of a parallel field. That may have something to do with physiology or understanding of—well, a couple of brilliant hires have been guys who had no real working knowledge in viticulture and enology, but they had great technical skills. There's a guy who's figured out how to essentially take swabs out of a winery and figure out all the different species of bugs that are growing in there.

[side conversation deleted; phone ringing]

02-00:28:49

Freese:

So to the question about, was Linda—for example, she, at that time, I don't think, was necessarily focused on viticulture and enology, but she's a yeast physiologist, a yeast, and people use yeast because it's a—we're getting to that phase in the timeline where people are saying, "Okay, studying bacteria is one thing, but they don't have a real defined nucleus. They don't really have DNA. They're working on RNA as a nucleic acid complement, and, if we're going to look at higher organisms, we're going to have to do something that's more complicated." So, yeast is a great opportunity because it's a single cell. It does an asexual propagation, or sometimes, you'll get genetic crosses. It offers a pretty rich environment to work with something that isn't a whole organism. Doing this kind of work with rats and mice, it wasn't going to work.

So, not speaking for Linda, I don't remember exactly what she was working on. At one time, I knew, when she was at Berkeley there doing a post-doc. But what I was also headed towards is that, if you look throughout an academic department like, let's take vit and enology at UC Davis, you're going to find a very diverse set of backgrounds and people's skill, interests, and what they've worked on. But really, I think the whole process is—the PhD process in sciences and the post-doc process—is really developing skills and the ability to look broadly, and say, "Okay, what are key issues?" And then, "What skills can I either bring with me or can I learn?"

I mentioned the Woods Hole in the last interview. Woods Hole was all about people coming out of academics who said, "Look, there's something I want to learn about. I want to learn about working with genetics. I want to look at particular aspects." And they didn't have those skills at the time, so you would get people who were senior professors in universities from all over the world working with people who were graduate students or young post-docs, and they're shoulder to shoulder going, "Wow, this is so cool! We can do this." And then, people would go away from those workshops and they would go home and they'd say, "I learned a new tool." It's like a painter or somebody learning a new tool. To me, that's what the whole PhD and post-doc process



was about. So you'll find a lot of people who don't have any viticulture and enology background working on really key projects in vit and enology today.

02-00:31:59

Meeker:

So you stayed at Berkeley for about three years, it looks like. Can you tell me about the trajectory of your research while you were there?

02-00:32:07

Freese:

So, yeah, we were back on this project with the Bacillus, the Bacillus subtilis. We were back on this gene expression. It's interesting because usually, when you see an organism develop and respond to some environmental change, the concept was that somehow or another, black box, what happens inside that black box, what's read off of the nucleic acid as a blueprint for that organism is selectively read, like something's turned—we call it turned on or turned off. So, the question is, what's the signal that gets from an environment's getting too warm or too dry or too acidic or running out of nutrients? What are the signals that go from that physical condition to the cell to the nucleic acid, that does this turn on or turn off? Big black box. And we didn't have any tools to really start to figure that out.

So one of the things that was intriguing about this particular project is that we figured out that the trigger, the stress trigger, actually turned on the production of this one particular enzyme, that one I talked about. It's very robust. It can live, and actually, the organism would excrete it out into its environment to help break down macro molecules that are outside into a size, shape, and form that could get into the cell. So it's like, "Hey, it's getting tough in here. There are goodies out here. Let's go get some of those." So it's a great advantage in the environment.

But the point I'm getting to is, so we were asking the question of, how does an environment's stress inside this black box turn off the reading of some genes, and turn on the reading of other genes? And we thought we had hit a bonanza, because we figured out that, when this extra cellular enzyme was busy working outside, it was also busy working inside. With environmental stress, we could see the production of this enzyme, the activity of the enzyme, come up, more active, more of it, and faster turnover rates of breaking down things. When we extracted it from the cell and we put it in a test tube, we could see it. [makes exploding sound] The activity shoots up.

Well, we also asked a really simple question, is, what happens to the activity of this RNA polymerase? And the RNA polymerase, again, is reading down the genome, reading out the products, actually reading off of the RNA, and encoding the proteins that are the enzymes and structural parts and so forth. And so, what we've noticed is that the RNA polymerase activity changed, because we had a way to measure its activity, and it was essentially using radioactive labeled bases or amino acids that were being incorporated into protein. We could then watch, through the incorporation of that radioactivity

into protein products, we could watch the RNA polymerase changing its function.

So we go, “Okay, let’s look at the RNA polymerase.” So then we had to figure out how to extract it and take a look at it, and that’s where I then put the fine touches on the separation with what we call gel electrophoresis, where I could make an extract. I could put it on top of this little gel. We apply an electric field across it. The proteins would migrate down through it, and I had managed to create those gels so that the further you go in the gel, the more tight the matrix. So it was an open matrix, and then became progressively more and more tight. So we were separating things on the basis of both their electrical charge, but also their physical size.

So I could tell that, size-wise, that this one subunit got smaller. And, then, when I would extract the RNA polymerase and in the test tube, kind of give it all the components it needed and asked it to do its job on RNA that we’d extracted from the organism, that it would give us different products. We didn’t know what they were, but I could separate the protein products. And so, RNA polymerase from a cell that is growing happy is once, a whole set of products, just a smattering of them, and those always predictable, and then once we started to put it under stress, and I’d extract those proteins and run them on the gel, they were different. We could see the size separation was different, and more of it, relatively more is in one area versus another. So we said, “Okay, let’s see if we can see any change in the RNA polymerase.”

So the great “aha” moment was—back to our core question—is that we found that the RNA polymerase itself was changed by this enzyme that is made in response to stress, changes the RNA polymerase, RNA polymerase reads different products. So we now have an environmental stressor that is changing the enzyme that makes the protein complements in the inside the organism. The “aha” is that we still have a black box. We don’t know why it makes this one enzyme that changes the RNA polymerase, but we now have a direct connection to environmental impact changing the products that the RNA polymerase is reading out.

But, I mean, that was a big deal. So we’re kind of closing in on, how does an organism go from happily living to changing into this resistant spore form? It was exciting stuff. And, yeah. Yeah, okay. I’ll pause.

02-00:39:19  
Meeker:

Why don’t you continue, if you want to wrap that up, but the question I have in my mind, and you can work up to it if you aren’t quite ready to answer it, but it sounds to me like this is a very vigorous research program that’s starting to show some results. But I’m curious about, three years in, you decide to completely switch gears, so.

02-00:39:49  
Freese:

So, yeah, I was ready for this transition. I was just going to say one little kind of fun thing is, you know you're in an interesting area when—science research is this funny kind of process. So, you have to have money to do a project, far enough so that you can demonstrate that the project has benefit that people would want to fund. So, it's kind of, you have to prime the pump. So, Terry had this money and we were working on some other projects, but we were also priming the pump. So, we now say, "Okay, we can write grant proposals that go out, and they tell other people that we're on a hot topic."

Well, some people who read those, I mean the people who are going to read them and comment on them and make recommendations to the funding agency about whether to fund this or not, are your direct competitors. So they get a look under the blanket at what's going on, and if they're a big team with lots of people on staff like at MIT and Pasteur Institute and places like that, and they see this and they go, "Whoa!" Blows their hair back, and they say, "I don't know how these guys did this, but I understand what they have done. It can't be that tough. If it's a little two-person kind of project out of Berkeley is doing this, we should be able to blow them out of the water."

And so, but we made a mistake in one of the grant proposals. No, it wasn't a grant proposal. We made a mistake in a publication that we were working on, where you pulled these gels out of these tubes and you have to—and there's no kind of up and down on them; you have to know what's up and down. So, you lay them out. It's about the size of that pen. You lay them out, and you take photographs, and then you would measure things and so forth. So, we're in this proposal, getting ready to write this paper, and we send a draft out. And it turns out that when the photo was taken, the gel was reversed. I said, "Terry, that's wrong," when I sat down and I looked at it, and I said, "You know, it looks okay, except that the photo's reversed." And he goes, "Not to worry. We'll get galleys back. We'll fix it."

Well, it just took a long time. And then, all of a sudden, we saw this note in *Nature*, the magazine *Nature*, or the publication *Nature*, and they had this note. It's in *Nature*. Turns out a guy in at Pasteur Institute took all our information and he did a note to like, plant the stake, like he was a leader in the field, and he published our photograph and he published it backwards. [pauses] Terry is a very smart, very clever guy. So, he writes off to both the guy at Pasteur and also to *Nature*, and says, "Look, here's our publication, or prepublication, and this guy ripped it off, and he got it wrong." I think the majority of the Pasteur Institute unloaded on our little lab about how we had faked this or something like that. They tried to discredit the whole thing. And the note to *Nature*, [laughs] the guys at *Nature* said, "This is a blatant example of where somebody's ripping off somebody else's work," and it was a bit of drama there.

02-00:44:21

Meeker:

How did that resolve? Did *Nature* print a retraction, or did they give you space?

02-00:44:25

Freese:

It's a good question. I don't remember. I remember meeting the guy, a French guy. I gave a presentation on this work at an international conference, and I remember, I had all the slides and everything, I was ready to go, but there was one last experiment that we were doing. And sometimes when you stain these gels, they take a long time for the background stain to come out. So I remember getting on the airplane with these. And we put them in these long, skinny, plastic test tubes with a screw top, and we used, basically, an acetic acid kind of solution to wash out the stain that wasn't associated with the proteins. And I remember, [laughs] I was on the airplane going to the bathroom dumping out the stuff that was extracting the color and putting in fresh that didn't have any of the background color, so I could see this and see what the new result was. Anyway—

02-00:45:30

Meeker:

You were doing experiments in the bathroom, the lavatory. [laughter]

02-00:45:33

Freese:

Yeah, in the airplane. But anyway, I remember this guy just going ballistic at a meeting, and got up and was making really hostile statements. And I was fairly unsophisticated in how to deal with that, and I simply said something like, "Well, our prepublication was taken and was published by another party before it was actually final, and so that further experimental work shows that the result is solid. It's just that the first prepublication was misinterpreted." And turns out the guy asking the question was the guy who had done it, and I found out afterwards. I thought, he's particularly hostile about this one image, and I said to myself, not that many people have seen this image. And then I started to put two and two together. Anyway.

02-00:46:35

Meeker:

How did this impact the way in which you felt and looked at the research, the scientific research community?

02-00:46:47

Freese:

It was a reality check. I figured out that's what happens. But I think what it did is, it said to me that the level of research work that was going on at that time really was, it needed to be big and powerful. You needed to have not a two-person shop with the lab guy who is really brilliant, but I, myself and a technician working on the project. I realized these other guys had four or five post-docs and undergraduates and rooms full of technicians, and I said to myself, this is fabulous work. It is so intriguing, so interesting, but I don't want to work at that level. I like the small discoveries and the close working relationship and the whole thing, and I think that's when I was also discovering the wine business. And so this particular incident, I don't think

had that much of an impact on me. It was kind of curious. I thought it was kind of humorous.

And I was busy also starting to say, “Okay, what’s my next step after the post-doc? What am I going to do? Next step is entry-level teaching research somewhere.” And I said, “You know, I’ve worked in these environments, that is kind of at that A level, and I’m not sure I want to start down here at the C and D level.” Not because they’re not good institutions, but it’s just, you don’t have a critical mass. And this sort of stuff I was working on, I said, “I’m not going to get money. I’m not going to get staff. I’m not going to be doing that kind of work.”

02-00:48:55

Meeker:

It seemed like you might have, like the next step would have been an assistant professor job at “East Jesus State” in Kentucky or something like that.

02-00:49:01

Freese:

Yeah, exactly, yeah. And I started making visits, and going, “It’s too hot; it’s too cold.” It’s kind of like when I left Perdue, I said to my guy there, Barney Axelrod, “I don’t want to go to the East Coast; it’s too cold. [laughs] I want to go to California.” And I thought, it’s same thing. I’m still thinking the same thing. I want someplace that’s fun and place to live.

02-00:49:27

Meeker:

Well, the mid-1970s is sort of a heady time in Berkeley: Chez Panisse had been established a few years before; I think there were other chefs like Narsai David around; Kermit Lynch was discovering and bringing in some quality, previously unknown wines and winemakers; and then of course, Napa and Sonoma are just a short drive away. Were you engaged with any of this? Did you know that this was going on?

02-00:50:02

Freese:

Yeah. We were well aware of that. Terry had always loved wines, and so it was a fairly typical thing for us to do, on Fridays, to go to Chez Panisse for lunch. And it was a short walk, so we’d walk down, and one bottle of wine would lead to a second one, and so Friday afternoon is gone. And we’d sit upstairs, kind of out in the—what do they call the part that’s kind of near the street that’s kind of the balcony?

02-00:50:41

Meeker:

The café, or—

02-00:50:42

Freese:

Yeah, in the café, but in that front part where it was a nice place to hang out. And we’d see people come, and people would leave, and it would get not so busy, and they would just tolerate us. We’d sit and brainstorm and talk about stuff and—

02-00:51:00

Meeker:

Did Chez Panisse seem like something new and unique? Why did you go there as opposed to any number of other restaurants that might have been around?

02-00:51:12

Freese:

I think because they had great wines. The food was sophisticated—what's the right term for it—sophisticated but not complicated. It was just what they were doing at the time, as she was seeking out these great producers, and just, it seemed right and it fit. And Kermit Lynch was a place where we'd make frequent trips, and yeah, that was part of the world. It was just part of the world.

02-00:51:58

Meeker:

What kind of wine were you drinking then, whether it be at the table at Chez Panisse or off the floor at Kermit Lynch? Were there things that you discovered that you particularly liked?

02-00:52:11

Freese:

Small producers in California, but a lot of it was European. French wines were not very expensive at that point. Some Burgundies, particularly white Burgundies, were of real interest. I'm trying to think California-wise. People were doing small things. Ridge Zinfandels were really interesting. Some stuff that Chalone was doing was really interesting. I'm trying to remember what some of the others were, but if it was small and kind of eclectic and somebody pushing a parameter someplace, that was stuff that we were busy with.

And then that, coupled with the food, the wine interest, and then the mix of my kind of realization that this has been a great ride, and it's been intellectually very satisfying, but is it something I want to do for the rest of my life in this, where the battles are fierce—and it was also a time when research funding kind of had hit its peak and you could see it was headed down, and linked up with the fact that I had made the acquaintance of this guy I talked about on the beach, and he was then out of Davis and was working for this company that I eventually went to work for, and—

02-00:54:00

Meeker:

You know, back up, because you told that story off camera, so I'd like you to tell me about meeting this gentleman on the beach that day.

02-00:54:10

Freese:

Oh, okay.

02-00:54:11

Meeker:

So that, it sounds like that happened around this time when you were at Berkeley.

02-00:54:15

Freese:

Yeah, and so, and actually, I had met him when I was in Davis, and we'd stayed in touch. But just to flash back a bit—if I get too far off the track,

shepherd me back on the track, but the idea was that when I was in Davis—I'm going to try and put it in the context. When I was in Davis, one of the things I loved was this. After finished classes, then it's fulltime working on these research projects, and at that point, marriage had fallen apart, then ex-wife and my son were living in Sacramento, so I'd see him on weekends or sometimes longer periods of time, and I just worked any time of the day or night that I felt like working. And so, I kind of got into this routine where it was very intense from Monday through Thursday, oftentimes long hours, and you've got this lab. It's quiet at night, no wait lines to get into the devices that would count the amount of radioactivity that was incorporated by one of these assays that was running. And so it was a really brilliant time to work.

But as a consequence of that, I also figured out that—and I was commuting both by bicycle and from the west side of town, and sometimes I'd ride my motorcycle onto campus, and I had a permit for it to park there. And some of those trips were well intentioned in the morning, on a Friday morning, to go to work, but they would wind up in missing campus completely, and Winters was close. Morning ride was great. Get to winters, and I'd say, "Well, I'll go to Nichelini. And Jim Nichelini had gotten to be a friend and acquaintance, and sometimes I'd just go over and hang out there, and sometimes go back. Sometimes, I'd go, "Hmm, okay, well, why not go to Rutherford?" Because there was a great little Mexican restaurant in Rutherford.

02-00:56:47

Meeker:

Who is Jim Nichelini?

02-00:56:48

Freese:

Jim Nichelini was Nichelini Family Winery, right there on Highway 128. There's a road that comes down out of Chiles Valley called Lower Chiles Valley Road, joins up with Highway 128, and then if you continue on west, half a mile, there was Nichelini Winery, old family winery. And it was kind of a curious sort of spot in life, because it wasn't a particularly sophisticated winery, not particularly sophisticated wines, but he made nice Napa Gamay and really nice Zinfandel from old vines, and it was a very relaxing place to stop and visit. The curious part of it is, that if you fast forward to the next phase, I wind up working for this company where I'm living in Lower Chiles Valley on a vineyard that was owned and operated by this CalPlans Corporation, with Jim Nichelini now my neighbor, and his vineyards being neighboring vineyards. [laughs] And I'm back, at that time, as a graduate student, sitting there and visiting.

And then, occasionally, I would leave home on a Friday morning with a more serious intent that I was never going to stop at campus, and that usually involved a sleeping bag on the back of the motorcycle and a little bit of provisions, and the stop at Nichelini was to stop and pick up a bottle of wine, and then was to head to the coast. And there was a particular place, there *is* a particular place, that I always love and have loved called Wright's Beach, and

had a small camping area, and if one got there relatively early and you're on a motorcycle, it was no problem finding a place to camp because it's a place to park the motorcycle, stretch up an old Army poncho between a picnic table and a tree, and I had a little backpacking stove, and there you go. You're in business.

So, I'd go; occupy a space; pull the bottle of Nichelini out of the middle of the sleeping bag where it had been rolled up for insulation and temperature control; whip out the Swiss Army knife; pull the cork out; tap it loosely back into the bottle; take a hike down to the beach; find a nice, soft, sand spot; watch the sunset or watch the waves come in. And one of those days, I was sitting on the beach and this Golden Retriever comes running up. [imitates happy dog panting] You know? So, not far behind was the owner, who seriously looked like a hippie, with frizzy hair and a big beard, big, robust guy, and he saw what I was involved in doing: watching a sunset and working on this bottle of Nichelini Zinfandel, right out of the bottle.

So I said, "Nice dog," whatever. So we chatted a little bit. He sat down and I said, "Here, still a long ways to go on this bottle." And several hours later, I had learned that he just had left San Diego, San Diego State, was headed to UC Davis as a vit and enology master's student, and he was driving this old VW bus, and that he was going to be on campus and getting settled in. And I said, "Well, I live over on the west side of town, got a house. Stop by for supper sometime." So, I gave him my phone number, and well before cell phones. And he called up one day, or he called me. I was at the lab on campus and he called me up, and he said, "Hey, I'm in town. How about we get together?" I said, "Yeah, come over for supper," just something, whatever college students eat. And the story was: he's the guy who came for supper and never left.

Next question is, "Have you found a place to live?" And he goes, "No," and I said, "Well"—typical kind of college, sort of this quote, family room, had just an old mattress on the floor with a bunch of pillows on it, and a television set on wooden crates or something. And so I said, "That's the guest accommodation." So, it was about three months later, I said, "Mike, you have to either find a place to live, or start paying rent." And he said, "Well, I found a place to live. I have a girlfriend. She happens to work in one of the"—I forget what department it was that she worked in on campus. And said, "We're going to move in together." So I said, "Great." Anyway, we stayed friends, and when he graduated and went off, got back, got into the wine business, and went to work for this company, CalPlans.

At that time, I had done the UMass circle, was back in Davis, or in Berkeley, with that post-doc, and so I'm having these considerations about this level of science, what I want to do. I'm going out for these interviews and giving seminars and thinking, God, I hope they don't offer me a job; I'd hate to be here. And then my professor in Davis, Roy, Roy Doi, was sending me all



these notices. “Hey, these guys are—you know, you ought to apply for this; you ought to apply for that.” And I’m going [sucks in breath], and Roy’s all excited about me carrying on, and I’m having these misgivings, and here’s Mike saying, “You’ve done that. Come to work in the vineyards.” So there were a lot of things going on, and I finally said, “Okay, I think I’ve done that arc of my life with the sciences,” and said, “Okay,” to him one day, “let’s talk about what I’ll do if I come here.”

02-01:04:13  
Meeker:

What was Mike’s last name?

02-01:04:14  
Freese:

Walsh.

02-01:04:15  
Meeker:

Mike Walsh. And you said Cal—

02-01:04:17  
Freese:

CalPlans, C-a-l, and it was capital P, l-a-n-s, so it was. I think they did it as one word, and they were a limited partnership, agricultural investment, with a wide range of different products. They were growing, at that time, walnuts; I think they were the world’s, or at least the US’s, largest grower of garbanzo beans, had acreages in fairly significant units all scattered around; and then they had this, the vineyard business, up here in Napa and Sonoma. And yeah, so I said to Mike, “Okay, if you’re serious about offering me this job, I’ve got a plan.”

I had looked at the wine industry and said, “Okay, what does the wine industry need?” And I said, “You’ve got all these guys growing grapes. You have all these guys making wine.” And I also, because of the interest in French wines in particular, in having made personal trips to France, realized that what was missing, I thought was missing in California, was the concept of people growing wine. So that the person who’s in the vineyard, every operation they do, has a focus on how that’s going to impact the wine. And I said, “Europeans get it, but in California, we’re still very productionist in the sense of, these guys know how to grow grapes; these guys know how to make wine; when they try to talk to each other, there are a lot of missing pieces in the communication.”

02-01:06:13  
Meeker:

You had already spent some time in France, at this point. Can you tell me a little bit about those trips? Because the fact that you already have this notion, even before you start working in vineyard management, I think, is interesting and it is necessary to unpack a bit. So maybe walk me through some of those visits, and how it was that you gathered the difference between the ways in which it was done in France versus the United States.

02-01:06:46

Freese:

Yeah. Yeah, it's a good question, because I think, to a certain extent, it was a—the spark jumped across a pretty large gap, because the trips were not—so it was tasting and preferably consuming these wines that we were seeing from Kermit Lynch, and in restaurants in around Berkeley, and the experience at Chez Panisse. I don't think I ever really met or knew Alice Waters at that point. I think Terry did, Terry Leighton. I think he knew her. But I knew the concept, and so the wines always intrigued me.

And we would oftentimes, on a Friday afternoon, even if we were in the lab, we might just say, “Pfft, okay.” We'd have a couple of chunks of really good cheese, and we'd just sort of clear the benches. And they were doing radio activities. [laughs] I mean, this is like, this is nuts, okay? I'm working with radioactive materials over here, and we just kind of like, [makes pushing sound effect] pushed stuff over, and had these foam ice buckets that became chilling units for bottles of a nice white Burgundy. [laughter] And we'd take the test tubes out, go down to the ice machine, fill up this. They were great because they were kind of this soft foam, and they were perfect, and they would hold ice forever, so. And then, there were these cold unit boxes where I'm doing experiments in there with column chromatography and so forth, and one side of it would be dedicated to bottles of wine. I have no idea why we weren't kicked off campus.

But anyway, so those exposures, I think, started me asking the basic question about, so why are these French wines so different from the California wines? And it's kind of intellectual curiosity about, you know, I'm actively looking at what makes something different. Different feel, more at a molecular level, but the whole concept about, so, why does this taste different? Why does it smell different? And so, it's fairly easy to get access to California wines; they were there. I don't remember any really great examples that—the Chalone wines probably were a big part of that. The Ridge wines were, to a certain extent, things like a Martini, because it was stunning how inexpensive they were, and how good they were, and they were. I understood then the concept of the yumminess. “This is really yummy. It's really good. What makes this so different?” And they'd say, “Well, that's Barbera that they grew over in Sonoma County.”

And so, I would start doing things like, I would come up—because I still had my motorcycle at that time. While I was in Berkeley, one of the things I had done is, I had purchased an old Austin-Healy. I think I probably told you that story.

02-01:10:38

Meeker:

No, no.

02-01:10:39

Freese:

Yeah. I always loved the Austin-Healey design. I love the Cobras, and I knew they were way out of my price range. And so anyway, I loved the Austin-

Healeys. In fact, I have a photo here on my desk that I was figuring out how to print out. That's now been completely restored. So anyway, at that time, it was not restored, but it was fun to drive.

And so, I would come up for visits. I would come up to visit Mike, and we'd just hang out and talk about stuff, or make a trip up through Sonoma Valley and say, "What's this place called Dry Creek? What's that like, and Russian River?" Then I had discovered, long before, I had discovered the coast, Highway One, so it was up through Napa Valley, out Highway 128, this route that I had done before from Davis. That was Rutherford—you know Davis over through Rutherford on Highway 128, and out. Then it was the southern part of Sonoma County. And just discovering these little coastal places, and then there were all these wines.

And the trips, there weren't that many trips to Europe, but it was that sense the European wines and how they were different, and the question. And so the trips, they were never wine-focused trips, but they were trips that would—you know, fly into Paris and you can take a train to Champagne really easily, and oh, that's what Burgundy looks like. That's where these wines come from, and that's why they talk about where the placement of the vineyards: at the top of the hill where the soils are thin; is it at the bottom of the hill where the soil's all washed down? Or the heart of the great ones was the middle of the slope, and you drive in the rental car around and you go, "Let's just walk up there. There's nobody around. Let's walk up and take a look." And you kind of get the feeling. You say, "Man, this dirt is different, here and up there." And kind of the bug sort of going, the curiosity started being fueled.

02-01:13:11

Meeker:

Sounds like this informal kind of research, experiential research trip, right?

02-01:13:16

Freese:

Yeah, yeah, yeah.

02-01:13:18

Meeker:

It sounds like you ended up in like maybe Beaune or something like that, and would just go out to Montrachet or Volnay or something like that just to—

02-01:13:29

Freese:

I'd look in the book, and you know—

02-01:13:33

Meeker:

Were you knocking on doors to taste wines?

02-01:13:36

Freese:

No, no, not really. I didn't speak French. There were no tasting rooms. I would think, you come from California, you want to taste the Martini wines, you just drive up to Saint Helena, pull in and walk in the door and they go, [pounds on table] "What would you like?" [laughter] And I'd see in France, it's like they say there's tasting outside, but you go look in there and there's

nobody there. You have to go find somebody. I'm not going to do that. So yeah, it was quite informal, but it was more observational, I guess, getting a sense of, why are these different?

02-01:14:23

Meeker: Did you start to develop hypotheses, if you will?

02-01:14:27

Freese: Yeah, and then sort of reading, and Hugh Johnson, that's the book I was thinking of. Hugh Johnson book is absurd because it's so large. You can't carry it around. But it's a fabulous resource at that time, and look these places up and go, "Hey, see this photo of Romanée-Conti? I actually stumbled across that." [laughs] Yeah, yeah, so that's—nobody ever came out and protested. It was just kind of out there.

Yeah, it was a great—you know how sometimes you get things that occur in your life that, if you look at it overall, it's like a little flick of light, one time, and you look back and you go, "That had quite an impact"? And there are people like that as well. The people experiences are usually the longer periods of time, but you see something, smell something, taste something, some occasion comes across, you just discover a certain food and a certain wine sitting in Chez Panisse, and you go, "Whoa, I never would have thought Alsace; they make wine there?" And you taste it with a particular food, and you go, "Hey, I think I like that."

02-01:16:06

Meeker: After these trips and after reading Hugh Johnson, were you bringing these ideas and these questions to the work that you started to do at—

02-01:16:20

Freese: At CalPlans?

02-01:16:20

Meeker: CalPlans, yeah.

02-01:16:22

Freese: Yeah, in fact, by the time I went to CalPlans, I think I had, I'll call it a fully formed concept. Now, fully formed doesn't mean totally refined. It just means I had this concept, so, my concept, because I had figured out that life was about going to things and not going away from things, I think, having a marriage fall apart and having a young son—I was doing stuff in Berkeley and raising him at the same time. So I said, "Well, look, maybe that's why I don't remember history very well, except for anecdotes and so forth, as far as specific dates and so forth. It's more probably the impression that things make on me, or that feeling again."

So I said, look, to myself, if I'm serious about not going on this academic track and leaving Berkeley and going to some other university, and assistant professor, and getting my feet in those stirrups and doing this whole curve

again, I need something that I'm headed towards. And I had made the vow, when I grew up as a kid, that I'd never be involved in agriculture, and then I realized that vineyards were different, because it wasn't annual agriculture; it was like you're making a product. And so, if growing grapevines is different, how is it different? And I said, "Well, it's not about the grapes, as an end product. It's about the wine." So I think about this and I'm going, "Okay, if it's about the end product, it's about the wine, then there's a process that goes on to get to that." And so I said, "Okay, I want to learn about the process." And that's when I started looking around and seeing that people in California weren't talking about the process; they were talking about two products: grapes and wine.

And so, I'm doing this sort of churn about, seems to me like we're missing something, because I'm getting this sort of parallel experience that, when you're in France, like in Burgundy, for example, some place with small producers, a lot of small producers, if you want to taste the wines, you have to go find the guy in the vineyard. That's doing the stuff that's really important. So I thought, okay, there's a gap. So, before I ever left Berkeley and when I was first talking with Mike and he used to keep saying to me—he was in marine biology, and he decided he was going to go into the wine business. And I think he was thinking: I'm on the science track. I really should be involved in wine business, as well.

So I said, "Okay," one day, one of the times I came up for a visit, and we were sitting down talking. And he said the same thing and I said, "Okay, here's the deal. I think I'm on the same track, but here's my plan." So I lay out this not refined, but pretty conceptually, I thought, complete plan, is that I would leave the university and I would come to work in the vineyards. And I would work for five years, and then during that period of time, I would learn everything I could possibly learn about growing wine grapes, things that influence them, but that the end of the five years, that I would go to work for a winery, and then with the idea of taking that knowledge of vineyards, and then working with winemakers to translate it into the final wines.

02-01:21:01

Meeker:

And lo and behold, that's what happens. [laughs]

02-01:21:03

Freese:

I don't remember what we were drinking, but it was a long evening. It involved things on the barbecue and multiple bottles of wine, and maybe some other things as well, and it was kind of the reverse. You know, he had some place, and I'd just drop down and go to sleep, and we'd get up and do something the following day. So basically, he said, "That sounds like a good plan. I don't understand how that all works, but yeah." I said, "Okay, let's start talking about what I'm going to do when I come to work," and I said, "but it has to fit in this plan." So he goes, "Okay." And, that was it.

So I stewed for quite awhile about how I was actually going to break the news to the academic side, about what I was about to do, and when I told Roy Doi at Davis what I was going to do, I think he was devastated. It's like, "You've wasted all this time." And I said, "No, I haven't wasted all this time. I've just learned a lot of stuff that's going to help me do what I do next." He says, "All this money—you've got these research grants, you've got this NIH support during graduate school—and it's just all gone." And I said, "No, it's not." We didn't talk about it a lot, but over a period of time, I think maybe I mentioned that, eventually, he came to visit us in South Africa, and saw what we had achieved, and he was like, he was a proud parent. It's like, "Yeah, see, I told you you could do this." [laughter] But it took awhile.

But as I was, various things I was doing in California, I kept really strongly associated with the university on the Davis campus, but not in the biological sciences but in vit and enology, and then subsequently, worked a lot with Linda Bisson and some of the other professors. We worked on research projects together. I worked with Zelma. I may have mentioned this, and I think maybe you and I talked about it a little bit, this North Coast Viticultural Research Group, and that was an avenue to work on actual issues that had to do with, what do you do with grape vines to influence the wines? It's a little bit sort of this parallel of working on this bacterium, when things change, how does it change so that it makes—it's able to survive. So there's a rough parallel there, the biology into the final chemistry, or the biology into the final product.

So, yeah, and so, I went to work, was January of 1978. No. [pauses] So I went to work—but I didn't go to work as general manager. That's where I exited. Something's a little goofy about this timeline, because I had— [whispers] '78, '79, '80, '81, '82. [resumes normal voice] No, it's okay.

02-01:25:18  
Meeker:

That's five years.

02-01:25:18  
Freese:

Yeah. Because I told Mike, I said, "This is five years. This is a five-year plan. At the end of five years, then it's a winery." And the story goes that, so I started working. Actually, it was a great experience. He gave me a job that was in charge of irrigation and frost control, and principally, on the largest vineyard, which was 400-some acres. And that was out in Wooden Valley, out east of Napa.

02-01:26:11  
Meeker:

What was planted there?

02-01:26:14  
Freese:

And it was a broad mix. And it was there was some Zinfandel, some Cabernet, Sauvignon Blanc, some Riesling, some Muscat Canelli, and, ta-da, drum roll, Napa Gamay.

02-01:26:37

Meeker: Is that Valdeguy [sic] or—

02-01:26:38

Freese: Valdiguié?

02-01:26:39

Meeker: Yeah.

02-01:26:39

Freese: Yeah, yeah. So at that point, the corporation had contracts with the Mondavi Winery, and one of the things that Bob Mondavi thought was this great future opportunity, was Napa Gamay as a red wine. And as a consequence, the winery signed these long-term contracts for significant amounts of Napa Gamay in both that vineyard in Wooden Valley, but also a neighboring vineyard, which is the one up in Lower Chiles Valley, and that was 140 acres of planted vineyard on this wonderful piece of property that rolled up into the hills. And the one in Lower Chiles Valley was the one that's adjacent to Rainier, Nichelini.

So anyway, I went to work on, basically, those two ranches, in charge of a lot of things, but principal focus was: make sure the irrigation system works all the time; when we needed to turn water on, we've got water that goes in the right places; and frost prevention, which involved thirty-some wind machines in the Wooden Valley area, because there wasn't a huge amount of water there. And up in Chiles Valley, which was very cold, is a very cold area, that was an irrigation, or the overhead irrigation system. It was used for frost protection.

So, I remember my first night in the springtime in Wooden Valley, when the little alarms that we set around in places that would dial a phone call to your home, and we knew the critical temperatures to get the frost protection on. But I was living in Napa, and the drive from Napa out to Wooden Valley is a somewhat—you had to be careful about it, especially if there's a frost event occurring and you know the low parts might be a little slick. And so that involved getting up at least a half an hour before the low temperature hit, and having everything—the machines had to be warmed up, because they were these big, 450-cubic-inch Ford engines with an airplane propeller on it and mounted up on the top of this tower.

02-01:29:25

Meeker: And you're talking 4:00 in the morning, right?

02-01:29:28

Freese: Yes, or sometimes 2:00 in the morning. So, one starts to adjust their life so that you can have a regular workday, and you can go home in time and get some sleep. So if you had some inclination that it's going to be cold that night, you want to get some sleep before you get a phone call at 2:00 in the morning that says you're going to make this mad dash out to this valley, and get ready,

too, in case the temperature keeps dropping, so you can get the frost protection on. First night, I think I'm completely ready. The only thing is, I'd never done a dry run in the middle of the night. And I had this great guy that was a manager there, Salvador Renteria, fabulous guy.

And, so Salvador's busy with lots of other things, then we had these guys lining these quote, "smudge pots," that would actually burn clean at that time, try to add some heat into the environment. I've got another guy working with me. We're trying to get all these thirty machines started. We're on the radio back and forth, and unfortunately, the radio covered the entire company. So the guy's over in Sonoma County, they're hearing everything that's going on in Napa County, and we're the early warning system, right? Because we always got cold first. And so, the guys in Russian River are going, they're turning the radio down, saying, "Well, I don't want to hear this stuff." These guys are at two o'clock, maybe they're going to have to get up at 4:00 or 4:30, or something like that.

So, anyway, the first night, Salvador goes, "Everything running?" And I go, "Yes," and I said it in such a way that he didn't believe a yes. He goes, "Okay, what's not working?" And I said, "I'm missing a machine." [laughs] He was laughing. And he knows everybody in the company's listening, and I'm the newbie, right? So he goes, "Missing a machine, huh?" Says, "Well, I haven't seen a spare machine anywhere." [laughter] You can tell, everybody in the whole company is just bursting with laughter. So he draws the whole thing out, and finally I said to him, "Salvador, where are you?" And then, physically, and this is a fairly large vineyard, and I said, "Meet me at such and such." I wanted to talk to him in person. I didn't want to talk to him over the radio. And he goes, "I don't think that's going to work. I'm busy." He was just teasing me, just like, he's going to do this whole thing on the radio. It was gruesome. And he said, "Well, tell me what number's missing. I'll look for it around here." Anyway it was gruesome. It was painful.

So finally, he said, "Yeah, just count over thirty rows from where you are, and there you are, so." So the following morning, the first thing I did is, I got a bucket of white paint, and I went to the end of the rows in every block where there was a wind machine, and I painted the end of the rows. And he said, "Well," said, "I was curious about college guys out here." And he said, "I was right to be curious, but," he said, "at least I'll give you a credit: you're a quick learner." And I said, "Yeah, that'll never happen again." [laughs] And so, we got along famously after that.

02-01:33:30  
Meeker:

So it was just too dark to find this other windmill thing, or this—

02-01:33:32  
Freese:

Yes, pitch dark, pitch dark, yeah, so. Once they're running, we had little flashing lights on the top of them, so then what you do is, you want to watch,



and if the flashing light stopped, you knew something had happened. But there were thirty wind machines out there with—there's no exhaust pipes. They're just straight pipes, airplane propeller, and they're on elliptical patterns, or circular patterns in some cases, depending on the design of the block. So they'd rotate. So they're blowing air all as they're rotating and pulling in this warm air, hopefully, from above, and pushing it out and disturbing the air and then pulling in warm air from these heaters that are around the margins.

So, we had, I forget how many it was, 500 of these heaters, and thirty-two wind machines, or something like that. So the following morning, my job then became get fuel in all these guys. And if it had been raining, it's hard to get into them, because the machines are—. Anyway, it was a great aha moment when I go, okay, so I thought I was pretty adept in a laboratory, but man, this is a completely different world out here. And so, I saw Mike after that, and—

[side conversation deleted]

So, it was kind of a lumpy first night. I'd been on the job for awhile, and then, but it was first in the springtime, and I said, "Yeah, but I think I learned a lot." And he said, "Well, you've got Salvador convinced." Mike had evidently said, "Well, you want to get rid of this guy?" And Salvador goes, "No, I want to keep him, because he learns really quickly and I think he's going to do fine." So, yeah, so Mike said, "Well, is that enough? Are you okay with this?" I go, "Yeah, this is fabulous! This is terrific! This is what it's all about, the real practical stuff."

02-01:36:10  
Meeker:

So, it's interesting. You have these, coming into this, it seems like you have this grand theory about how winemaking happens in Europe, and you want to—

02-01:36:24  
Freese:

The romance of it all?

02-01:36:25  
Meeker:

The romance of it all, but also, the science, like you're treating this as an intellectual problem and you want to come up with the great solution to it, yet on the ground, you're running around trying to find these blowers that are powered by—

02-01:36:45  
Freese:

And pray to God that when you punch the button, it's going to start, yeah, after you find it, yeah.

02-01:36:51  
Meeker:

I can imagine, for some people, they would be like, "You know what? Maybe this isn't really for me after all." But, it sounds like this was, it was fun.

02-01:36:59

Freese:

The rubber meets the road. Well, too, it's like the whole thing is, your success or failure in protecting against frost is, are you going to have a crop or not? So the drama is there. The pressure is there. And the following morning, everybody's having a good laugh, and I go, "Do you know, I learned something. That'll never happen again."

02-01:37:27

Meeker:

How rapidly can you tell if there has been frost damage to a crop?

02-01:37:36

Freese:

Depending a little bit, certainly by the second morning. Sometimes, if it's really cold, you can see it that same morning, sun comes up. The drama is, the dramatic one is, when you're using water for frost protection, because scientifically, it's magic, because when you're spraying water into freezing air, and it hits plant material, it freezes. But when it hits the plant material, because the air temperature is below freezing, the plant tissue isn't quite there yet, but the water sits on the plant material and it turns to ice. When it turns to ice, it liberates heat. And so the temperature never goes below, say, thirty-one-and-a-half degrees. And the plant tissue is damaged if it goes to thirty-one or in that range, for a prolonged period of time.

So you're working with this really delicate margin. So you're running the sprinklers. They're rotating. They're constantly wetting. New ice is forming. It's liberating heat. It's preventing that whole, what now looks like an icicle-covered green shoot that's this long, and it's covered in ice. The only thing that can go wrong, amongst the whole great list of things, is if the pump breaks and the water stops. Once the water stops and the air temperature is below freezing, it super cools, because that last evaporation, the temperature drops below freezing, [makes dropping sound effect] really quickly. It kills everything that's covered with ice at that point.

So, with water protection, you can protect at air temperatures that are colder, but you've got this really thin margin with protecting by hoping you can pull warm air down from an inversion layer up above you, relies on that ability to actually pull that warm air down, and that's why you need these guys moving a lot of air at fairly high velocity and creating this turbulence and pulling that warm air down. So you mix that cold air that's down on the ground level in with some warm air, and you keep it just above the freezing temperature.

02-01:40:14

Meeker:

So it's not as if the ice actually forms a protective layer; rather, it's the continuous application of water that prevents the ice or the air from super cooling or freezing the plant matter.

02-01:40:24

Freese:

Right. In fact, you've created a disaster, potential disaster situation. Sprinkler head is blocked, stops turning and wetting. You lose pressure, run out of

water, one of the engines goes down. These are like, in this one in Lower Chiles Valley, it's these five giant Perkins diesel engines, straight pipes, running at 3,000 RPM, sprinklers covering 140 acres [makes staccato sprinkler sound effect] everywhere, and you're just going, please God, don't let one of those engines blow up. Yeah.

02-01:41:09

Meeker:

So did the crop weather, if you will, this first challenge that you faced?

02-01:41:15

Freese:

It did! Yeah. Usually, the first frost protection event, they tell me afterwards is, everybody's super anxious. Probably not going to be a real frost event, but it's a great introduction about, do all the systems work? The guys who are supposed to light these pots are walking around with, they're walking on the ground going, "And you don't light every one. You light alternate ones, and you see, okay, is that enough heat?" If it isn't, if the temperature keeps dropping and the wind machines are doing their thing, then you say, "Okay, let's light the others." If you can't refill all the ones you've burned one night, at least you've got the ones you haven't torched the previous night are there. The worst situation is: Rains like crazy. Everything's wet, soggy, muddy. Clears up at midnight, radiational cooling; temperature starts to drop like crazy, and usually, there's not a lot of warm air behind that front. That's where you go, this is like, [makes blowing sound effect] fire all the cannons. Everything's going to go.

02-01:42:37

Meeker:

Were you learning about all these possibilities through conversation with, what was his name, Mr. Renteria?

02-01:42:51

Freese:

Geez, yeah.

02-01:42:54

Meeker:

And Mike was your boss, I'm guessing, at this point.

02-01:42:58

Freese:

Yeah. So Mike was a good mentor. A lot of good information. Salvador Renteria, great guy to work with. He was pragmatic, practical knowledge. The guys loved him. He was a great person. The vineyard teams loved him. Yeah, a fabulous guy to get introduced to the business, yeah.

02-01:43:32

Meeker:

In addition to reading the broad kind of synthesis of wine and terroir like Hugh Johnson, were you also starting to dig into some of the academic work on enology, viticulture, and soils, and those sorts of things?

02-01:43:50

Freese:

So, once I decided I was going to make this shift, coming from an academic background, the first thing I did was join the American Society of Enology and Viticulture, start getting the journal, find out that library—because very

quickly after I went to work for CalPlans, I was spending time up in Alexander Valley. Healdsburg has the wine library there. They had publications. It's like, okay, I've got to go from Alexander Valley to Russian River. Let's stop at the library and see if they have this journal, and [makes copying sound effect] run a Xerox copy, [makes blowing sound effect] go back to work, kind of thing.

02-01:44:51

Meeker:

So there were specific issues that you were starting to bone up on at this point.

02-01:44:56

Freese:

Yeah.

02-01:44:58

Meeker:

What did you think of the nature of research into viticulture and enology at this point? As a scientist, were you satisfied with what you were reading? Was it frustrating because maybe the answers weren't clear, or you didn't think the research was quality enough to really guide your activity?

02-01:45:24

Freese:

I don't think I ever had any real doubts or cautions about the quality of the work. One of the things I'd come to understand is the level or the severity of the hurdles to getting published in various journals. And some are a little easier, maybe not quite as, not academically rigorous or maybe sort of as fanatical about getting published there. But one of the things I came to immediately understand is the *American Journal of Enology and Viticulture* is a very prestigious journal, and it's world respected, internationally respected, and when I opened the front of any given volume, you look at the editorial staff, and they were all like, the people.

Yeah, so it wasn't the quality; it was more like, why aren't people working on some of these key issues about what happens, if you did this to a grapevine, what's the outcome on the wine? And those questions were, a lot of them were, a lot of the work, was physiology of vines, what happens if you want to graft a vine, what are some of the attributes you have to deal with, the practical parts of vine growing, the practical parts of grape growing, disease control and prevention, disease agent identification, and so forth. And the enology side was, what yeast is going to do, which, and what are some of the—people weren't, at that time, able to really dissect, chemically, a lot of the chemistry that was going on. The understanding of phenolic compounds in wines was in its early stages, and people were just figuring out.

So it was what I call the basic science that was going on, and I'm trying to ask questions about, what happens if I irrigate at this time versus if I irrigate at that time? What's the impact on the wine? Not on the size of the berries, per se, although that was important, because I would say, "Okay, if the berries get larger at this time, what happens to the resulting wine?" And I could figure out that it was going to probably dilute the character somewhat. I remember,

one of the key questions was crop loads, and people were trying to figure out what the outcome was on the wines, and I remember reading. There was a whole series of work and publications that were going on about people having these—I'd go, yawn, same experience.

They'd go in and they would thin the crop at various times, and then they would look at the outcome about the frontal yield. And people were saying, "Well, if I thin the crop really early, if I take off a third of the crop, I still pick almost a full level of crop. What's going on?" And you go, "The berries are just getting larger." And there was this, what I thought was so intuitively obvious: as long as the vine's still growing very vegetatively and you thin off half the crop, the vine still has the capability of just enlarging the berries. And I would think, why aren't people looking at—why aren't they seeing the results? It's a frustrating kind of thing.

So then people started to do—and we were doing it in our own vineyards. I'd say, "Okay, we need to thin the crop off," and the winemakers would, "Too many, too many grapes on there." I go, "Fine. That'll be fine. Here's how we're going to fix it." And they'd say, "Well, I want you to take the grapes off now." And I'd say, "Well, it's too early. What'll happen is, the resulting berries will just get larger." This is when I'm at CalPlans, and occasionally, the winemakers would come out, not as frequently as I'd like, and they would, "Oh my God." And Napa Gamay was famous, with huge clusters and huge berries. And I'd say, "Here's the strategy to make the best wines. We're going to let these grapes, or leave the grapes on the vines, until we can get the vine to slow down its vegetative growth, and then we're going to come in and we'll massacre it." And they go, "Oh, that won't work. You need to take it off now." And I said, "Okay. We'll do some rows. We'll take everything off." We'd thin them while they were there. And they go, "That looks beautiful." And I said, "Okay, come back before harvest and we'll look at rows we treat then, and rows we treat later."

And we were doing berry weights, and people weren't doing berry weights at that time. And I'd say, "Look, the berries got larger by this third that we took off, your timing, and over here, the berries didn't get any larger. That's why I want to thin the grapes later." And the winemakers started to go, "Hmm, okay. Well, that makes sense." And I'm looking in the publications and I'm going, "Why aren't people doing this work?" So we got started with some of the work with the guys on campus.

02-01:51:20

Meeker:

I'm imagining these conversations taking the next step, which is, these questions around yields, whether you wanted to—probably, some people were wanting to increase yields as much as they possibly could; others were looking for more quality to decrease yields. But then you were taking the next step, which is, okay, these larger berries are going to result in more diluted wines, and—

02-01:51:51

Freese:

Exactly, yeah, starting to put a basis under why you would do something, and this, I think it's a core part of things that I focus on is, what I call doing the right activity at the right time, and also, at the right severity. So winemakers have, I think, wired into their genes someplace as an adaptive process of the modification of their DNA, that a lower crop must be better, and that isn't always the case. And so I think there's some kind of intuitive thing, that people think, well, if I have a lower crop level, then I'm going to get better wine; I'm going to get more intense and more concentration.

And so we were busy trying to illustrate to people that, you may, in fact, be correct, but when you take that action is also important. I never thought about it quite this way, but a lot of the background that I had academically in my research was about kinetics, the rates of operation, the rates of change, and the factors that influence the rates of change. And in working with enzymes and analysis and so forth, there's certain factors that influence that. But in vineyards, I think what became clear to me is that there's an arc of the evolution of the dormant vine to the final product grape. And what I also began to understand is that people didn't fully appreciate that there's a real periodicity to the grapevine.

So, I would see these patterns develop and then I started reading, and it was actually some work that had been done in Burgundy, where the guys looked at the time between the flowering, the changing or softening of the berry veraison and to the harvest, and it was very, very regular. So I started to think, okay. So I started watching vineyards really closely during the flowering period, and then during the veraison period, and then when we actually harvested, and then, tracking these. Some people thought this was sort of anal retentive, but it got to the point where, once I saw the flowering, on particular vineyards and particular varieties, I said, "I can tell you when we're going to harvest the grapes, probably plus or minus a few days, unless there's some bizarre thing like it gets extremely hot or extremely cold, but it has to be really extreme."

And the other theory was that, if it gets extremely hot, particularly early in the stage of vine, in the fruit development, that we're going to have an early harvest. And so I was saying, "Well, that's counter intuitive. In fact, if it's really hot in this early period of time, we are probably going to be late, because the vine slows down its function." So I'm doing the physiology kind of thing, figuring out that, above so many degrees during a day, the vine is probably not functional, and looking at the literature and trying to put some technical basis under that.

02-01:55:40

Meeker:

So this idea of historically working at kinetics helped you understand this counter-intuitive notion that heat spikes actually slow down growth.

02-01:55:55  
Freese:

At certain stages, they actually slowed down growth. Like we're in right now, today, here in the harvest of 2017, we are so close. The grapes are so close to ripeness that heat actually does, in fact, drive us forward in sugar, but it drives us forward by concentration of, by dehydration, not by ripening the fruit, because the vine is still shutting down. But if you're looking at, does my sugar increase? Yeah. And if you want to ascribe that to the vine actually working faster, that's a mistake. It's not the case. It's actually not working as well, or in some cases, not at all.

So sometimes, I get a little critical about, we work in an industry where a lot of people don't understand the basic operating principles of the organism they work with. So, sometimes with clients, I'm working with the vineyard manager who says, "Yeah, it's really hot, and things are going to accelerate." I just say, "Okay." It's probably not worth [laughs] the two hours it's going to require to try to convince him otherwise. It's not an educational process at that point; it's trying to convince him that it's not true. And I go, "You know, it's not a worthwhile use of time and energy right now, to go into that." So I just go to the winemaker, "We're still on schedule."

02-01:57:29  
Meeker:

Well, it's interesting. You're right, because as you mentioned the question around lower yields, this has become axiomatic to the point that it's part of the marketing literature of a particular vineyard, or winemaker, and in that they say, "We only do really limited yields, or a couple clusters per plant," or something like that, but that doesn't actually tell you what you really need to know. And these sort of ideas that you're describing right now, while you still have to educate people who might not be up on what the real knowledge is, at the same time, during the '77 to '82 period of time, it's not as if that knowledge actually existed in any scientific or verifiable sense. This was the point in time in which you were playing a role in creating that knowledge.

02-01:58:29  
Freese:

Yeah, I think, and as I'm starting to ask these questions, I'm getting into the literature, and I would find that somebody a long time ago did that work, and it's buried someplace in a publication and it's forgotten. And I keep thinking, people who don't know the history are busy reproducing it over and over again. And so there would be these aha events that would come out in the industry, and I'm going, yeah, that's great; that was first done in 1947, by Winkler or by somebody else, and at that point, again, there's no real value in getting. But when people did a thorough literature search when they started to publish something or they started to work on it, then all of a sudden, these older publications would pop up.

02-01:59:26  
Meeker:

And it sounds like you were doing these thorough literature searches at the time that you were considering, when you had these research questions.

02-01:59:34  
Freese:

Yeah. As much as I could, everything I could get access to, because one of the things that—I mean, in the previous world in academia, the scientific publications in biological sciences at that time, it wasn't a fire hose; it was a flood of information being published. And at first, I started out with this great enthusiasm that I would go to the library religiously every week, and I'm looking at all the publications and pulling them off the current display, and piled up on the table and I'm going through, and I'm gleaning for information, and I find myself one day—and I can't tell you what the journal was right now, but they always used to have, on the—they were all soft cover, current publications, then eventually, they get bound and go into the stacks.

I'm sitting there looking at this one, and I see this, and they always had quotes, and I'm looking at this quote attributed to Pasteur, to Louis Pasteur, and I don't remember exactly how it goes right now, but the core of it is that he said, "Chance favors the prepared mind." That's the way I use it today. Which means, oftentimes, stuff occurs in your life, unless you're ready for it, or unless you have a context for it or some way to fit it into your thinking. Whew, it can go right past you. And I thought to myself, that's great. So, broaden the environment, broaden the sphere, and be ready when those ideas come along. But, also be ready with the idea that is out there, ready for this new piece of information.

But I was always feeling so frustrated by all this. I couldn't go through all the literature. I just couldn't do it, and it felt a little overwhelming. And we're kind of in that phase in today's world in viticulture and enology, I mean the basic biology, this linkage of cause and effect, and when you do this in a vineyard, it impacts the wines this way, and those are the kinds of questions that people are asking today and they're addressing. So I try to stay current in the Australian journal, which is a world class, the American journal, some of the ones I just, so I keep subscriptions to those, and also the South African journal. And I used to be able to, springtime, in my time, that I could spend—in Healdsburg, the library is, I mean, it's a treasure trove, these international publications, and I can't keep up with them. But, you know, doing my best, swim as fast as I can.

02-02:03:01  
Meeker:

Why don't we stop there for today? And that was great. I'm really learning a lot myself and enjoying this.



## Interview 3: September 8, 2017

03-00:00:09

Meeker:

Today is Friday, September 8, 2017. This is Martin Meeker interviewing Phil Freese, and we are at his home outside of Healdsburg, California. This is interview session number three. And so, last time we wrapped up, we spent some time talking about your introduction to vineyard management work at CalPlans, where you worked from 1978 to 1982, and you provided some interesting stories about the rough introduction to the work, particularly in the context of an early spring freeze and your strenuous efforts to protect the grapes, or protect the—

03-00:01:05

Freese:

It was kind of like, you could put it in the context of the lab rat sees the real world, right?

03-00:01:09

Meeker:

All right. I like that, that's good, that's what we'll call this chapter. [laughter] So you were there for five years, and the way that you also contextualize this five-year period of time was that you had started to develop these questions about, what was the difference in winemaking and grape growing between the United States and France, and you had started to develop some ideas. But it's my sense that this five-year period of time, maybe you moved from broad questions and some inkling of ideas to more hypotheses, perhaps, that would then really be tested later on, really in a more rigorous scientific setting in Mondavi, but also the North Coast Viticultural Association and then, the Viticultural Research Group, rather. So, why don't you tell me a bit more about these five years at CalPlans, and the degree to which you were able to start to develop hypotheses?

03-00:02:15

Freese:

So, if I think about it, most simply, there're really two components that were on my personal agenda at that time, and the first of those was, it was a real job doing something. So, the second part of it is what I call, it's kind of learning on the job. So, my job, originally, when I went in, was a pretty much at a functional level, down in the organization. In actual fact what occurred is that I moved up through the organization really very rapidly. It wasn't because I had lots of technical knowledge or knowledge of the business; I think it was the trust of Mike and his sense of confidence that I could do it, I could step into it and take the job. And that transition went from, it's pretty much what I was talking about last time we were together, this operational level where I was in charge of 400-plus acres of vineyard out in the Wooden Valley, for irrigation and frost protection. And first of all, it was a little bit in advanced in the sense that, as a concept, because often times people in farming operations kind of do everything. But with that organization, Mike had a very clear idea about organizational and structural units, and we didn't have flow charts and boxes and sticks and so forth, but he was very clear about, "Okay, this is your area of responsibility," and [laughs] I'm going to use a new phrase that I just

learned from a friend of mine, and basically, he didn't say it this way, but it was like, "stay in your lane." You know? "That's your job; do your job. Don't worry about all these other things." Now of course, I was thinking about everything else, so I said, "Okay, functionally, I need to stay in my lane. I need to get my job done."

And so that's the real-life part of it, then the other part that was on my agenda, the second part, was to say, "Okay, get that job done; do it really, really well, and learn how to do it so that it doesn't take a hundred percent of my time, so I can then look over the fence and get involved with other things." And so I did that, and part of the second phase—I'm going to use the evidence that I survived for five years and when I left, I was running the vineyard division, as evidence that I did my job. Okay, so we can leave that. Really, the other part I think that for me is really the critical part, beyond drawing a wage and having something meaningful to do with my time, was this whole process that I had in my mind that I had as an image when I left the university. When I look at the wine industry in California, what I saw is, and this is a bit of repetition—I think I said this before, but that in California, we tend, like Americans do, we'd compartmentalize things. There were people who made wines; there were people who grew grapes. And like frequently happens, each of those areas had developed a really very refined vocabulary for what they did and how they expressed their aims and goals and achieved it.

My plan was, is to learn how to grow wine. What my first aha was how large the gap was, and the gap was really not being filled. And that was my hunch, when I looked at the industry from an outsider—and then the closer and the deeper I got embedded into it, I saw it was, in fact, the case, and that there was a real opportunity to help bridge that gap, which was exactly what I wanted to do when I started out. So then the time at CalPlans was perfect, because in the whole organization, I don't know what exact number of vineyards there was. Wooden Valley, of Alexander Valley here, part of which is owned by a couple of other people now, it was out on River Road, outside of Windsor. There was, down on the Russian River; there was a property up on Moon Mountain Road, the top of it, that became I want to say Carmenet. Is that right? I forget.

03-00:07:44

Meeker:

There is a property up there that was Carmenet, up Moon Mountain, yeah.

03-00:07:47

Freese:

Yeah, okay, and that was one of the original pieces of this whole large organization that actually owned and operated those, and the unit that I was working in was under this larger umbrella of CalPlans, and it was the vineyards, and the vineyards were, I think at that time, predominately in the North Coast, Napa and Sonoma. I believe they may have had some vineyards in some other areas that were, like many of the other properties were, hemorrhaging money, and the vineyards were actually showing some profit, and some glimmer of hope. So, as I was kind of coming out of mastering my

job at this specific site in Wooden Valley, then it was okay, saying, “Can I help with something else?” And then doing a little bit more traveling, and then when, fairly shortly after I got there, like in about a year or so, Mike got this promotion to go to, what I told him was a death spiral in Oakland [laughs] at the headquarters, and I said, “This job will kill you, you know, because it’s just like, [blows air] hemorrhaging issues, and corporate stuff.” And so he said no, he was going to take the challenge on. So he became the guy who was in charge of all the agricultural in all of California that they were involved with.

And that story comes round as we get to the later time at my days at CalPlans, but I want to come back and revisit the fact that, when I came on—I said this, I think, last time we talked, but when I came on and took the job, after all these discussions with Mike, I told him specifically, “I have a five-year horizon. This is what I want to achieve in those five years: I want to go from this kind of entry level, to a full-scale understanding of how this whole business works, about growing grapes that are specifically suited to a style or a type, or a particular brand or a bottling of a wine, so it’s really purpose-driven,” and, but that was my mission, and at the end of the five years, I was going to go to work for a winery. Okay? In actual fact, I missed the target by two weeks. It was five years and two weeks before I went to work for Mondavi. But, we’ll get to that as we get to the end.

So then, with all these different properties, I was intrigued by not having a background in soils or plant physiology, so I’m on a rapid learning curve trying to do as much as I can do: read, and signing up for technical journals, and participating in classes and short courses that were offered at Davis, and also, then doing some travel. And fairly early in my stint at CalPlans, Mike and I—trying to remember the year. It was very early. Mike and I signed up and went on a trip that André Tchelistcheff—he was then at Beaulieu—would take groups of interested consumers, and he would occasionally take on that trip, if people who signed up who were technical, he would occasionally take some technical people along. And Mike and I, I’m trying to remember when we did it. Geez, it’s slipped my mind. Anyway, so early in my stay there, I think Mike brought it up, or I brought it up when one of us said, “Hey, this sounds like a great opportunity to learn from a master,” because André was also at that time, when I came onto CalPlans, he was still winemaker, or at least consulting winemaker at Simi, and MaryAnn Graf was there, and that was before Zelma went to Simi.

And I remember one day, well, a number of occasions with André, but one day in particular we were walking through a vineyard here in Alexander Valley, near and below what’s called Alexander’s Crown, it is currently owned by Kendall Jackson. There was a kind of a hillside vineyard there, or there still is a hillside vineyard there. It used to be owned by the CalPlans people. It was planted to Pinot Noir, which in retrospect was probably one of humankind’s poorer mistakes. It wasn’t very good, but I remember walking through that vineyard one particular time before harvest with André

Tchelistcheff—this one stands out in my mind—and we’re walking through there. I’m this sort of new kid on the block. The two of us are walking through and we’re tasting fruit and he’s talking about what he’s tasting, and the grapes, and I’m [sucks in air] like a sponge, soaking this up. And I think I said something really stupid like, “Oh, you seem to know quite a bit about vineyards.” [laughs]

03-00:13:50

Meeker:

Had you heard of him before?

03-00:13:51

Freese:

Yes, I had, but I always associated him with being a winemaker, you know, and this rich and historic past, and I never thought of him as being one of the guys that I wanted to grow up to be, or understood both sides of it. I thought winemakers were just winemakers. Anyway, André was clearly more than that. And I remember he turned to me in a very sort of mentor, mentoring kind of approach, and he said, “Well, you know,” he said, “I think I’m better in vineyards than I am in wineries.” And I stopped, and I remember that like sort of, blew my hair back. I go, ooh, okay, I really stepped in that, but it also really piqued my curiosity. So, then I would try to hang out with him as much as possible.

But anyway, it was announced that he was taking this trip to France, and with a group, and so I saw him and I said, “André, Mike and I want to go on this trip.” And, but I said—remember so little bit, what’d he say—a little bit precocious, but audacious—and I said, “But you know, on the trip,” I said, “a success for me on the trip is that we spend a significant amount of time in vineyards and walking through vineyards and talking about them, and what’s going on, soils, and then we can taste the wines, but I’m going to look to you, André, to make that bridge to tell me about these sites and how it’s working.” He was incredibly patient. And he said, “Well, you know we normally don’t do that, because most people really, they don’t care about it that much, or they don’t understand it, or they think it’s hot and dusty and dirty out there, and maybe not going to be all that interesting. They just want to taste the wines and see the winery and you know, bow down at the feet of the winemaker.” So I said, “Okay well, I’d love to discuss the agenda with you as you’re putting it together,” and he was very patient. He said something like, “Yeah, okay.” So, I had no sense of humility I guess, [laughter] and that’s what he did!

So, Mike and I were always like, “Okay, when are we getting on the trip?” or, “When are we going to get to the vineyard?” or, “Let’s go to the vineyard early in the morning.” And people were grumbling about, [mumbles] “It’s too early to get up and go walk in the vineyard,” and I remember some people. It was a small group—I think we were say twelve, fifteen people maybe, maximum, maybe not even that many—but it was small enough we fit on this small bus, which still was too large to get through some of the places that we

wanted to go. But the experience was really, for me, it was, I think it was really a boost along that inflection point, of here's a guy who's such a great winemaker, understands, has this great palate, and he really cares about where the grapes come from that he's going to—and how that's going to influence the wine. So we did that trip, and that just sort of like lit the other stages of my rockets. I'm going, okay, we can do this.

03-00:17:36

Meeker:

Do you recall the itinerary and broad scope?

03-00:17:43

Freese:

I know we were in the Rhône, because I remember walking in some of these vineyards in the Châteauneuf area, where I said to him, “André, how do people farm these vineyards? There's no soil here; it's just these round rocks.” I said, “You know, if we had this in California, we'd have workmen's comp claims all the time because [laughs] people would be twisting ankles, and so forth.” And he's kind of being tolerant, and he goes, “Yeah, you're right. You know, I never thought about it quite that way, but there's soil down there someplace, and even though there's no irrigation, but they get winter rainfall, and the vines either live or they die, and the ones that live, they tend to produce really good wine.” So we were—I'm trying to parse it out from another trip—and we spent some time in Burgundy as well, and you know, with these smaller properties where we'd go see this half an acre here or a quarter of an acre there, and we'd come into the winery. We'd taste these wines, and I'd just go—[blows air]—and I'd mentioned Henri Mayer before. On that trip, we visited Henri Mayer again with André, who Henri Mayer actually knew about, and those guys, they were chummy and they were kind of like, I remember they were playful. I don't think of Henri Mayer as being playful, and I don't think of André as being kind of playful, very serious in their own ways, and they were kind of like, going at it, in French, of course.

Yeah. Where else did we go? Gee, I'm just drawing a blank on that. I just remember reflecting back on it when we were on this bus, and I'm going, oh poor André, he must have the patience of a saint to put with the stuff that—you know, saying, “Well okay, we want to visit vineyards; we want to do this and so forth.” But he was having a blast, and we were always, Mike and I were the first ones off the bus, and André's kind of like waiting to get everybody to organize, and we're all already going *pom-pom*, “Why are they doing this? Why are they pruning this way? What are they doing and what's it going to do? Is it going to be too much sun exposure?” and so forth.

03-00:20:39

Meeker:

Were your fellow travelers also in the industry, or were they—

03-00:20:42

Freese:

They were. There was a couple on the trip who owned a small winery, but they were like kind of absentee owners; they weren't operational people. I'm trying to keep two trips separated and I'm not doing a very good job of it.

03-00:21:09

Meeker: When was the other trip, just so we can—

03-00:21:10

Freese: It was actually just after I went to Mondavi.

03-00:21:19

Meeker: So after 1982 or early '83, or something like that.

03-00:21:22

Freese: Yes, right, yeah, it was—

03-00:21:23

Meeker: And Tchelistcheff led that one as well.

03-00:21:26

Freese: No he didn't; so that was Bob Mondavi. And that was more of, they call them educational trips. It was a little bit of a perk, but there was a serious amount of focus on technical aspects as well, and even though there would be people from accounting and business services stuff, there was something in those Mondavi trips for everybody. And Bob was pretty careful about making sure people paid attention, too, yeah. But that Tchelistcheff trip, back in the context of CalPlans, that just put more fuel. It was like slamming right to the pedal. Okay, I've got to understand this stuff. So I then was getting more responsibility inside the CalPlans organization. I think I related this earlier, that we had offices in Yountville in the Vintage 1870. Behind it, there is an old building that was another functional part of that. It was a power plant or storehouse or something, but anyway it was developed into some offices. And so we had a business office up there, and one day after I'd been there for about a year, Mike walked in and slammed this big wad of keys down on my desk and pushed them across the desk, and that's when he told me that he was going to Oakland to throw himself in front of the—or into the gaping maw of the agricultural part of the investment, limited partnership. But those, I was going off someplace on that, but—

03-00:23:37

Meeker: Well, let me ask a question and to try to tie this together a bit. So once Mike leaves and you maybe get another lane or two to drive in, if you will, to continue the metaphor, were you starting to exercise some of those questions and introduce some of those ideas, say from your travels in France, in the CalPlans properties?

03-00:24:11

Freese: Yes.

03-00:24:12

Meeker: What are some of those things, do you recall? Like, were they major changes, or were they small, incremental modifications in the way in which the viticultural work was being done?

03-00:24:26

Freese:

I don't think any of them were really, from my perspective—they weren't earth-shattering, like aha, this is a new sun rose on the eastern sky. And I was busy talking with other winemakers as well, trying to get their feedback about, okay, if we're going to close this loop, we need to know what they think about the wines. And so at that—oh I know where I said it—is that we, at that time, were I think selling to twelve to fourteen different wineries, and Mondavi being the largest, and long-term contracts, and so what I undertook is to try to get in touch with all the winemakers and say—and this is all the way from sparkling wine fruit to, in some cases, late harvest stuff, but the main part was still wines. But the idea was just to get the feedback from the winemakers, and then to come back to your question about what kinds of activities, what I began to understand very quickly was that, how one presents the canopy of a grapevine, really has a lot to do with the outcome.

And so, I remember having conversations with Mike, for example, in, it was a Cabernet vineyard here in Alexander Valley, and this is when he was, he was in Oakland then, but he used to come up because we were part of the management unit that was under his overall supervision. And I remember in Alexander Valley saying to him, I said, "You know, I think that our Cabernet from the Alexander Valley is growing in a cooler location than we give it credit for, and I think some of the issues that the winery is having with the fruit"—because the dawn was starting to come on the appreciation of the fact that the French, particularly the Bordeaux wines, have a particular characteristic that is not herbal in its character, but it has a vegetation kind of a spiciness, or a savoriness to it that isn't—it wasn't like we were getting these herbal notes, green hay or—

03-00:27:12

Meeker:

Green bell pepper.

03-00:27:13

Freese:

—yeah, and bell pepper kind of characters in our wines. And I remember having this discussion with Mike and saying, "I think our canopies are too dense. I don't think we're getting enough sunlight inside these canopies." And so we went through iterations of, how do we influence that, and so, modifications in pruning, and then the way the shoots were actually positioned. And also, I said, "You know, I have this overriding fear that when we sample at harvest time"—I'd see the numbers jump around from week to week when we sampled. And when I walk in the vineyard, I think I can understand why, because I can find these green and herbaceous notes, and I can find very ripe notes, and sometimes, they're inside the same vine. And so it posed a question in my mind about, why would grapevines do that? And so it went back to this kind of canopy thing, because I was seeing these yellow leaves inside, and then I started with talking with people over at the university: "What happens when these leaves turn yellow?" And they say, "Hmm, well, if they don't get at least ten percent of ambient sunlight, the vine's going to abandon them." And when they abandon, they don't just say,

“Hey, you’re out of here.” They move everything out, like all the complex chemicals that have been made, the anthocyanins in the Cabernet leaves, and the carbohydrates in storage. They break those things down and move them out, and the natural color of the leaf of Cabernet, when it starts to atrophy, is to turn yellow. It only turns red if it has a virus, and it doesn’t allow it to move the anthocyanin out.

So I said, “You know, Mike, I think that we might look at the fact that this fruit is all kind of stacked up. Not all of it sees sunlight. We see some pink berries in there, and they taste less ripe, and they taste sort of herbaceous.” And I would walk through the vineyard with a little old-fashioned refractometer. I’d squeeze a berry on there. It’d say like “nineteen sugar,” and I’d pick another berry, and I would notice it came off really easily, and I’d squeeze it on there and it says, “twenty-four,” and I’d go, “Well that’s a pretty large difference,” and then associating that tastes good and this doesn’t taste so good. So we said, “Well, okay, let’s open canopies a little bit.” So it wasn’t like a bolt of lightning; it was more sort of, if the winemakers are thinking that these are kind of herbaceous, and we can taste it in the grapes, then we ought to be able to do something with the grapes. So you know, these little kind of observations would hit and I’d go hmm, I think that’s the process. That’s the process. You find all these things that aren’t quite right and you chase them out.

And then probably one of the great ahas for me was that, these unripe, lower ripeness berries had very immature seeds, and the riper berries had very ripe seeds, and I thought, that’s kind of an interesting adaptation, because the grapevine wants to make more grapevines, and it can’t move, so, what’s moving the seeds are the birds and the squirrels. And the birds and the squirrels only eat the ripe berries where the seeds are ripe; they go off and deposit the seeds somewhere else. Yeah, these guys know what’s ripe and what’s not ripe. Maybe we could figure that out, and then the whole concept of getting it more uniformly ripe. And so we made some real progress, and the winemaker’s thinking, hey, this fruit’s getting better. And basically what we were doing is changing the way it was presented, more uniform sunlight, and fruit so it wasn’t all balled up and stacked up so that ones inside were pink and underripe. But when we harvest them, they all go together.

03-00:31:49

Meeker:

Grapevines are by definition pretty unruly. You have to train them and you have to trellis them and you have to prune them. How do you take an unruly plant, in a natural environment, and bring some consistency so that you get much more uniform sunlight exposure for the fruit? What is the process of learning how to do that?

03-00:32:17

Freese:

So there’s that process, which I think is really one of the cores of the concept of winegrowing. But the other one is that, if you look out in the wild,



grapevines, essentially they'll grow up as long as they can, and when they no longer have anything to support them with the tendrils, then the shoots fall over, and the vine says, "Okay, well I'm pretty much done with that; let's get on with ripening the fruit." And vines will continue to do that year on year on year until they've grown up and over, and I've seen photographs where they've, some of these wild grapevines, have completely occupied the entire tree, to the point where the grapevine is shading out the tree, and eventually, all that's left is the dead skeleton, and the grapevine is now occupying this. So, the process then was to say, "Okay, if our real goal here is to distill it down to a nugget, it's to get the most uniformly ripe fruit we possibly can." So I used to go, "Okay, now, am I going to do that within a single cluster of grapes? Am I going to do that on a single vine? Am I going to do that on a whole vineyard, or a section of a vineyard?" And that question was actually the running theme of a lot of other things, like, why do you do soil analysis, and, it's for nutrition, but it's also to try to get uniformity, and so we designed blocks and vineyard size and shape, aspect, water-holding capacity. A lot of these physical things that we do when we're looking at new sites are really, in the planning stage, meant to try to achieve a sense of uniformity in the final product, in the grapes that go into the wines.

Now, at that point, I would also have to say that, that wasn't a universally accepted idea, because a lot of winemakers said, "Well look, we're looking for a blend of characters. We're looking for a richer character, and if we get it too uniform, are we going to lose that uniqueness and the site expression, and so forth?" So I remember having a lot of discussions, some formal, some not so formal, about that, actually spending some time—some of the talks I would give over at the university, or when I would sometimes be invited someplace to talk about things—and then, there would be this real strong pushback from some people, and other people are going, "Yeah, that's the way to go." So my basic kind of reconciling of that dilemma was, to the winemaker, "Let us give you the most uniform harvest units that we can give you. So if you have a five-ton tank, a ten-ton, a twenty-ton tank, let us give you the most uniform fruit that we can possibly give you for that what I call harvest unit. That's what you're going to make wine out of. And it's a little bit, I'd say it's a little bit like walking into an art supply store and saying, 'I want to paint a landscape.' You don't buy one bucket of paint that's called 'Landscape.' You buy lots of different colors, and then you blend those to paint your landscape, your sunset, your sunrise, your horizon, whatever you have. So, let us do that with the grapes, so we'll give you harvest units, and then you do the blending to get your sunset or sunrise or landscape, however you want it to be presented." It convinced a few people, but some were still holding out. So we said, "Okay, well, you make our job easy. We don't have to do all this extra work." Eventually, they all came around.

03-00:36:52  
Meeker:

With the idea of the canopy management around this particular issue with Cabernet, I'm wondering if you can dig into some of the details, like, when

you were walking down the rows, how did you make decisions about what leaf stays and what leaf goes? How did you determine the relationship between the canopy and fruit? Was it about a matter of proximity? Was it about height? And what was the process of taking this hypothesis, which is, oh, you know, more sun exposure on Cabernet in an even way will potentially get rid of some of these green vegetal flavors that are not the desired savory ones, but are the bell pepper that people usually don't want, and, but what is the relationship then? What does the actual implementation of that idea look like?

03-00:37:57

Freese:

It's a great question, and I think it's a really critical one, because we weren't, in California and North Coast—I would say in the United States, we were working on that leading edge, but we weren't. And some of this goes on into the Mondavi time as well, because this is an evolving sort of thing. You have to think of, the pace was kind of slow because the force was pretty small and feeble. It was just a couple of people, or maybe a few people, and it gained momentum as more wineries really came on board with the winegrowing concept, and then endorsing these concepts about harvest units and focus and so forth.

But, what I want to interject is that there was a fellow you may or may not have heard of, Richard Smart, Dick Smart. He's a Kiwi I think, did a lot of work in Australia, and at academic level, he was working on these very same aspects, and working on ways to say, what's the right amount? He actually came to the US—I can't tell you the time on this—went to work with a guy in New York State, a guy by the name of Nelson Shaulis, S-h-a-u-l-i-s, Nelson Shaulis, who I put up there on that pedestal with the André Tchelistcheffs of the world. Besides, we can come back if we want to on that, but I won't go too far off on that. Anyway, so Nelson Shaulis was not working on *vinifera* grapes at all, Cabernet, Sauvignon Blanc, Chardonnay and so forth; he's working on other grape genus. But, Dick Smart goes there and he's working on issues of canopy and canopy presentation.

Now I want to get specifically to your question. So, various pieces of work are coming together so that we now, in that era, were starting to be able to define in the field exactly what we want to see. So we could do it with a really simple technique that Dick Smart started to use. You could take a welding rod or a steel rod of some sort, and so what he would do is, he would go from the outside of the canopy on one side and parallel to the soil, and he would insert that into the canopy, and every time he hit a leaf, he would call that a contact. So then he would keep going, pushes the first one out of the way, comes to the second one, then so it's two, two leaf layers deep. It hits a third one, and then you get to the center of the canopy and then you keep going, and you go out the other side, and you get two or three on the other side. So what he did, and he called that a—I'm not sure how he came to this complete name, but called it a "point quadrat"—not quadrant, but a point quadrat. And so he was looking

at things like, what determines how much sunlight gets inside the canopy, and then, there are technical pieces: a light bar that has a lot of little sensors along it, and it's say, a meter long, and you place it inside, and you take a reading, and you can tell how much sun is actually getting down to where the grapes are.

So a whole series of tools and techniques were being worked out to try to quantify and coming to this number that, if a leaf doesn't see at least ten percent of the ambient sunlight, then it's just going to bail out. So when it bails out, then it dumps the things that we don't want out on to save them from all this investment that it's made in creating them, and it turns out that after the color change, after veraison, or softening of the fruit, a lot of those materials go into the grapes, because the grapevine is saying, "I'm trying to get this stuff ready for seeds to be ripe. I have some extra goodies here." It's thinking only about maturing the seed, and then subsequently, maturing the grape so it's attractive to the bird or the squirrel or whatever. No concept whatsoever of fermentation and so forth; it's just propagation. It's reproduction. "How am I going to get the maximum number of seeds out there and get them distributed as broadly as possible? And I want those seeds to be as ripe as possible."

So, the birds didn't eat the pink berries; they only eat the ripe ones. So, through this work that was going on then, New Zealand, Australia, academic environments, people are starting to understand that, if you have a really dense canopy, it doesn't work for you; it works against you. Also, a dense canopy is a prime place for diseases to get going, because if you look at ambient temperature for example, and you have one of these canopies that's open and presented by getting the shoots so they're not too close together, and getting the leaves so they're not too dense, getting the fruit so it's not too stacked up. Those are also canopies where air moves through them fairly easily, and at some time of the day, during the course of the day, so and up to sundown, every leaf and every cluster of grapes sees some sunlight. The fruit doesn't spend a lot of time in really intense sunlight. Talking about this recent heat storm we had, people fried fruit because they were accustomed to opening it to a lot of sun exposure, and that really is a negative, because it's a negative impact on weight, fruit composition, wines, and so forth. So we're starting to understand this sort of diurnal swing and what we need during the course of the day, and then making this linkage back to the wines, and we're starting to have technical meetings that are addressing these issues, and the whole thing of, people are building the technical foundation for winegrowing, how to get the right characters that you're looking for.

03-00:45:26  
Meeker:

When you were walking through the vineyards, were you using that methodology of putting a stake in or a stick in to determine how many leaves you're hitting, and then using that as the guideline upon which how much culling of leaves you're going to do?

03-00:45:44  
Freese:

Yeah, it's a good tool. It's maybe not an iron-clad tool; it's a good tool. You have to do a number of these, okay, but, once you've used it, you can basically throw it away. You say, "Okay, I know what that looks like now," and that's the whole point. We would do kind of quote "classes." We'd get together sometimes with the labor teams and so we would do this, and you'd say, "Okay, we want an average of no more than two contacts as we get to the fruit zone, and here's a way to get that." And then we go back through the full growing season, from pruning—well, back up all the way—developing a vine, so the spacing between the buds that were going to produce the shoots is the appropriate spacing. Now that's a real mission, when you plant a young vine, to get it to come up with the right, people would call it vigor, but it's the right capacity to grow, so that those internodes, when you're forming that vine, are not too short, and not too long. If they're too long, you don't have enough bearing units per acre to produce a sufficient amount of fruit to make it make sense. If they're too close, then you get this dense canopy which confounds all the winegrowing principles.

So, it comes all the way back to seeing a piece of soil, trying to define uniformity, as a uniform, as much as you can get in our soils; make the right selection of plant materials, rootstock, and clone variety, and so forth; planting in the right density so there's some competition but not too much; and, developing in the right way, that is, pushing it a little bit with water, but not too much, a little bit with nutrition but not too much, so you get this vine to come up and train it so that the spacing is correct. Now that's rocket science, okay? And we don't have a lot of tools that help us do that. So, I mean even today, we don't have the tools. People go out there and they'll look at your soil, and they'll tell you, "Okay, this is the capacity of that soil." You know, chances of getting it perfect are pretty slim, and you have some other things that you can do along the way, but those are setting up so that then the vine is in the correct configuration and density, and then, during the growing season—so we prune it correctly in the spring when there are a lot of latent buds on this structure, and they all want to grow as well, then going through, and the French call it a "green pruning": you break off the ones just by hand that you don't want, so just the one or two at each position that you want, and then making sure that, if that vine is growing too vigorously, it makes large leaves.

When you do this whole calculation about spacing and rootstock and distance between buds and so forth, you make an assumption about how large the leaves are. Now in Cabernet, the leaves are fairly small and they're kind of open. And so we can put more shoots in a running meter with Cabernet, and the clusters are fairly small to moderate. We can put more shoots, or bearing points, along the wire with Cabernet than we can with, for example, Syrah, that has huge leaves, or Merlot, if it's in a vigorous situation, has huge leaves, then, and so, very quickly the leaves get too dense, and the canopy gets too dense. So it's a whole cycle. So you go all the way back to the development,

annual management, the pruning, everything else, and then we spend the rest of our career with that vineyard either doing one of two things: either trying to fix stuff that we missed, or basking in the glow of, “Isn’t this beautiful? It just does exactly what it’s supposed to do.” And, the ratio of, “Isn’t this beautiful?” is a relatively low frequency in most cases, yeah.

03-00:50:39

Meeker:

So these five years when you were at CalPlans, clearly, you’re really starting to make some progress on this canopy management question, and about ambient sunlight getting in to the fruit. Is this also happening with all the other facets that you’ve referred to, the spacing, the trellising, the rootstock, the clonal material, you name it, the whole viticultural practice? Are there—

03-00:51:20

Freese:

In that time frame, we were a bit limited, because people didn’t really understand how these relationships all worked. Grape growers were like, plant a vineyard, get it up the stake, get it trained, the objective is to make fruit, right? Particularly the hot topic at that time was, it was the limited partnerships and the investors who were coming in, and we were also limited because we were basically working with two rootstocks, AxR number one, which eventually declined to phylloxera, and with the old sort of tried-and-true St. George, or Rupestris St. George. And those were both, I would call them, pretty strong stocks. They grew very, very strongly. Now, I will make a point here that California is probably where it is today in the wine world because, and I’m saying this is a positive, because of AxR, AxR number one. When it declined to phylloxera—and this is a little bit of a side trip.

03-00:52:50

Meeker:

This was in the nineties, right, or—

03-00:52:51

Freese:

Yes, right. When it declined to phylloxera, people were really quick to say, “UC really let us down on this one. They recommended this rootstock.” And, it clearly had a weak point. I said, “Okay, well let’s go back and read the literature.” So you go back and read the literature, that was in the forties and fifties, and they said, “AxR is a great rootstock for production, and it’s easy to graft, easy to grow—it’s very forgiving and very pliable, very plastic, work a crowd, a lot of areas—with the caution that it has *vinifera* in it, and that we expect it at some point will decline to phylloxera.” Now people have an ability to selectively view what they want to view, but the warning was clearly there. Nobody stood up and said, “Look, I’m going to beat you in the head with a stick if you plant phylloxera, or you plant AxR because of this phylloxera problem.” The nurseries go, “This is crazy, man! We can just take any cuttings and just stick them in the ground, and they root, and they grow, and we can put a graft on there.” Easy to graft, they grow almost anywhere, and it makes you look brilliant, because two to three years later, you have this big, productive grapevine. It’s growing really strongly, doing all the things that we then realized we didn’t want to do for premium wines, but it did the things

that were deemed a success at the time, of being big, strong, and quick, and productive, and it was a gem.

So we were working with AxR, trying go down this avenue of controlled vegetative growth and channel it and get it focused in the right way, or with St. George, which people always associated with being drought tolerant, and you could put that in places where other rootstock, like AxR, was deemed not to be good because it wasn't tolerant to drought conditions, or rocks, and so forth. I have no idea where that got started, but it was a complete load of bullshit, because St. George is not particularly drought tolerant. It can be invasive, get its roots out, but it's kind of wimpy when it comes to drought tolerance. The only reason that it appeared to be drought tolerant is because it would get its roots down fairly deeply and fairly quickly. So it has a real aggressive, or more aggressive, I should say, approach or, what do they call it, of attack angle into the soil.

So we're working at this period of time also with these, I'll call them maybe myths, and impediments. Anyway, a very vigorous rootstock: you put St. George in deep valley soils and it's a tree; you put AxR on the same soil, it's a tree. So we're trying to go "whoa" with respect to wine quality, and grape growers and investment companies and so forth are going, "Go; we want quick; get them up and running." So then there were these tensions, and the literature in the scientific research and so forth is starting to tease apart, okay, how are you actually going to design these vineyards in the future to get—if your objective is to grow a lot of grapes? When you're in a price tier market where you're not going to get rewarded for all these other things, then you know, push on it and go.

03-00:56:50

Meeker:

I'm curious about the state of the circulation of research-based knowledge at this point in time. Were you mostly getting this through reading? Was it through interactions on a face-to-face basis? Were you going to conferences? Or all the above?

03-00:57:09

Freese:

Yeah. So, some of this work that I'm talking about is actually ahead of the CalPlans time, I mean, it's the extension of maybe not so much the work, but sort of the curiosity that's—I would say that the CalPlans work is making observations, sort of saying "what if," but not really having resources to do a lot of the work, other than kind of the practical stuff, where we'd go in and these discussions I would have about, if the fruit's all stacked up like that, it's probably not going to make the best wine and the color is poor, and winemakers don't like it because of these characters. But the real kind of putting the foundation under it was starting to occur in that sort of eighties, and then when I went to Mondavi, and what we did is started that—I think Zelma probably referred to it as well—this North Coast Viticultural Research Group, and that was fabulous, because the axiom that you can use is, research

shoots where money aims, and that's exactly what we did. We said, "Okay, this small working group. We're going to, basically, each of us, each of our organizations, we're going to contribute a certain amount of money. We're going to have a pot of money and we're going to go to Davis, and we're going to say to the guys at Davis, 'Here are the issues we want to work on, and, we have money to do research.' Furthermore," we said, "look, this amount of money that we have, it's really in the class of seed money."

So what we wanted to do is how research classically works, is, you get funded once you have a really good idea that has some proof of concept. And they didn't have, in many cases, they didn't have money on the side to develop some of these new ideas that we were talking about, and the concepts. So we said, "Here's the idea of this North Coast Vit Research Group, is, we're going to put the fuse in the firecracker, and we're going to fund it, and when you get results"—we had two requirements: one is, the group hears about it first, and secondly, that it get published. So the quality of the work has to be as a trial-related, scientifically and statistically valid project, and that then will allow you to take off, as a researcher, to take off and get other funding. And boy, they jumped on that really strongly.

03-01:00:19

Meeker:

Well, I don't want to get to that quite yet, because I know that's in the context of your work at Mondavi. I've one more question about these early years at CalPlans, and that is drawing the linkages between what you're doing in the vineyard, and—I can see that what you're doing in the vineyard, you could have immediate access to results simply by observing and tasting the fruit. You had mentioned the green versus ripe seeds, and you can do that throughout the growing season at harvest, to determine if your experiment in the vineyard is actually paying off. But then what about the next step, which is translation of that fruit into the wines? Were you given access to the wines that these, I guess, eleven producers were making? Were you starting to notice any differences in the results of the fermented juice, that you could conceivably tie to the work that you were doing in the vineyard?

03-01:01:35

Freese:

Yeah, that was one of the things that I said to Mike, and then I said to all the wineries that we were working with, when I sort of got this wad of keys, I said, "Okay, this is an empowerment project." So, I went and I said, "Okay, I'm"—the South Africans called it 2IC, second in command. And I said, "I'm no longer 2IC; I am number one now, and I'm the contact for communications, and for feedback, and the conduit for the business of what we're doing, but also, we're going to add another component to it, is, I want to come in and ideally, taste wines with you guys before they're blended away, so they're still as individual units, so we can start to tie back." Whether they knew or did not know what we were doing in the individual wineries, with wineries and winemakers, whether they knew or did not know what we were up to in the vineyards—you know we were trying to introduce them to it all

the time, but when I started going and sort of, I'd say, "Okay, this is kind of the experience now. Did we hit our target?"

And it was a pretty straightforward discussions. Some of them were not so much fun. They go, "This just isn't working, you know. It's like"—and then I'd say, "Okay, here's what we're going to do next year." And they were going, "I know, but it has to improve," and then so we would tinker with stuff, and they'd go, "Hey, this is looking better." So we'd start to see a trend going on, that was the reward. But you know, like you get organizations and they take—it takes awhile to turn the *Queen Mary*, but I think we really started to make some real impact on people in the wines.

03-01:03:34

Meeker:

You know, but I just, I just think there's got to be this amazing gulf between cause and effect, and there could be so many factors involved, and you could be doing the right thing in a vineyard, and then, you know—

03-01:03:50

Freese:

You get a heat storm, or it rains, or—

03-01:03:51

Meeker:

—you get a heat storm, storm, or something weird happens in the cellar, and then you end up, you taste the fruit, and it's not having the anticipated impact. How are you adjudicating in determining what the real cause and effect is going on here? Because it's also, winemaking is hard. It's slow. It's once a year. It's not like you can go back in the lab and repeat this ten days later or whenever.

03-01:04:26

Freese:

So, in life, people think about life sometimes as experiments. In fact, one of the things I learned from Nelson Shaulis, he told me that "there's a discrete difference in life," meaning experiments and experiences. And so, he's a super rigorous guy, and he would say, "That's not an experiment, because you didn't have all these controls and so forth. That's an experience." And he said, "But that's okay, because we learn from experience." So he'd be super rigorous, and then he'd have this kind of grandfatherly sort of pat on the back and say, "It's okay, okay? It's all right."

So, what we would do is, we would say, "Look, there's no way to control this as an experiment." So I said, "What we'll do is, when we can do it, or the winery thought they could keep them separate, we might do two or three different treatments." Maybe it's the same thing, but one's more severe than the other, or, the rows are a different orientation, or, there's something slightly different, or they would say, "Look, that's a large block. I want you to do half of it this way and half of it that way, and then we'll see, is there a difference?" We often times like to look at things as absolutes, it's better or worse or no change, but, sometimes that's difficult, particularly as you're talking about vintage differences. So we would try to do two things: sometimes we'd call



one a control, kind of using experiment language, and the other, a treatment. And sometimes, we'd just do two levels of a treatment, and we'd say, "Look, I'm so convinced this is going to work, I don't want to repeat something that we already know doesn't make good wine." So agricultural guys are—it can be snake oil, or it can be pure science, but you say, "Hey, this is going to make a better product," they'll never do the untreated part. They say, "Well, if it's going to work, I want to do everything!"

So, yeah, we wrestled with those things, and then we'd say, "Okay, we're going to do this a number of years; let's just keep doing the same thing in the same part of the vineyard block, and do we see a consistency, or, have we learned something that we can say, 'Well, treatment one and treatment two aren't that big a difference; let's do treatment one, but treatment two is more severe, or more aggressive, or something like that?'" And it was every combination of, just asking the question, relatively. You know, I said, "I learned a working definition of success, and it has to do with making significant progress, or recognizable progress, toward a worthwhile goal. It doesn't mean you got it; it just means you're making progress."

And so we would do that, and a lot of it was just sitting around. We'd taste the wines, and we'd go back and forth, and they'd say, "Okay, well here's your neighbor over here who's growing Cabernet as well, and we like some of the characters we've got there," and then, "What's the difference in the site?" And we'd say, "Well, it's more gravel," or, "He's done this or he's done that." We'd go look at it, say, "Okay, let's"—so we're just like, [blows air] sucking everything in to it we could, and not necessarily being quote "scientific" about it, but it was more of saying, "Okay, well let's just keep learning. We'll just throw it against the wall, see if it works."

03-01:08:14  
Meeker:

Because at CalPlans, you had eleven clients who were purchasing your grapes, were there ever any instances of, in essence, experiments or new experiences that you were interested in providing to the grapes, that the client said, "No, no, no, no, we're not going to do that; we're too worried that that will negatively impact the fruit matter that we're getting"?

03-01:08:45  
Freese:

I would say probably if there's one, that's universal, and probably still one today, it is water. Everybody's under the impression that grapevines need to be irrigated, and in fact, I started to look around, and I go, "Look, I came into this industry when PVC pipe and drip irrigation were—I mean, PVC pipe had been around, but drip irrigation was relatively new." We had a system in Wooden Valley that was state of the art at the time, but it had its weak spots, and I thought, it must have always been this way. And then I started to kind of get out of my world and I go, oh man, there are a lot of people still growing vineyards, particularly in Sonoma, Sonoma County. Where's the drip pipe? Where are the sprinklers? How do they do this? And you go, well, eighty-

year-old vines, and they only had water probably when they were planted as little babies, eighty years ago. But, there's a human axiom, is, if you have a hammer, everything looks like a nail, and that's what I came to understand about irrigation. If people have it, they're going to use it, so.

So I would say that, if there's one thing that probably was a key focus, it was, the winemakers automatically assume if you irrigate vineyards, you're destroying the wines, it's diluted, whatever; grape growers automatically assume if you don't irrigate, the vineyard's going to die. There's some place in the middle, obviously. And, one of the things that I've attempted to do is to try to define or to come to some definition of what that middle ground actually looks like, and so we have some tools that we use today, but probably most importantly—and this will link back to this idea of developing vineyards—is, most importantly I think, is the concept about, grapevines really grow through a vegetative phase every year. The buds burst; they start to grow, and the whole mission of that grapevine is to develop a sufficient amount of canopy to ripen the seeds that it's going to produce.

And so, one of the things I tried to undertake to do is to define, well, what's a sufficient amount of canopy? What's an adequate amount of canopy for the vine to do what it needs to do? And it turns out, it's about four or four and a half feet of length of shoots, if they're normal length shoots. If it's very vegetative, the internodes get very long, and so you get very long shoots. But the idea is, people were starting to determine how much leaf area you need, if tediously, you go out and measure leaves, and fruit, and you know, when is it too little leaf area to ripen the fruit? And, it turns out that grapevines are pretty efficient and pretty effective. You don't need a massive amount of leaf area, but that leaf area needs to be exposed to some sunlight during the course of the day. So it goes back to this canopy work. So it's not only in the character, but it's also in the sort of size of those canopies.

And what I'm starting to do is to try to kind of paint a picture of, you can start to kind of close in with a lot of these things that we're talking about. You can start to then say, "Okay, I have more than one point where I can define success, so it's going to be canopy length. It's going to be things like leaf area. It's going to be things like, and then shoot density." How, in Cabernet, as I said, you can have the shoots fairly close together, but in Syrah, the leaves are so big, or Merlot, in a vegetative situation, the leaves are so large, if you don't have the shoots separated, then they get dense. And then we're going to look at when you hit, so now the concept is timing, as well. So it's not just the physical presentation, but it's when, in this arc of growth, from bud burst to full ripeness and going back into dormancy, does each of these steps happen? So it's a time function in there as well, so then we know. We can start to add to the tools. When do we need to have a four or four and a half foot long shoot? When do we need that to slow down and stop growing, and what are the tools that we have to either get it there, or to cause it not to grow any

larger or longer than it needs to? Because if it gets larger, the canopy gets too dense, and then we get the canopy so it doesn't get enough sunlight inside it.

So now we're working with what I call getting the right effect at the right time, or the right severity. So, another concept is this one of severity. It's like, when people think about opening canopies, they would get so, if a little is good, more is better. And you go, "No, no, no, no. There's a right exact right amount, and there's a right time to do it, to get the effect." And so, these concepts are again, they're all kind of coming together in this time frame. So you could see, it's a lot of stuff, because grape growers are prune it, push it, get the canopy, keep the water on it, pick it, deliver it, you know, go fishing, go hunting, do whatever. And so, now, wineries are starting to go, "Whoa, whoa, wait a minute. We don't want it to grow too long, and not stop too early, and get"—so the wineries are starting to pick up on this as well.

But shortfall in my mind is still, and has been, or it was at that time, that there weren't very many people doing what I was doing. And then you see, Simi hired Diane Kenworthy to do that. I'm trying to think of some other people, some of the winemakers at the wineries who were part of this North Coast Vit Tech Group. The winemakers are trying to fill part of that function by going to their vineyard managers, or to their growers, and saying, "Okay, we need you to do this." They didn't really have the time to do that. So, today, quite frankly, I've lost track of some of the people who were out there, but I think there's a lot better understanding of it, particularly in Napa. I mean, Napa is a one of a kind.

I may have said this before, but I still belong to a technical group that I helped start there, and they meet once a month outside of the vintage, at harvest time. And it's gone from a group of like, five or six of us meeting in the Napa County ag commissioner's office, to, typical group now is probably fifty to seventy-five people. And what I say is, you could go in there on any given day, and you could stand in the middle of the room, and you could throw a baseball, and you're going to hit somebody who has at least a bachelor's degree in something, often times a master's, and sometimes even a PhD degree in soil sciences or something to do with vine physiology or pest, disease control. I mean, it's a very sophisticated group of growers in general who are in an area like Napa Valley, more so than any other area I've ever seen anywhere I've been. It's a technologically very, very adept group. But anyway, so there are, I mean, there are more people doing this concept of understanding timing and severity to get to the end product, so it's—

03-01:17:56

Meeker:

So, I think I have one question left for today, and we'll pick up there. I'm sorry that I'm going to have to leave a little before I want to, but a little worry about my schedule. [laughs] Relatively recently, so somewhat later in my life, I started playing around with making music, and I've always loved music, but I think the way in which I always appreciated it was a gestalt, sort of, how did

it make me feel? I didn't really pay attention to the constituent of parts of a song. Once I started making it, and it's electronic, right, and multiple tracks, and so you'd pay attention to how each particular piece fits together in the whole—

03-01:18:42

Freese: The complexification of life, yeah.

03-01:18:43

Meeker: —the complexity. So, during this period of time, I'm wondering, did you start tasting wine differently?

03-01:18:53

Freese: Definitely. To me, there're two strong components of wine, and particularly the way I look at it is—I do it still today. When I pick up a wine, whether I'm doing it with my clients, or whether I'm doing it we're out at a restaurant, and I try not to be verbal about this, but the first thing I look for is freedom from defects. Okay, so if you look at a classic definition of quality, it has two main components: The first one is freedom from defects. Early days, I mean, California has made strides, the world wine production community has made significant strides in elimination of defects. So you essentially, unless there's a cork problem, you don't see defects in wines, commercially. You just don't see them today. The second one is what I call the classic definition of quality, is the, I want to say expression of style. There's another term I use for it sometimes. Oh, elements of style, basically, is what I would call it. What are the elements of style and expression of the style? And then, within that, you can have this broad range of success or failure, and that's really, has the wine growing, wine production, finishing the wine, achieved the elements of style to tell the story about what they're doing?

Sometimes I think, with winemaking, it's really inherently simple. You just do what you need to do and stop before you do too much. And probably with music, knowing—and I look at modern art. We walked in the National Gallery, and [laughs] one time, here's this humongous canvas of Koons, and I'm looking at it and I'm going, I don't have a clue about what he's doing, but my question was, how did he know when he was finished? He obviously knew when there was enough on the canvas. And so, you know, it's like saying, "I'm going to give you directions to my house, and you turn left at the next to the last stoplight." And you go, "Well, what good is that? How do I know, unless I've gone too far?"

And that's the whole thing I think about experience, in anything, but applying it to winemaking and winegrowing is doing just enough but not too much; not too little, not too much. It's timing and severity again. And we want to take off just the right amount of leaves, so I'm walking yesterday with one of my clients, and I'm saying, "You know, I've been on this particular vineyard, and I think we're a little too much exposure, and it's like, I think that bell has rung. Really, there's too much exposure here." Winemaker said, "Okay, I've

got it; you know, you've been saying that for a couple years." He said, "Okay." I said, "All right, let's check that off. Let's check that box. Let's not do that again." You just build experience, you know, and I don't know specifically by doing measurements. I just look at it and I say, "Oh, I know if this is in the right arena or not." And I just said, "You know, it's just it's too much."

03-01:22:39

Meeker:

Was there a point in your just enjoying wine or maybe even contemplating wine as tasting it, that all of a sudden, you started to be able to discern the relationship between maybe things that could have been happening in the vineyard, and things you were getting in the wine? So, you would pick up the wine, you'd be like, "Oh, there's perhaps there's too much canopy, or not enough canopy," or, "They didn't manage the irrigation appropriately in this." I mean, you don't know for sure, but you have those suspicions about it.

03-01:23:18

Freese:

Questions pop up. Was this a little too stressed in the last part of ripening? Was it the season? Was it management? Was it too much exposure, too much water stress? That's what I do, so it comes up all the time. Now, when I'm sitting—

03-01:23:37

Meeker:

Well when do you think you first started being able to do that?

03-01:23:43

Freese:

I think it was back in those formative years in with the CalPlans days, because I'd go in and sit down and taste the wines with the winemakers, and I'm really the lab rat in real life, and I'm going to the winemaker, "Why does this taste like—why does it smell like, taste like this?" And I'd say, "Is that coming from the grapes? Was it too ripe? Did we pick it too early? Is it not uniform?" And sometimes, they will go, "Well, the fermentation got hot. It got too hot for us. We didn't control the cap temperature correctly. I think we've got that under control." I said, "Kind of wipes out the experience here." Other times, we'd come to another conclusion. Let me put it in the positive way than a negative way: I never felt they were game-playing there. It wasn't like, I'm going to tell them something to—maybe we can get a better price, or we can do something. It was always very straightforward, and we'd walk out, sometimes we'd go, "You know, I think we got some real ahas here today," or, "We've raised some questions and we don't have answers to them, but what can we do next?"

By that time, we were getting ready to prune. I would go to the vineyard managers and I'd go, "Look, okay, let's do this. Okay, let's lay out a plan. The vineyards need to be more ordered in their canopy, because their canopy falls down over each other and they get too dense. Shoot density's correct, leaf sizes are correct, think we've got the irrigation pretty close, but we're not rigorous enough about separating and opening up the canopy. How are we

going to do that?” And then we come up with, I’d say, “Okay, here’s the problem. I don’t know what the solution is, but let’s figure it out,” and we’d do goofy things sometimes. We’d reach in on the top and pull out some leaves, sometimes we’d go inside, and always give them names. We’d say, “Okay, we’re in a tunnel,” so we’d go in, like the fruit, and we’d do a tunnel; or, “We’re going to do an over-the-top, Hail Mary kind of thing where we’d pull leaves along the top of the canopy.” So you know, kind of give it shorthand names and so forth. And some of the clients still use those, so. “Quick and dirty,” I’d say. “Okay, we’re doing a quick and dirty here”—okay, so we’d go quickly, because we needed to do a real fast thing, but it doesn’t have to be very precise—“so let’s not be overly precise where we don’t need to be.”

03-01:26:21

Meeker:

As this five-year period was beginning to elapse, did you feel confident that your original plan was worth executing, and that it was time to move to a winery?

03-01:26:36

Freese:

Yeah, for two reasons. There were two powerful reasons. That one, but I also said that, with Mike, with Mike Walsh, his job was killing him. He had moved to Oakland, or Oakland Hills, bought a house, got married to a woman who was the CFO in the same business. They had a daughter. He was working crazy hours. He was constantly having migraines, and trying to push a very big boulder up a very steep hill. It was some things that were never going to work, and he would come up for these visits, and I’d say Mike, “You’re killing yourself.” His marriage was falling apart, and his daughter, had a good relationship with his daughter, I think, that he still really has. And I said, “You’re killing yourself.” And one day, he said to me—this was about year four or four and a half, something like that—he said, “Yeah,” he said, “I realized that.” He said, “I realized it when I relax too much, I get these headaches; if I work too much, I get these headaches.” He said, “There’s some kind of stasis in between and it’s hard to find and hard to keep.” And I said, “Your job’s killing you,” and he said, “Yes, but I don’t have an alternative.”

And I said, without thinking about it, said, “You do have an alternative. I’m leaving. Somebody’s going to have to run this business.” And it was a bit of a shock, and he goes, “What are you going to do?” And I said, “Well, I’m going to go to work for a winery,” said, “remember the five-year plan?” And he goes, “Yeah, but you weren’t serious, were you?” I said, “Yeah, I’m deadly serious. I’m out of here at the end of the year.” And he had this approach avoidance kind of thing. I think the thing was, well, yeah, there’s an out for him and the other one is, what’s going to happen when I leave? And then he asked, he said, “Well, who are you talking to? Where are you going to go?” I said, “I don’t have a clue. I’ve got a plan. If I make a plan that I’m leaving at the end of the year, I’ll figure it out.” And he said, “I don’t know whether you’re crazy or what, and then I think that”—and I said, “You’re going to

have to run this business, so, you're going to have to go to Oakland and tell them you're leaving; you're going back to the operations side. So your problem is solved. Mine's solved; I'm on my five-year plan. We're good to go." And after he left, I go, "Shit, now what did I do?" [laughter]

03-01:29:36

Meeker:

I think that's a good spot to end for today, okay, a cliffhanger, if you will.

## Interview 4: September 29, 2017

04-00:00:04

Meeker: Today is Friday, the twenty-ninth of September, 2017. This is Martin Meeker interviewing Phil Freese for the Wine Oral History Project, and this is interview session number four. Right, I got the date, didn't I?

04-00:00:25

Freese: Yes.

04-00:00:26

Meeker: Okay. Yes, the twenty-ninth of September. So, last time, we ended on a cliffhanger, and you told the story about how and why you decided to fulfill your plan of leaving CalPlans after five years and moving to a winery, to practice your craft of winegrowing that you had been developing during that five-year period of time. So, why don't you tell me about the process by which you found the right winery for you to partner up with, and begin to further elaborate this practice called winegrowing?

04-00:01:14

Freese: Yeah, okay, good. It's a good question. Well, one of the things about Mondavi is, while I was at CalPlans for that, the less than five years before I made this commitment to change, the company had been working with a number of different wineries. And during the course of that time, I had an opportunity to talk with, of course, the winemakers, because when Mike Walsh decided he was going to move down to the corporate offices in Oakland, and then I was thrust into this position of, okay, here's this baby, you have to figure out how to work with it, the first thing that I really made a commitment to do at that point was to get to know all the winemakers better, and particularly, to think about what they're wanting to do, their outcome, and how we could play a part in that success.

And as such, it was a great time to work with a lot of winemakers because, maybe we characterize it, it was an interesting time, because a lot of times in that era—these were in the mid to late seventies—people were busy. In this industry, they were busy perfecting their craft or their areas, and people were busy growing grapes and people were making wines. And there was a lot of technical development going on at that time in each of those areas, but there wasn't a lot of crossing over, I would call it, of—and that's what really had intrigued me, when I looked at the wine industry is, I saw these somewhat parallel paths that weren't really communicating with each other, simply because people were so focused on their own tasks.

And so, to your question about wineries, what I was really looking for was a winery that I thought was a, use the term, fertile ground, for building those relationships between the grower and the winemaker. I'm going to just identify the people positions, because the winemakers were so busy in the winery kind of doing the technical stuff of making wine, and you have to



realize, at that time, my impression is, at that time, we were still working with the real possibility of having faults in wines, things that weren't understood, or maybe understood and applied clearly. So in today's world, here as we sit in 2017, we really don't have faulty wines. In the 1970s, I would see that the definition of quality was the classic definition of quality, and that the first one was avoid faults, and then it was elements of style and expression. In today's world, I think we have all the tools and techniques. Things can still go amiss, but basically, today, we're really working with elements of style expression. And the faults are relegated to—you know, we have tools and techniques to detect and deal with, I'm going to say, in the main.

So, that era, one of the things that I was really focused on is, how does a winery, how does a particular winery deal with problems, defects, faults, something going amiss? And the second part of it was, are they then at a position where they can start to then look at elements of style, as I'd call it? So, we all use the same language, but some people have different styles of using it, and they use it other creative ways, and so that's really one of the key things I was really looking at. So, knowing that, when I went to work for a particular winery, I would have a job where I would be working—I wanted to put myself in the middle between the grape grower and the winemaker, those two positions, if not specific people, but those two positions for sure, and then I wanted to see an establishment, an organization, that was good to work with in that sense. And also, the other part, for me, the creative part was, how can we then be working with grapes to create the elements of style and character?

So, I was working with people in these different wineries. I didn't realize it at the time, but it was a multiyear interview process, because we would have rains or heat or stressors of some sort, and crops that are too large for the characters we were looking for, ones that were small and stressful from a financial standpoint, and so it was an opportunity to basically work with people and see how they dealt with those. So, in that process, Mondavi was high on my list because the amount of exposure, the sense that they were in a discovery process all the time as well, and the strong commitment that Mondavi had to, I'm going to call it, research and development. Now, research and development isn't like Dow or Procter and Gamble or something. I mean, it wasn't that formal, even though the commitment was there. Mondavi actually had a research department, and that was unusual in that era. To my basis of knowledge, it was unusual, and, research is research, but for me, research and development, or application, is really what I was looking at.

And so, Mondavi also offered this opportunity to work with their—you know, they were winemaking research primarily, but they were looking also, at some point, at the vineyard influences. So, on lots of bases, this close interaction with the growers, the research department, and commitment, and this general sense of, as I call it sometimes, no rearview mirror—it's like, okay, if something didn't work, we just remember that and don't do it again, but it wasn't a big angst moment in people's lives. It was: Okay, scratch that one

off. Okay, what's next? What's next? What's next? And that sort of, I call it maybe a hungry attitude towards getting better, was probably the real key factor there.

So, when I was looking at wineries, I didn't realize it, but I was doing this informal sort of assessment, and then when the stroke hit me that, as I think I said, that Mike's job in Oakland was killing him, in my mind, and he needed to get out of there and get back to the vineyards, and that's when I said, "By the way, my five years are up; I'm leaving," and I go, "Oh, okay, now what?" But, what I did realize, I guess, I wasn't completely whimsical when I said that, because I realized that I had been in this kind of a flash of an instant, flash of a moment. I realized that I had sort of laid the groundwork for that by what I'd been doing. So, it felt pretty comfortable. I didn't know how it was going to work, but I didn't feel panicked by saying, "I'm resigning at the end of the year."

04-00:09:51  
Meeker:

Well, walk me through that process then, by which you, after you psychologically, mentally say that "I'm leaving," to actually getting the job at Mondavi.

04-00:10:04  
Freese:

Well, that was sort of, I don't remember exact timing, but mid to late in the 1981 season, and 1981 had its own issues of being a very hot season. Once I'd had the conversation with Mike, I said to myself, okay, you need to start making a plan, so, with the winemakers, because I was there quite frequently when the fruit was being delivered, whatever the vineyards were that were harvesting, and I had made the first cut in that I wanted to stay in Napa Valley. Okay, that was my focus point, because I realized, at that time, that everybody outside of California, or outside of the North Coast, when you talk about wine business in California, everybody goes, "Oh, Napa Valley." So Napa Valley was synonymous with California wine industry, and I was seeing that there was a lot of potential for innovation in Napa Valley, and the sense that there was a very highly trained and highly skilled set of people in Napa Valley, not necessarily always in winemaking and technical things. They were historians and mathematicians and physicists, but the hallmark was they, most of these people, had curious minds. And I think it was also in that sense that it was starting to blossom, and I forget how many wineries there were in the 1980s and in Napa Valley, but it was a small number, relatively small number. Now, we're in the, I don't know, 600 or something, greater than that.

But the key was that, the people, and so I started talking with, I started having conversations with Tim Mondavi. Curiously enough, we're watching fruit coming in from the vineyard and being dumped into the receiving hoppers, and kind of having these conversations about the sense of understanding of what the winemakers thought when they saw the fruit come in, because that was, oftentimes, the only time they saw grapes. They weren't in the vineyards.

And so I realized that all we had to do was to clean up a load. So we had a reputation as a company of these spanking clean loads. I mean, if there was a defect in the vineyard, we could get rid of it. By and large, we could deliver fruit that looked spectacular. And so I thought, okay, well, we've got the freedom from defects thing, but I didn't think we were really hitting the quality attribute of elements of style and expression.

And so, Tim was looking at physical quality when we were watching the fruit dump, and I'm going, to myself, we had that nailed, okay; that's not an issue. And he would oftentimes comment, "Yeah, you guys did a really good job." But then we would, after the vintage, we'd usually sit down and go through the wines, and I think we were a little bit unique with our company working with the winery, because I don't think a lot of the wineries, or a lot of the vineyard people, were actually doing it. I think they felt uncomfortable in that environment. And so I was always saying, "Okay, let's taste the wines; let's taste the wines; let's taste the wines," and sometimes, that wasn't as much fun as it would have liked to had been, because they were saying, "Look, we're trying to get Cabernet in this category," and I realize that some of the vineyards that we were working with had been sort of buttonholed as, they're never going to make this top tier, Cabernet, for example. And so, sometimes there weren't a lot of things that we could offer, but we were always trying something in the vineyards to see if we could move it up a notch.

So, I'm singling out Mondavi because it was an environment that I felt like we had good exchange. It wasn't necessarily always as pleasant and as warm and fuzzy as you might like, but it was pretty frank, and it was helpful. So, it was, from some of that history from the previous vintages, that, when we're standing there in the 1981 season, looking at fruit tipping out of these big bins on the back of trucks, that I said to Tim that, at some point, I said, "I'd like to come in and talk with you after the vintage, because I'm anticipating making a change." And he said, "Well, okay, tell me a little bit about it." And so it was a kind of conversation you have, you know, equipment going and forklifts are running around, and he was curious, and I gave him the brief explanation of what I was aiming to do.

And then after harvest, I did; I made an appointment, went in, and sat down with him, and we had a chat, and at the time, I thought, okay, well that was interesting, but I don't know that he's really understanding what I'm saying, or that engaged in it, or maybe I'm not expressing it well, but it seemed to be—eh, I thought, well maybe he's a little distracted, other things are going on. We're finished on the vineyard side but winery's still really buzzing and a lot of stuff going on, but he said, after a brief conversation, he said, "But you know, I'd like to have another discussion on this." And so, I said, "Okay, let's set a date," and we did, and I said, "because I'm busy in this process; the end of the year, I'm doing something different."

So it was fairly soon thereafter that we had another conversation and he said to me, “Well, tell me again what you’re thinking about.” And so, I went through this growers’ research; focus on elements of style; how do we bring the grape growers and the winemakers closer together, building this bridge so that we can actually start to work full season; work on the attributes of elements of style and character expression, so forth; and that we can’t just wait until just before the harvest and say, “Okay, freedom of defects, that’s good quality.” I said, “You know, I went through this.” Afterwards, I’m thinking, it’s kind of like I’m sitting there giving him a little mini lecture on what quality is about, or at least how I saw it, and I thought afterwards, I said, yeah, I might have been a little bit presumptuous. [laughter] But—

04-00:18:02

Meeker:

But in essence, you’re outlining a new role, a new position, that previously didn’t exist at Mondavi, perhaps nowhere else in the Valley either.

04-00:18:13

Freese:

I saw us—just to be a little bit repetitious—I really saw us on these paths where the winemakers would get a new tool or technique, and they would make a jump forward, and then barrels, or different kinds of oxygen incorporation, or tank designs, and crushers and de-stemmers and equipment, and understanding of chemistry a little bit better. And then the growers would be working, on their parallel, they would be working with trellis types, or plant material, or people were starting to get interested in rootstocks. But they were kind of making these kind of, I won’t say quantum leaps, but step-wise advances in improvements, but they were kind of going on parallel tracks. And so I’m saying, “Okay, that’s great, we don’t have to stop that, but we need to hook them together,” because I got fixated on this definition of quality.

And I then became, really, I became very concerned that people would say, “That looks like high quality,” and I would say, “What do you mean? What do you mean when you say it’s high quality or it tastes like good quality? Tell me what that means to you.” And I would find, oftentimes, that there was a fixation at that point on freedom of defects. And I said, “No, we can do freedom from defects; let’s get to work on quality as character expression and so forth.” So, and in today’s world, as I said before, nobody really thinks about it; we can do freedom of defects. [blows air]. We’ll get it. This year, with the 2017 season, we’re dealing with something that’s more difficult, with this heat storm we had, and the raisining, and the effects that came, because people have become so concerned about a defect being low color expression, and or fungal diseases, and now there’s a sense that they have to open the fruit a lot, and get a lot of the sun exposure on it, which I’ve always been a little bit nervous about. Just because some is good, more isn’t always necessarily better.

Well, we were kind of dealing with some of those things to work with defects, but I think the real story was, in the conversations with Tim is, he really, I mean, he got it, whether he understood exactly what I was saying or not. After in the, I think it was the second discussion I had with him, he said, “You know, I have no idea how you’re going to do this, but we need it.” I didn’t realize it, but it was essentially my job interview, for something that he nor I didn’t know how you define it. And so, I subsequently went back in and had another conversation with him, and he basically said, “Tell me when you can start, and how we define—we’re going to have to write a job description, so, figure out a job description.” And you know, and as he says, “We don’t have”—I don’t think the position was necessarily funded—and said, “We’re going to have to figure out a lot of stuff here.” And I said, “Well, January’s the time.” So, we just sort of did a wing-it, and he said, “I have no idea how you’re going to do this, but just go do it.”

04-00:22:12

Meeker:

Do you still have a copy of that job description?

04-00:22:15

Freese:

That’s a good question. I don’t think so. You know, I never really thought about it, be something to go look at, look and see if I have—that’s a great question.

04-00:22:32

Meeker:

Yeah, I’d like to see it, if for some reason you have it. Well, look, can you walk me through then the process of, from first day on the job onward, of, to actually establishing this position? What were the main steps that you took in order to realize, you know, put your plan in action?

04-00:22:57

Freese:

Yeah, okay. So, when I arrived, my first day at work, I don’t think anybody knew I was coming. [laughter] It was a little uncomfortable. I don’t know, you know, I’m going to work in a place that’s my first day. Where do I show up? What do I do? And so, I set up, I had set up an appointment with Tim, and I said, “Well, I’m here to start,” and I think he might’ve been a little surprised, oh, that came quickly, or something like that. And they did have a spot for me; it was a little office. It was down in the corner of the cellar. It was ideal position, because right in the fermentation cellar, right next to where the fruit receiving was coming in, and it was really easy to get to my office for the grape growers, because they didn’t have to go through a carpeted office, and sometimes it’s muddy and dirty, and I’m there, and if there’s a problem going on with fruit receiving, or anything like that, I had this little window. It was like a little takeout window, almost. It only opened about so far. But it was a great location, and it was sort of cellar temperature most of the time. I did manage to get some heat in there eventually. But it was large enough I could have two or three people in the office at the time, and it was not interruptive, and it was a perfect spot.

So, and then, I found out there was another office above it that was a kind of a winemaker's office, and I said, "Okay, well, I need an assistant, and I'd like the space upstairs, as well." So we were literally on top of each other. So, then it was okay, figure out what this job really entails, and I knew that, first of all, I had to get to know all the grape growers, and I had to get to know all the wines that they were making. So what I would do is, I would just schedule. So I got a list of all the grape growers and contact numbers for them, and I just undertook going around and introducing myself. I said, "I'm the new kid on the block, and here's what we're going to do." And part of that was, "My mission is, I want to get the winemakers out in the vineyard, and I want them to understand the growing cycle." Because oftentimes, and I saw this with Tim as well, is that they would come in to a vineyard, the winemakers would come in to a vineyard, fairly late in the season, and they would see something that they didn't like, and it was something that, to be addressed properly, would've needed to be addressed at pruning time, or at first suckering time.

And so I said, "Okay, what we want to do is make sure everybody understands the timeline of operations, in order to what you have to do, and in what time you have to do it," and then the other thing I added is what severity. So if you're going to prune a certain way, obviously, you have the discussions and set the objectives before you prune, and that would be our timing, but it would be also a mission, what we were trying to achieve, and we'd keep some notes on that so we could say, "Did we achieve that?" But we would have to have those discussions enough in advance of the operations so that the guys in the vineyard could actually execute it. They couldn't wait to prune until a convenient time from the winery side.

So I'm working on timelines and, at that time, what I really had started to understand—so this is one of the components, one of the things that I really started to understand—that the grapevines are really on their own schedule. And the schedule is particularly dominated by the environment, in the sense that, once the environment is—the basis is, in California, winter rainfalls and cold enough temperatures that vines go dormant, drop all their leaves, go to sleep. They go in their resting period; they put down reserves from the previous season into the right places, getting ready for that launch next year of the growing points. And that, the timing of that budding, and the beginning of growth, those early stages of growth, are really dependent on what the ambient temperature is. But the big aha, as I looked at this, is that, once we get to a certain stage in the season, essentially, temperature is not a major driver. That is, that we have sufficient amount of heat to keep the process running at nearly full speed, so that once we hit a certain time—and I figured out that that was at bloom time—at flowering, we had sufficient heat. I would call, it was saturated for heat.

So more heat didn't really help us, unless it went so hot that it dehydrated the grapes. But that, there was a very regular time frame from flowering to color change, veraison, softening of the fruit, to ripening, and that if we kept really

good records, I could—and I was reading the French literature as well, and as well as some work out of Australia that was going on—is that there was the perception in the mind of people in the wine industry, in pretty much the world, that when harvest is going to be is pretty much a wild and crazy shot; we don't know. And I got to the point where I said, "Once I see flowering, I can tell you when we're going to harvest." And everybody thought that was nuts and wacky, until the winemakers started to figure out that I could tell them when we had two weeks before harvest, or four weeks before harvest; I could give them a pretty accurate date. And then they'd go, "Wait a minute. We could be finished bottling, and we could get employees on board."

And so, then it got to be the point that, we backed all the way up to what probably was the most critical piece of information about harvest, and that was: At Mondavi every year, there was a blessing of the grapes, and the blessing of the grapes was a social, business news function, and so we had to have a load of grapes that was going to be at the receiving hopper on a particular day at a particular time. And the great mission for me was, in June, to figure out when that day was going to be in September.

04-00:30:57

Meeker:

So you had to basically work with their PR program, in order to basically guarantee that there was going to—

04-00:31:03

Freese:

Right.

04-00:31:03

Meeker:

—be some great material there.

04-00:31:04

Freese:

So the priest is going to be in town, all the media people; they want to know months in advance when this event's going to be. The vineyard room had to have a lunch for, I don't know, what, 150 people. Parking lot had to be cleared; everything had to be cleaned, everybody. The grower had to be scheduled so that he was going to have a load of grapes on that particular day. And this got to be [laughs] a great consumer of time and energy, because it was, well, "That's not a good date. The priest isn't going to be in town." And I'd say, "Well, the objective is to harvest the grapes when they're ready. If the priest isn't around, you need plan B." And they go, "No, no, no, that—you don't get this; they don't understand. This priest has been doing this for the last thirty-five years. He was here for the first crushing of grapes at Mondavi Winery. We've got to work with his schedule." And I said, "Well, you know, the vines aren't very plastic; we can't push them around on." Anyway, so, this, that's just an auxiliary use of this knowledge of the sequence that—or the phenology of the grapevine.

So, working with the growers, working with the winemakers, so I'm in the field introducing myself, talking about what I want to see happen, listening to

them and saying, “Okay, what are your biggest issues you have?” So I’m doing an issues list, the wines, I’d say with the winemakers, and they were always doing kind of progress checks on wines. So, it’d be Chardonnays, or Sauvignon Blancs, or Cabernets, and so I said, “I want to know your tasting schedule,” because you go up in the tasting area outside of the laboratory, and there would be a hundred glasses of Chardonnay, each with a number on it. And so I’d get a copy of the sheet and I’d go through, and so I got to the point where I would say, “Okay, so I’m sorting through them.” I’m thinking: Okay, here’s what the grower thinks the issue is. Here’s what the winery side issue is. How’re we going to bridge that gap and close it?

Mondavi had a fairly large winemaking staff, some more technical, some more broader in scope. So what I achieved, wanted to do, was to find, get the guy in charge that I could work with that was empathetic with the issues of the grower and the wine characters that we’re looking for, and that actually had some time that he could spend doing that.

04-00:34:12

Meeker:

Who was that person, typically?

04-00:34:13

Freese:

That was a fellow by name of Bob Mueller. And [laughs] Bob and I, I loved working with him, because I would say to Bob sometimes, I’d say, “Look, you’re the ‘take it slow enough to get it 100 percent,’ and I’m the ‘go fast enough to cover enough territory,’ because I’m trying to get a lot of stuff done here and achieve a lot of different things.” And I said, “Frankly, we’re winging some of this.” I’m reading literature. I’m giving talks at Davis. I’m going to talks at Davis. I’m traveling, and I’m coming home with these ideas about things we want to try, and I mentioned this, and Zelma mentioned it as well, this North Coast Viticultural Research Group, and so we’re developing ideas there.

And I’m thinking, time’s short. We only get one shot at this every season, [makes shooting sound], you know, shotgun. And I’d say to Bob, I’d say, “You’re like the sniper and I’m like the shotgun. So we want to do each of these shotgun things to enough depth that we can see if it’s encouraging enough to continue, like to really focus to the next season, but let’s get a lot of experience.” And I said, “Okay, we’re going to stop talking about experiments, and we’re going to talk about experiences. And we don’t have to make wine out of every one of these, because,” I said to Bob, “we can walk in the vineyard and we can tell whether this worked or not. We can tell whether it’s encouraging enough to continue down this avenue or not.”

So then there’s growers, winery, building that. I’m trying to get the winemakers to get enough time in their schedule that, pre-harvest, they can actually walk in vineyards and taste fruit and know what’s happening. And so, what I saw was that there was also this history, of kind of what I call the



stressful part of harvest, which was usually just tracking sugar, sugar and acid, and this essence that, all of a sudden, there was a crisis. It's like, we have to pick this fruit tomorrow. So we made a little kind of a small group, and we would meet every day. My assistant would arrange sandwiches. So we'd sit in a little secluded place; actually, it was a little patio outside Bob Mondavi and Tim Mondavi's offices. There was a little patio there that had a little table.

So we'd sit there, have a sandwich, we would make tomorrow's plan, a two-day plan, a three-day plan, and a four-day plan. So I'm coming and saying, "Okay, I think this is ready. This is two-day, three-day plan. I really would like to walk through this vineyard with the winemakers, see if you agree." And what I realized is that we didn't have enough long-range planning. So I actually had this idea. I was tracking a lot of information in Excel spreadsheets, and my assistant/secretary at that time, Barbara, was going nuts with this thing, because I was feeding her all kinds of data, and she's going, "This is just like, something went wonky, and all the graphs are now not working." And so, I went to our financial guy and I said, "I need a certain amount of money, and I don't know how much it is, but I need it now to get somebody to write a piece of software to do this." And he said, "Well, that's all well and good," and I said, "It'll pay for itself in the first year just by making better decisions." And he says, "Okay, I believe you, but I'd like to see some evidence of that, and I'd like to see some idea of a cost." I said okay.

So I got on the phone frantically, and I called a couple people and I told one guy what I wanted to do, and he goes, "Oh yeah, that's pretty simple; I could do that pretty quickly." And I said, "Give me a ballpark number," and he gave me a number; I don't remember what it was. And this was all in the same day, so I go back with a piece of notepad, and I go, "Okay, this is the guy. This is how much it's going to cost. This is when we can get it. I need you to just okay this piece of paper and get the money flowing." [laughs] And he goes, "Well, that's not really the way it normally works." But I said, "You know, we really need this." And he goes, "Okay." So literally, a couple of weeks later, we had this thing up and running.

And so it was like, I would have samplers. So I'm directing the samplers to go out, and I had three or four samplers. They would bring samples in from the fields for chemistry, sugar acid, pH, and they would submit them to the lab. So the lab then knew in advance how many samples they were going to get and roughly, when they were going to arrive. In the past, it was just like, *ploom*, stuff would just plop on them. So, the lab's going, "Okay, at least we've got a flow," and they would process the numbers, and they had, on a computer, they had access to this software. So they would, on the night shift, they would enter all the data, and then, in the morning when I came in, the software was set up. I loved working with this guy because I'd say, "I need this," and he'd go, [mots lips] "Okay, that'll work now."

So in the morning when I would arrive, I'd walk into my office. In the printer in my office would be a printout of the graph for all the things that we sampled the previous day. So when I went to our noon meeting, I knew trends and everything, and I knew the forecast date, from the study of bloom, veraison, and history of harvest, that I could say that "I think this plot is optimistic; I don't think it's going to happen that way; I think we're a week later; or, I think this is going to be earlier than this." So started bringing together; sort of the winery and the grower are now getting a little bit more advance notice. We were getting, over a period of time, where the winemakers are spending more time actually looking at the fruit before harvest. They're aware of what's going to happen. They're saying, "Okay, I'm getting these characters. It's uneven ripening, or maybe we want to pick this section and leave that section for later." And so this, maybe not extremely well laid out plan was starting to come together in its pieces.

So we were getting over the defect stuff, and into the, okay, we're picking this fruit at what we think is the ideal time. And in that course, I think I mentioned this in a previous session that, what the winery had been doing is, it'd been paying growers for a very narrow window of sugar content, and with the assumption that if you hit that sugar content, that's going to be the best for that vineyard. And I think I had also said that, we figured out, when I was at CalPlans that, not only could we eliminate defects, we could construct it so we had max bonus, almost every time. And we knew how to sample. If we had to resample, I knew which bins to say, "They're probably going to sample these other bins. If they do that, we're going to"—you know, and I'm on the radio. We're on two-way radios and not cell phones at the time, and I would say, "Okay, don't have them test it; that's as good as we're going to get," or, "Test it, and they'll average the two. The second's going to go high; the first one was low. We're going to hit right in the bang, bang, bang, bang, bang." So when I—

04-00:43:09

Meeker:

Do you mind if I ask you a question? So, what you're talking about is an interesting process, it appears to me, like in the development of a dataset, a data matrix, that will allow you to approach critical questions around when to harvest, and perhaps other things to do in the process, based on evidence that's being gathered in the field, real time. I guess I have two questions. One is, how long after your arrival did you start to develop this kind of matrix? My guess is that the software you're talking about probably happens a few years—

04-00:43:58

Freese:

So it happened several years later, a couple years later, once I started to understand what the nature of the challenge was. And what I think I would probably characterize it as, it was a process. Reflecting back on it, I'd probably characterize, it was a process of gathering a lot of data, so we could get away from data-making decisions. So, what I mean is that we'd collect all

this information, but what I was really looking at was, integrating in my mind previous vintages, the vineyards, the grape growers, because there's a windage. If you said to one guy, "We need to pick in two days," he would go, "No way that's going to happen. I can do it in a week, but I can't do it in two days."

So you'd learn what the capacities were. You'd learn how much they could pick in a day. This one guy would pick four tons a day, that's all he could manage. [laughs] Driving me nuts. And the other guys say, "Okay, you want twenty tons a day for the next five days? Bang, bang, bang, we can do that." "What about if we went up to forty tons for two days, and then we took a break?" They'd go, "Okay, I can do that." So you learn the capacities, but, so it was the information that would then get us to the ability to make decisions that were more driven on what's best for the fruit. And so we were driving, what I was driving to do—because I'd quote "gamed" the system, and didn't think it was making better wine—is to get away from those really strict, narrow targets, and move to what I characterized as winery-directed harvest.

So, I said, "We're going to just tell everybody when we think is the best time to harvest the grapes, and we're going to pay them on an agreed on price," and the price would be agreed upon based on their history of performance, or in some cases—we talked a little bit about Pinot Noir, where history of performance was too slow—I had to price in advance, and say, "Okay, you did all these extra things; I'm going to automatically jump you up to this price, because you need a reward for, you need to reward this vintage for doing it. We can't wait to build two years of experience to start to reward you for the future." So we collected all this data and all these experiences, and then it was literally to get away from these miniscule, nitpicky, can somebody hit the target window to get maximum revenue, but not necessarily the maximum value in the wines?

04-00:46:45  
Meeker:

So what you're doing is, you're moving away from the original situation, which was based primarily on sugar content and maybe pH, that that was the determining factor about harvest, to really, a much more complex algorithm or a set of data points, as well, combined with interpretation of those data points provided by someone like you. Can you talk a little bit about that evolution, like when certain new data points start entering into your figuring, and how your interpretation of that data started to evolve?

04-00:47:36  
Freese:

Well, the first two vintages, 1982 and 1983, were pretty much driven by Mother Nature. So I'm busy trying to understand these things, but this, kind of this sense of the phenology. So I was making these observations in the vineyards when I was working there, and so I'm starting to look for, well, at that point, a couple of years earlier, what's the term for this? And then I, from reading books, and somebody says, "Oh, that's a phenological calendar," and

I go, “Phenological calendar, okay, not phrenology, like reading the bumps on your head, but phenological calendar.” And so I go, “Okay, that could be really useful.” And then so, I go to this track of finding people who have information and so forth about it. So, these sort of things are kind of doing this spiral staircase sort of thing. One thing’s building on the next, and sometimes I’m a little pressed to kind of figure out where they happen, because they weren’t like, aha, okay, this is going to solve everything. It’s like that, once I know that, it lets me go to this level, and lets me do this, and lets me do that.

So the phenology stuff, I was starting to work on probably in 1980, probably something like that, and then, sort of gathering information. A flowering event in a vineyard isn’t like a Big Bang event, all of a sudden. It’s really driven by temperature, and sometimes, and it’s also driven by the fact that, the last thing a grapevine ever wants to do, is have all the flowers bloom and be pollinated on the same day. That’s a really terrible survival strategy for a plant that’s accustomed to living out in the wild where seasons are quite variable, and particularly what’s quite variable is the animals that are going to eat the berry with the mature seeds and go deposit them. The vine or plant never really quote “knows,” on a phenological scale, when that’s going to occur. So you want to make the berries ripen over the longest period of time you possibly can.

So, that, to me, was a real aha moment, I would say, because when I’m looking at grapevines in the vineyard and I’m looking at them flowering and the way the shoots start to grow and so forth, I go, “Oh this is an interesting model, because it’s so ragged or so heterogeneous, but yet when we harvest, we harvest everything on a given day.” So, I’m thinking to myself, it’s a mixed population, when we harvest it. So part of it was an assumption, okay, so then I made an assumption. I made an assumption that having a less diverse population was a good thing. And so I started in, even when I was working with the vineyards, I started bouncing this concept off of the winemakers. And I got a full range of responses. Some were, “Well, that takes the magic out of the wine, because it doesn’t have all these other characters.” And the other guys would say, “In my wildest dreams.” I could pick individual vineyards that would be at their optimum ripeness as a whole vineyard, or, I call it a harvest unit—if you’ve got a forty-ton tank, you want forty tons of grapes that are as uniform as possible. If you have a five-ton unit of grapes, you want those to be as uniform as possible.

So then I’m kind of bouncing this idea around, and I get this full range of responses. So I said to myself, well that’s not going to be very helpful; I might as well take a position. And so, I said, “Okay, stake in the ground, my position is the more uniform the harvest unit, the better, and we’ll then look at individual harvest units.” So if it’s forty tons of Cabernet in the vineyard, and this little corner is five tons and it’s ripe, and the other thirty-five are not, then I’m starting to work with the winemakers then from the vineyard side saying, “I’d like to bring in this five tons. Do you have a tank that’s available for it?”

And they go, “Well, yeah, we could do that.” And I’m thinking, okay, we’re making some progress, because the other thirty-five tons in this big tank weren’t as good as that little piece. So it was a little bit of feedback going on there, but the winemakers are going, “You know, it’s a real pain in the ass.” [laughs] And I go, “Well, sometimes quality is a pain in the ass, so we’re going to just deal with it.”

04-00:52:57

Meeker:

Well that’s what I was going to ask you about. I’m thinking about your first season on the job at Mondavi. This was a new job. You arrive with the apparent blessing of Tim Mondavi to engage with the two most important groups of people in the operation, the growers, who are independent, and the winemakers, who are the artists, the visionaries, and yet you are charged with going in to, not necessarily direct what they’re doing, but in some ways, direct what they’re doing.

04-00:53:42

Freese:

It’s to get them to play well together.

04-00:53:44

Meeker:

To get them to play well together, but in order to do that, they’re going to have to change the ways in which they work. And so the growers, like you said, were moving beyond the point where you just have to meet certain sugar benchmarks, and the winemakers, like you just said, you’re going to be presenting them with not forty tons, but with five tons, because that’s only the grape material that you think is harvestable at that moment. How did these different constituencies respond to you coming in with this new type of role?

04-00:54:27

Freese:

Yeah, it’s a good question, because I think it gets to a core principle that I probably haven’t addressed, is that at that point, what I saw is—so I have this lofty idea about building partnerships, relationships, you know, a “Kumbaya” kind of thing. Everybody’s going to know what the other guy wants; they’re all going to work for the same objective. And my naiveté in that, it wasn’t total, but basically, a lot of the relationship was adversarial. The winemaker wants me to do something I don’t want to do. It’s going to cost me money and labor to do it. He’s going to ask me, invariably, to throw grapes on the ground. He or she is going to ask me to not irrigate; they’re going to ask me—and there was a whole list of it. These are the things they want and I don’t want to give them, and this is the things that they want, the grower wants, and he wants speed. “When it’s time to harvest, I want you to be ultimately flexible at the winery. I want you to work around my labor supply, my equipment, my need to get the grapes delivered, and not have a full winery, and not have all the things that can go amiss on the winery side.”

So, part of this thing about this sugar profile, as a success, was that it aggravated that relationship, and if the winery was really busy and the grower said, “Look, I have Cabernet that’s ready on Tuesday of next week,” and from

the winery side, we're saying, "Can't take it on Tuesday, and bringing it on the previous Friday" or, we were working Saturdays, "is too early, and the next slot we have open is on following Friday," [makes shooting sounds] okay, well, I'm going to miss my reward of the sugar target, and then steam starts to come out of everybody's ears. And so, it was part of the reason to get rid of that, so that I could say, or we could say from the winery side, "Look, for that particular vineyard, we have the same constraints, but we know that vineyard, picked two days early, is better than picking it two days or three days late." So, I would say to the grower, "Far out, bring it in on Saturday, if you've got the labor. You say you can bring it on Saturday. Let's not wait until Tuesday. Let's bring it on Saturday." Now, all of a sudden, they're going, "Hey, these guys are really interested in the outcome."

And so it gave us a lot of—and even while we had this really aggressive payment profile based on sugar, I would, first year out, I said, "Okay, that doesn't work." I came up with a tool and technique that I called winery-directed harvest. So I said, "What I want to be able to do is, I want to be able to say to a grower, 'You've got your 40 percent. Not a worry. I don't care what the sugar is when it goes across the samplings, in the scale and sampling out there. You've got your 40 percent; I just want you to pick it on this day,'" so, waiving the sugar test. The guys would still do the sugar test at the scale, because the winemakers wanted to know roughly what they were working with.

So we introduced some of those, and we was really controversial, and it was like, "Well, he got it; why didn't I get it?" And then well, the financial guys are going, "You know, if we're going to just give every"—I mean, it was a few cases—"and if we're going to give everybody the 40 percent bonus, the budget isn't going to work." And I said, "You know, that's a good point, because why would you make a budget that's based on people not hitting the performance that we think is best? If you save us a 40 percent possible bonus, we ought to just assume everybody's going to hit it, because if we have a great vintage and everybody does, you can't tell me it's going to break the bank, because then there's something wrong with the system, or you've built in failure, and you need some failure in order to make the success work." I said, "This is goofy; it just doesn't really work."

04-00:59:12

Meeker:

And your job, in essence, was to manage the growing season and then the harvest so that there was no failure; so your job was to actually—

04-00:59:21

Freese:

Break the bank.

04-00:59:22

Meeker:

—break the bank.

04-00:59:23  
Freese:

Yeah. And I said, “If I’m going to be responsible for breaking the bank, well let’s just take the drama out of it.” And so, it was a time when there were so many things changing, because there was this—there had always been, even from UC—there’d been this kind of matrix of sugar content, Brix, or the Brix, sugar content, pH, and titratable acidity, and there were tables of what was ideal. And so we were seeing that. The evolution that was going on also in this time frame was that, growers or the winemakers were saying, “We want an additional type of ripeness. We’ve got sugar, we can get alcohol, but we need a different kind of ripeness.” And they were struggling with, “Okay, what is that? How do we characterize that?” So, in this process, not necessarily in the very early years, but this is evolving as well. And so I’m saying, “Well, if the characters you’re looking for, you want to get a different kind of ripeness, we don’t know how to put a number or a measurement on that.” And it’s not just sugar acid and pH, because the sugar, we couldn’t—in California, you can’t add sugar. Okay? They can add sugar because they get low alcohol ripeness, but they get good flavor and character ripeness, because of their climates, and our climate difference.

So, this whole thing is kind of getting to this critical mass of, why are we doing this? If the evolution is to a different type of ripeness, the reward system would not break the bank, but it overspends the budget if we get it all 100 percent correct. And we’re all out here trying to get it 100 percent correct, and the financial guys are saying, “No way you’re going to do that, so we’re going to budget for this.” So, you can see there were all these competing kind of objectives there, and so I said, “Well let’s just peg the price. We’ll do a budget based on it. The only unknown then is what the actual yield is going to be.” And in some cases, we started to move to—what really kind of tweaked people’s brain was that I would say, “Look, I want to pay this guy a certain amount of money for his ten acres of Pinot Noir. I just want to pay them a number of dollars, so that if the yield goes up or down, the actual cost, when you take that amount of money—you apply it on a per-acre basis, or however you want to do it—that’s all well and good, until it comes in with a low yield, and then the actual price per ton skyrockets.” And that was really a mindbender for the time as well, and so that was all kind of going on at the same time.

04-01:02:43  
Meeker:

And your reason for wanting to just pay for the plot of land was so that you could basically do what you wanted in the vineyard, that it might have negative impacts on the yields, right?

04-01:02:58  
Freese:

Yes, right, exactly. So we said, “At late in color change, I see a”—here is an example of a driver of that, and we were really nose against the windshield at this time on trying to make Pinot Noir. I told a little bit of that Pinot Noir story. So we were trying to up the game on Pinot Noir, because from that previous tasting, Bob Mondavi said to “either get better, or get out of the

business,” and Bob Mueller and I go, “Yes.” Tim goes, “Yes, okay, let’s do this.” And so, I’m introducing the idea of: I see flowering, and the window of flowering, it was really wide, so the start and the finish of flowering is what I would really look at, the start and finish of any event for this phenology. Because if it’s a very wide, what I call window, from the start, like if 5 percent of the flowers were open to 95 percent of the flowers have opened and pollinated, if it’s seven days, that’s brilliant. Didn’t happen, usually. The wider that window got, I knew that the first flower to pollinate was going to be the first berry to change color.

Somehow or another, people had figured that—this was frustrating because people didn’t understand the plants that some they were working with, and I’m going nuts. I’m doing a deep dive into the plant system and other people are going, “Well, if it’s a wide flowering window, we’re still going to pick at the same date,” or, “We don’t know when the date is, but we don’t have to worry about veraison because it’ll all, the magic will occur in some immaculate conception. All the color will change at the same time.” So I’m saying, “No, the first berry, the flower is the first one to change color, and the last one is the last one to change color.” So if it’s a really wide window, I want to tell the guy, the grower, when it comes towards veraison, “I’m going to go out there and do some massacre on this fruit and throw off all the late-ripening fruit.” So it means a lot of fruit goes on the ground, and he’s going nuts because he’s now locked into this price that he’s guaranteed on a per-ton basis, and I’m killing him because we’re going to throw a ton of grapes on the ground, or more or less.

So I said, “Okay, I’m just going to pay the guy a set number of dollars from his historical yields and what we think is out there, just on a per-acre basis.” So I started introducing contracts, where I said, “I want to buy this particular fruit on a per-acre basis, and this is the number.” [makes rocket blasting sound] Rockets went off. And so, but the—

04-01:05:56

Meeker:

Who is objecting to this? Were—

04-01:05:57

Freese:

Well, the financial guys were saying, “This is going to be nuts, because we have a bad yield, there’s a bad flowering and set, or something disastrous happens to the fruit, we’re on the hook for a lot of money.” So we started to work out, if it went below a certain yield, for some reason, then we could adjust it. And the growers said, “That’s only reasonable,” because they’re accustomed to taking some variation on a season-to-season basis. So we worked some of the wrinkles out of that, and you’ll find today, I think, that’s—I don’t know how many people do it, but it’s a pretty common kind of thing on real high-tier production, that they just do that.



So, you can see, this is a pretty complicated kind of can of worms. A lot of things are starting to happen, and I'm driving towards, how are we going to make the quality part be excellence in character expression? And we're trying to iron out the defaults or the defects, and I think we made a lot of progress in that. It was a little bit tumultuous, but, and then sandwiched in this was using the research arm to say, "Okay, here's a new tool or technique. We're going to do it on a small scale," and then that looked encouraging, we'd scale it up. And then so, in the meantime, we, as a winery group, were getting smaller tanks, because I'm saying, and Tim and the winemaking staff is saying, "Well, we're missing these little gems. If we had a three-ton, a five-ton, a seven-ton tank, we could harvest those little units of Pinot Noir early in the season, or, and catch the Cabernet, after the tank has been turned over and things have moved off to barrel." So, the Pinot Noir project gave us some resources that had a knock-on effect on some of the other things that we were doing as well.

04-01:08:15

Meeker:

Where were you getting the Pinot grapes from, at this point?

04-01:08:17

Freese:

Let me just think for a second. So we were moving only to Carneros. So, one of the other things that happens when you're working with growers is, and outside grape supplies: We had some Pinot Noir on the Mondavi Vineyards over on Silverado Trail in the Oak Knoll area, and it was really clear it had virus and so forth. And so, saying, "Okay, Pinot Noir in Oak Knoll is an item in history. We're not going to do that anymore," but also at the same time, then working with the growers. We had growers who were up-Valley as well, and we're saying, "The sun's setting on that. Live out the contract, but if you could find another home for it, we'd be happy to release it, and maybe you can find a better home." Because at this same time we were doing these set pricing, I said, "We don't have to price everything at this high tier. It's okay to price fruit at different levels."

So we would have people who were delivering Cabernet, and there would be maybe three different levels of pricing. And, recognizing that one was not going to go into reserve, another one was, a middle class had an opportunity to perhaps sometimes go into reserve, or if it didn't earn it on its own stripes, it created something in the blend that helped the reserve, or maybe it's a portion of it. Maybe half of that lot that was kind of in this middle-tier pricing would sometimes go up, some of it, and sometimes not. And so we started working with different pricing levels, and you just say, "Okay, that's a fixed price, and I'll be glad to tell you what the other prices are, and we'll be thrilled to help you see if we can move from tier one to tier two to tier three, and it's a pretty steep slope, but if you want to go for those, let's figure out things to do."

04-01:10:37

Meeker:

With Pinot, and you mentioned moving from the upper end of the Valley to solely going down to Carneros, what was the process of discovery, that there were qualities of the grapes further up the Valley that weren't meeting desired

specifications, whereas those that were starting to come into production down in Carneros were? How did that transition happen?

04-01:11:11

Freese:

Well, yeah, it's a good question, because Mondavi was, and I would imagine still is, a very data-driven organization. So we could look back in the records, and I could go back years, and I'd say, "Okay, for this particular grower, how many tons did he deliver, he or she, every season, and where did those wines go?" And so they had the tons, they had the yields, and they needed to keep track of appellation, and they needed to keep track of—you know, for all the pricing and everything. They were archaic in the sense—it was all on paper and ledgers and so forth—but we had numbers, and then eventually they got to be computerized numbers. So I could go back and take a look, and I could say, "Okay, here's a yield summary." And so, my assistant at the time, I said to Barbara, I said, "We're going to get all this stuff on computers." And she goes, "Well, you know, I'm not really that good at computers." And I said, "That's history. You're going to get really good at it." [laughs] So we did some classes and you know and so forth, so she got to be a whiz-bang at Excel.

And so we started recording this, and so I could see these histories, and then I could see where the wines actually went, and so I'd go, "This guy, I can see it from the style"—there was what we call the reserve range, in the wines, and then what they called the regular, or we called it the Napa Valley tier, price differences and volume differences, and I could say, "Okay, well," to this grower, "you're up-Valley, and you're consistently going into this Napa Valley tier, and in fact, it's getting, as the style and character expression is evolving, it's getting harder and harder for you to get into that, even that bottling, because people are preferring fruit that comes from a cooler climate, doesn't have quite the ripeness characters of rather ripe fruit. We're looking for more red berry and dark-colored, dark fruits, but lively and energetic, and of values like warmer. Your pHs are dropping; we're having to add acid, and that acid kind of shows, because the fruit doesn't have a lot of real robustness to it, doesn't have the body or the weight to it, unless we get it really ripe, and if we get it really ripe, we have the alcohol, but these characters are not in the direction we're wanting to hit with this kind of cooler climate."

So we'd have these evaluations and tastings and discussions, and one of the things that I figured out is, it's a perennial plant; it's a long-range life on these vineyards, and with evolving wine style, you have to choose a target and start working toward it. And you can't just say to the grower one day—you're in there and January, we're tasting the wines from the previous year, and you go, "That's it, you're fired. You're out of here. Your contract has expired; you're just done." That just didn't really work, because some of those growers had been there when Bob Mondavi received the first grapes, and that wasn't the way they did business. And so we would try to elevate, but make sure they understood that, what direction we were headed, and oftentimes, the vineyards

were getting old, and we'd say, "You have Pinot Noir"—we'll just an example—"you have Pinot Noir sitting in Cabernet ground." Duh! Let's get on with it.

04-01:15:15

Meeker:

When did you discover that though? And I guess, just kind of putting that as the headline, like, discovering that that was not Pinot Noir ground, that was Cabernet ground. And as I'm hearing you talking, I keep on thinking about, in Romance languages, "to know" is typically two different words: *saber* and *conocer* in Spanish, or *savoir* and *connaître* in French. One is to know something factually, perhaps scientifically, and another is to know something more experientially. And when you're getting these grapes in, and tasting the wine, and then deciding that those Pinot grapes are not going to go into reserve, and furthermore, "I think that we don't want those anymore at all," what kind of knowing is that? Is it both of those types of knowing that you're using, like, to make those decisions that that's not Pinot ground anymore?

04-01:16:39

Freese:

Yeah. Yeah, I think it's probably an integration of them, and I'm saying an integration, but also there's a transition. I tend to think of it as trending, and I think you kind of trend from the intellectual to the emotional, and I believe—actually it's a great question, because I think, although people in our business don't use the word "emotional" a lot, but I think you know what I'm talking about is, we go from factual to what people in the art world, and Zelma uses this term, embodied knowledge. It's kind of like where you quote "know" something, but oftentimes, the trail of breadcrumbs isn't linear, and sometimes there are jumps and skips in there. And I think, I think you probably hit on the nugget of what was going on at that period of time, is, we were, I'd characterize it as, using data to eliminate data. So we were using records, and we're using numbers that said, "This is a 40 percent bonus, but man, we're way overpaying, because it doesn't make a high-tier wine." That doesn't have to happen too many times before you go, "Something's goofy here," and in recognizing that it's goofy is maybe kind of linear thinking, but, the question of, how do you change it, that new level of knowledge about, how do you not do that any longer, there wasn't anything in the books about that. There wasn't. Okay, you get, "I need plan B. What's plan B?" and there was no plan B in the books.

So we were, I guess, kind of making it up, and it was—even though I have a science background, what I tend to, I realize that I oftentimes do, is sort of make intuitive decisions based off of this kind of knowledge, the one type of knowledge, but that the decision is oftentimes missing. Sometimes I say it's like the spark has to jump across a gap to get from here to there, and I have this—this is a fun, just quick aside—I have this cartoon. It's two guys, lab coats, big blackboard behind them, all of these calculations, quantum mechanics, everything, and down at the very right-hand bottom in this little box, it says, "And then a miracle occurs." And the one guy's saying to the

other one, “I think you need to be more specific right here.” [laughter] But, I saw that one time in, I think it was probably *Scientific American* or something, and fortunately, I clipped it out or copied it or something, and I scanned it, and I look at that every once in awhile and I think it’s exactly your question. You get to a point sometimes, and you go, “I can’t explain, but the spark kind of jumped across that gap and a miracle occurred,” and bang, we chose a new direction.

04-01:20:38  
Meeker:

That’s great. So a somewhat related question then is—

04-01:20:45  
Freese:

I don’t know if I got to it, but I mean, that’s kind of my thoughts on it.

04-01:20:50  
Meeker:

Well, it makes sense, in the sense that, to me, it is both data-driven knowledge as well as—

04-01:21:00  
Freese:

There’s all this technical stuff that’s going on, and all this making trial wines and experiences in the vineyard and so forth, and then there’s sort of the reality of, okay, so how are we going to make better wine? And the trend in the Pinot Noir case, that the up-Valley wines were less often making it into higher tiers, and they’re getting lower prices, I mean that’s where the rubber meets the road with the grape grower. “It’s like my only option,” he would say, “is to increase my yields.” And I’d go, “Well, yeah but that’s probably not going to work out that well for you, because I think we’re probably there. So, we need a”—

04-01:21:46  
Meeker:

Well, the extension question then is, how did you or the winemaker determine what grapes are good enough to go into reserve? And I think about, are these data-driven decisions? Are they, you, as somebody who’s working with all these different points in your head, looking at data and then also tasting the fruit and seeing how hard the seed in, and has that ripened? Or, are you thinking about what the market is wanting, and what the market will pay for reserve grapes of a certain type? Or is it something that’s all of the above?

04-01:22:39  
Freese:

I would say, as a catchall phrase, it’s an iterative process, so we’re kind of going around in circles. So we’re getting these experiences, and the real question is sort of the un-measurable part of that question, or the answer is that we were looking at wines and tasting, evaluating, and working toward directions that we—and then you know, and watching competition: What are other people doing? What’s out there? What are those wines like? And then of course, there’s the other factor in there, is that you know three or four years down the road, after you’ve pulled the trigger to go in a particular direction, that wine’s going to hit the marketplace and it’s going to go into *Wine*

*Spectator* and places like that, and are we so far ahead of the curve that people dismiss it? Because it's not a defective wine; it's just a different style.

So you kind of, I think, also have to say, "Okay, we're not going to go from one level to a quantum leap to a completely different one," basically, for a couple of reasons. One is, we don't have the knowledge to get us there immediately. We may not have the resources to get us there immediately, in the winery and in the vineyard. But I think also, there's a real risk that you leave the consumer behind. And they go, "Well, I'm not buying that again; it's way out in left field someplace." Now, it may be a perfect imitation of one of the best red Burgundies in the world, but people don't drink those wines. Our consumers weren't drinking those wines. So, in our wildest dream, we would find individual lots in this whole process, because we're looking at these four and five-ton units, and sometimes larger units, because the Pinot Noir got to be really small harvest units. Even though it's a large vineyard, we may pick the gems out, and doing small tanks and new techniques that we're learning from people around the world.

Those were components, but what we had to do was think about, okay, what's the final wine, the one that goes into the bottle and gets a label plastered on it that says "reserve" across it and gets this price point? It has to have a trend; we have to be going in a direction. And that, it wasn't a pervasive problem that we had way more wines than we could put in those bottles. It was everything we could keep on that track with, we were trying to expand and get the volume up as well. At one point, the marketing guys, when they tasted some of these early efforts when we went through this new commitment per the tasting with Bob Mondavi, they came back and they go, "Oh man, people are really loving this. We need 20,000 cases of this." [laughs] I go, "Ain't going to happen, guys." And they said, "You really have to make that a top priority." And I said, "Okay well, I'll just make a note; I'll make that a top priority." [laughs]

04-01:26:15

Meeker:

Well, probably one of the reasons they liked it was yields were being reduced, and— [laughs]

04-01:26:20

Freese:

And we were picking out these little pieces. I mean, it was a labor of love, you know, and people would come to visit or we'd see our colleagues in the industry, and they'd go, "You guys are now picking Pinot Noir in these little boxes, and that's what champagne people do, and you're delivering those to the winery and you're hand-dumping every one of them. What are you thinking? This is nuts." And I would go, "That's—you defined it. We're nuts. We're in the pursuit of something that we don't know where it's going to go, but we're busy trying it." And then all of a sudden, people would be ordering. "Where'd you get those little boxes?" They'd be trying it, and saying, "You bought a basket press? That's nuts. You know, one, three tons in there, and

you crank it down, and then hours later, you bang the thing open and empty it, that's nuts." It's like, that's it; that's the definition; yeah, we're doing it.

04-01:27:29

Meeker:

Which, of course, can make really good quality wine, but it's not necessarily going to make the business office happy.

04-01:27:37

Freese:

It isn't, but what we were doing is saying, "Okay, well how far do you have to go in order to get this?" And in some cases, it made sense, because we were able to push pricing. "And when the marketing guys say, 'We want this fabulous number of tons,'" I said to Tim afterwards, I said, "you need to fight this fight, is, it isn't volume we need; it's pricing we need. So, you need to get your marketing guys lined up so they understand that scarcity can drive pricing." Now, oftentimes in that environment, when you talk about raising prices, they would just go ballistic, because it inferred that they had to work harder. And I said, "Yeah, they want us to do the work, and they want to go out there with a product that isn't priced fairly for the amount of work we're doing." And I said to Tim, "That's not going to happen." Intellectually, it doesn't make any sense, but in practical sense, we didn't have access to the fruit, so, yeah.

04-01:28:48

Meeker:

Were you able to win those battles, around pricing?

04-01:28:52

Freese:

Yeah, in the main, in the main, yeah. Oh, in the wine pricing, the bottle pricing?

04-01:28:56

Meeker:

Yeah?

04-01:28:57

Freese:

No. I mean, I think the winery did well, but let me give you a today example, a today example, and I'm going to use Mondavi as a today example, Mondavi, and I'm going to use Cabernet, because I'm not current about the pricing in the Pinot Noir frame right now. Mondavi Cabernet, first, they've occupied several layers, or they occupy several levels, but their top-level Cabernet, I think, is priced at—speaking under correction—about \$150 a bottle. Okay. Score's really highly, and most people who are in that score tier—not the price tier, but the score tier—the prices are 200, 250, 300, on up. Mondavi's producing—I forget what the number is—so this is probably in the range of maybe up to 2,000 cases. Other people at these higher prices are doing 250, 300, 500 cases.

So here you have a winery that is in the league with the quality, much more acceptable pricing, and they can do volume. Now that is a rare combination. I don't know of anybody else who can do that. And I'm sure that works like a bomb for them, because they're selling volume, have got the vineyards;

they've had the capacity. I mean, the capacity to produce that volume of those high-tier wines, it's mind boggling. It's just absolutely mind boggling when you come down to the details of how they actually do it. And they've continued to be—I mean, I just always say to Geneviève [Janssens], the head winemaker, I said—we go over and taste with her every once in awhile and have lunch—“And see, yep, you're still doing it. You're over delivering for the price.” I mean, that's fabulous, it's what Bob Mondavi always wanted to do, but even in the corporate world, they're still over-delivering at the price.

So, without any hesitation whatsoever, somebody says, “I want a top-tier bottle of Cabernet, but I—I can't”—they choke at \$300 a bottle. I'd say, “Go buy the wine at half the price from Mondavi, and you can get more than one bottle. You want to buy a case of it? They'll probably sell you a case. These other guys are going to say, ‘Get on the waiting list, and when somebody dies in about 15 years, enough people die, we might be able to get you a bottle.’ But,” I said, “you can walk in the tasting room at Mondavi and buy that bottle of wine, take it home and drink it today, and you're going to be thrilled with it.”

04-01:32:03  
Meeker:

We've got about maybe twenty minutes left, and I'd like to ask you about some good and bad vintages, and how you dealt with those. So, why don't we start with the bad. [laughs] So you were there '82 to—

04-01:32:22  
Freese:

Eighty-two, '83, are burned in the memory, because they were real challenges.

04-01:32:29  
Meeker:

And I don't know, bad, maybe difficult is probably a better word.

04-01:32:32  
Freese:

Difficult, yeah, difficult. In difficult vintages, the first thing you do is try to mitigate. You say, “Okay, how am I going to deal with something that's a challenge?”

04-01:32:50  
Meeker:

Can you describe maybe one of those vintages and what made it difficult?

04-01:32:55  
Freese:

Well, they had a similar type of issue. They were both wet vintages, and '82 was wet, and during the harvest period, it was fairly cool, and it was the kind of thing where we get rainstorms and then we get a little drying out, then we'd get a rainstorm and things would dry out, and usually, we would get some—what's the salvation for us in California is, if you get rain and things dry out, and humidity drops, sun comes out, warms up, warms up without being high humidity, usually, we're pretty much golden. We had some of that, but the frequency of the little rainstorms was—and I'll have to tell you, the exact details, I've either repressed, or I don't remember. [laughter] But the minutia, I don't remember, but, so we had this kind of a season where we started

getting—and the thing we'd get most often, because generally, we have cool nights here in Northern California, and when we start to get fungus problems, they're usually botrytis.

Now botrytis is a little bit unique, because botrytis has a temperature optimum that's in the sort of mid-seventies, so that's where it's maximum growth is, or maybe it's in the low seventies—again, I don't remember the exact number. But when it gets warmer, it actually doesn't like those conditions, and it starts to not grow as robustly, meaning it doesn't replicate or the populations don't increase so rapidly. It really likes cool temperatures. And so our cold nights in California were going down to fifty degrees, or fifty-five degrees at night. Botrytis loves that. So, in '82, we had those kinds, more of that kind of a season, and I'm going to contrast that to 1983, which was wet, but really warm.

And so, in 1983, we weren't having botrytis. Botrytis growth can be a positive, and most winemakers, when you put their backs to the wall and you say, "Botrytis in Chardonnay," and they kind of go, "Don't quote me, but yeah, as long as it's clean botrytis, I'm fine with that; brings a little richness, and so forth." Red grapes, people aren't so quite so enthusiastic, because they also bring enzymes that break down the color. But, we have ways to deal with that, technology.

04-01:35:54  
Meeker:

But with the botrytis in Chardonnay, they're not pulling it out to make a sweet wine, but what it's doing is adding a little sweet characteristic into—

04-01:36:02  
Freese:

Until it gets too severe. And so, here you have the other concept that I think we oftentimes ignore—we know it inherently, but we tend to ignore in our business—and that is what I call dosage. Dosage would be severity. When I said earlier, we were talking about some of the operations to do them: the timing is important, knowing what to do, knowing the timing is correct; and also the dosage, or the severity. So when you're pruning—I think I was referring to pruning—you don't prune too severely, or not severely enough, so it's just the right amount of severity. So in a problem or what would be called a fruit defect, the question is: How much is a problem?

In some things, any is considered to be a problem. In some cases, it's context sensitive. In a year where everybody's got botrytis in Chardonnay, all of a sudden, you get a little bit of a different approach. You say, "Okay, how much can we work with, and is it clean?" That is, it hasn't gone to secondary kinds of infections, what I call the dog's dish, that gives you acetic acid and other things. Botrytis does actually concentrate the fruit. It usually doesn't break the berries, and it can give you, in whites, sometimes it can give you some positive characters. The problem with us with our setting in California is that all we need is some days that are slightly too warm. They're either too cool to



eradicate the rot, and/or the moisture, if we have moisture in the air, or they're too warm for botrytis.

And so, it's a really narrow window, and oftentimes, that window closes very quickly, and that's where, referring back to some of the things about winery-directed harvest, we would see something coming. I've had experience, so I would go out to the grower and walk through the vineyard, and you've got botrytis now, but there's a beginning of some of this dog's dish of the negative kinds of things, and I would say, "Look, you're off your optimum. If we wait for optimum, you're probably not going to fair well, because you're going to have a lot of problems you're going to have to sort out. I think we can work really nicely with what you have now. Bring it in."

And some of the growers would go, "Well, it's not 100 percent perfect," and I'd go, "Get over 100 percent perfect in this year. Sometimes you thrive; sometimes you just survive, and," I said, "we're in a survival mode here." So this also works for the winery, because I know at that point what's been brought in, kind of. I would run a, what I called, weighted sugar, so I knew the number of tons of sugar basically, in Chardonnay, that we had in the winery. So I can say, "Look, a little bit of lower ripeness in your vineyard. It still has really bright characters. We actually need the acid, natural acidity. Let's just bring that in. Get over it," survival mode, "just get over it." He goes, "Okay, I'll have it there tomorrow."

So that was part of that flexibility of working in troubling years, and then I was trying to contrast '82 with '83, which, it rained and it was warm; it was like tropical, and that's where stuff was just melting down in vineyards. And much earlier I think, in one of the conversations I may have referred to, we ran into, not necessarily in that particular vintage, but we ran into vintages where we were short on fruit, and so there's this kind of frantic thing to go out and try to buy grapes. And buying grapes, because you think they're better than the ones we have, from the same environment in which we're growing our grapes, seems like wishful thinking. I would say that's Mary Poppins kind of thinking. But I would get, people would come in and say, "Oh look, so and so out here has twenty tons of Cabernet, and we're going to be desperate for Cabernet. Let's buy it. He'll sell it, and it's a good price."

So I would go look at it and I go, "Looks pretty much like what we're sitting on. In two days, it's going to be dripping on the ground. In two days, ours is going to be dripping on the ground. We don't have the capacity to move everything. Which one are we going to take? You're going to buy somebody else's grapes and we just need to, in panic, harvest our fruit, and I can't in good conscious not harvest our fruit and harvest somebody else's that we'd never purchased before, on the whim that it might be better." You know, they were what I call frantic moves, and I'd say, "Look, we're not doing frantic here; we're doing survival mode." So we'd get people in the winery who'd

come in and say, “We absolutely have to buy this,” and I’d say, “I don’t know where you’re going to put it if you buy it.”

04-01:41:38

Meeker:

Did you see that happen in ’83 when you had the warm rains?

04-01:41:42

Freese:

No, it didn’t happen so much, because everything melted so quickly. People had never really seen stuff—I had never seen Cabernet rot so quickly. But because, well, the Pinot Noir we got in, a lot of our earlier grapes we got in, in some of them, fundamentally were compromised, in the sense of, we had to make some alternative choices. But the earliest Cabernet vineyards, I would look at the Cabernet vineyards and I would say, “This looks fine,” and I’d walk through and tasting all the time, walking the rows, and I’d go, “It tastes a little goofy, but physically, it looks fine.” And I’d say, “Well, I’ll come back in a couple days and I’ll check it again.” And I’d come back in a couple of days and there would be enough water in the soil that—and the skins were getting thin, and the vines were taking up moisture, and the berries would start to crack. And there was fungus growing on the cracks, in what I called smiles, because it’s a round berry and they’d be kind of curved, and it’d be a fuzzy smile.

And then you’d say, “Okay, well that berry’s obviously infected; what about the one next to it?” and you reach in to pull the berry off, and it just turns to mush in your hand, and it’s all red color and sticky juice. And I go, “This is not going to end well.” And so, for fruit that was a little bit later, and then some of it, I just said to the grower, I said, “This is a walk away; it’s a loss. And you can try to pick it, but when the team is in here harvesting, it’s just going to turn to juice and mush, and at the winery, we can’t really do anything with that, because it has so much of these enzymes that are already working on the color and everything, and it’s just going to be a total wipeout.” So it was kind of a triage thing. I said, Okay, skip that, just go to the next wave of vineyards, and then we started bringing things in more quickly.

04-01:43:55

Meeker:

So what was the result for that vintage? Was it just the production of Cabernet was way down, and—

04-01:44:01

Freese:

Yeah, you know, that’s a good question. I don’t remember the details. They’re kind of self-correcting, in a sense, because if you’re having a really terrible time, winemakers are really happy to say, “This is going to shit.” It’s just like, “It’s terrible. It’s horrible. My life’s gone in the pits. Why am I doing this? I’m never going to do this again; I’m going to go become an accountant. I’m going to do”—you know, they’ll tell such a horrible story and the press, of course, loves that, and so, the press starts tarring the vintage long before it’s ever going to hit the bottle. So it’s sort of self corrects. People go, “Oh, I’ll just wait for another vintage.”

Yeah, so, yeah, there were losses. I mean, yields were down. I think we learned quite a bit though, in retrospect. I think we learned quite a bit about another subject, and that is: I'd been having these discussions with Tim and the winemakers, and there was this push to go to higher and higher alcohols and riper and riper fruit, and 1982 and to an extent, 1983, gave us an opportunity to look at lower ripeness fruit. It didn't add a lot to the knowledge base, but it told us some of the things to watch out for. And with Cabernet, the Cabernet family, one of the things we were really very sensitive to was kind of these green, herbaceous, kind of peppery, spicy kinds of characters, and that was associated with certain areas, certain vineyard areas, and particularly the ones with deep soils and with big canopies and cooler regions.

And so, those were some of the pieces of information that were driving us. Back to your previous question of, if we had Pinot Noir in a spot we didn't think was a good spot, and we're saying, "Okay, you need to move to Cabernet," it probably wasn't a good Pinot Noir spot in our mind at that point because it was slightly too warm, and we'd say, "Okay, we're seeing Cabernet behave well, or perform well in those sites." So there's sort of this kind of learning process, and then you use things like the '82, '83 vintages and you say, "Okay, that adds some more information. What actually happens, and how do we work with that?"

04-01:46:41

Meeker:

You know, you're just on the job for a year or two at this point, going through these—

04-01:46:46

Freese:

And I'm thinking, what were you thinking? This is nuts! I'd rather be on the other side. [laughs]

04-01:46:52

Meeker:

I'm curious about, you know, you set up a lot of expectations with Tim Mondavi and probably other people around you. Did you ever have any doubts about the method that you were trying to develop faced with these two very difficult vintages?

04-01:47:12

Freese:

Yeah, because there's the plan, and then there is what actually happens. So, my plan—trying to build bridges; I'm starting to work at that time for the pricing stuff—that took awhile to get fully implemented. So I'm seeing growers more and they're not accustomed to seeing people from the winery that much. And so, those sorts of things were underway. The theory of how we were going to build these bridges really, let's say they weren't facilitated by those vintages, because at some point, it's survival mode. We're saying to the growers, "We need grapes; you need revenue. This is going south really, really fast." We started just changing the rules, and saying, "Just bring it in. We'll deal with it."

And so, let's say it wasn't fertile ground for the concept of winegrowing, because I think we'd done a lot of things just sort of intuitively already in those seasons just based on working more closely together. And I knew, from reviewing the wines—even when I got there in January of '82, we were going through the '81 vintage and the '80 vintage, which, '81 was a pretty hot vintage, and then so we're kind of like building against, okay, having stuff run away, and I'm really hyper to that, and then comes a really wet vintage where stuff's not really at optimal ripeness. You know, so I guess being nimble was what we were learning at that point.

04-01:49:27

Meeker:

Over the years, I don't know how many or what percentage of vintages or harvests really challenged this winegrowing model, sort of Mother Nature having a terribly different plan, and all of your best-laid plans weren't able to be fully executed, or even really partially executed.

04-01:49:56

Freese:

You know, it's a good question, because I think there's a plus-minus. There were some that didn't allow us to do everything we wanted to do, but I will say that the concept of growing wine, and particularly in people who—and when we use this timeline sort of thing, so what I started to understand is that, on this timeline, if I knew, for example, if I had a wide window of flowering and I calculated the middle of flowering to when I think veraison was going to be, and I knew at veraison, we were going to have to do more thinning, because it was a wide window of uneven ripeness, what it did is it also said to me, we need all these other steps to go in sequence like they need to go. So the positive part in any season was, if it was a wet season, then what we basically did is said to the growers, “Don't irrigate. You don't need to irrigate. Okay? Just because you've done it in the past doesn't mean you need to do it this year.”

That's a little bit of a mission, because they're going, “Well, if I'm going to make an error, I don't want to err on the side of abandoning the vines.” So we started doing things like, “Okay, well, look at your canopy. Your canopy's still actively growing, and it's actively growing at the wrong time of the season.” So I started giving people timelines about what a vineyard should look like at different—and the Europeans do this by week. They do week number. So we set up a calendar that was week number, and to tell California grape growers, “In week forty-two, I want your vineyards to look like this.” [makes shooting sound] So, it was part of it, like figuring out so they had a calendar that week number. No matter what week it was in July, they knew what week number it was. And so, I didn't have to give them particular dates. I could say, “In week number such and such, I want to see the growing tips so they're slowing down, so that we know, three weeks later, that the vines are starting to really experience some moisture stress, so that they're committed to going through veraison.”

And, I think I would say, I had mixed success with that implementation, but pretty good success with the concept. So what they would basically rely on is, we would say, "Okay, time to rein them back now. This is the week when you want to slow down." And then I was able to hire field reps that could go out and do a lot of that work, because I couldn't get to everybody. That allowed us then, to your question about vintages, it allowed us to interact with a vintage in a more proactive way. Instead of say, "Okay, every year we always put on this amount of water in the first of July, and then we put on this amount here, or we do this fertilization program, or we do this canopy work or something in this particular week," I would say, "Look, the whole thing's shifted," and I would spend a lot of my time trying to convince people that, if we launched late, if it was a late bloom, that being really hot in July and August wasn't going to catch us up.

And I would have these arguments constantly with people. And I'd say, "No," and so I started accumulating the data and they would, after awhile, with enough data, they would go, "You're right. If anything, really hot weather slows us down." And then there were converts coming on board. But up until that point, they would always say, "Don't worry about it; it'll all work out. We're still going to harvest; it'll get hot." So anyway, some of these tools were allowing us to probably avoid some of the problems that might have happened if it was a wet, or a cool, or a very warm season.

04-01:54:15  
Meeker:

Why don't we stop there for today? I don't want you to be late, and we'll pick up there.

## Interview 5: October 23, 2017

05-00:00:01

Meeker:

Okay, today is Monday, the twenty-third of October, 2017. This is Martin Meeker interviewing Phil Freese at his home outside of Healdsburg. This is interview session number five, and before we pick up on the narrative where we left off last time, I'd like to just ask you to comment and offer your thoughts on the recent devastating fires in the region. We're now, Monday, two weeks out from after when they really started to impact the area, and I know that you and Zelma were evacuated for a portion of the time, so I assume the fire came relatively close to this house.

05-00:00:51

Freese:

It did. Obviously, there were people who were much closer, but I think the feeling that we got is because on Sunday, the eighth, the wind came up late at night out here, and it was so gusty that limbs were breaking off and blowing out of trees. We didn't have any real major wind damage, but of course, that was the wind that then picked up the fire that started in the Calistoga area, and brought it over the hills on Sunday night and Monday. And by Monday, we started to really have a pretty clear idea of it being a firestorm. And of course, then the stories were starting to be reported about how fast it was moving. And I think the combination of the wind, which I think has an effect on people's edginess—I know it does on me, just the wind blowing—and partly because we know some of things it can do, and probably just some physiology of people. But the fact that people were starting to understand how fast that fire moved, I think set the mood for the entire duration of the fires, that people couldn't believe that it could go at this horrific speed, and then calm down and go into a more kind of normal wildfire.

And I think the speed was complicated by the wind, both driving the main flames, but what I also understood from watching the websites that had—there's a satellite called MODIS, and I can't give you the acronym for it right now, but it's a NASA satellite, M-O-D-I-S, and it has a very wide pattern that it runs. I think it's maybe a thousand miles wide. So that every twelve hours, we'd get an image of our site, and they would process that so we could see, and on the website, they'd have the boundaries of the fire, and they would have the hotspots. It just was presence. It didn't tell you size or amount of it, but it'd be a hotspot that was detected. It would be red for it's active in the last twelve hours; yellow, active in the last twenty-four hours; and then there was a kind of a pale, kind of a faded-out category that was older than twenty-four, but still an active fire.

So we could see the patterns shifting, and we could see that the speed and the distribution of the fires was really broad, and what people started explaining to me, who were more directly in the fire-affected areas in the early days, that they would see whole—for example, page-sized embers floating through the air, and before you'd ever—you could see fire in the distance, but the wind

was taking, lifting these things and taking them forward. And that's probably—I'm guessing here; I'm not the expert, but a significant amount of the rate of the spread. So wind complicated both the drive of the main fire, and then this stuff jumping forward. And then the horrendous stories of people being awakened by neighbors who said, "You have to get out," and they flee on foot, barefoot in pajamas kind of thing, and we know people who were in that situation, and know people who then subsequently lost their homes, as well.

So, it's a shock effect I think on everyone, and it was close enough to us that we had, just down the road from us, one of the fires that started Sunday night. Again, it was probably wires arcing, or trees going down and pushing wires together causing sparks, and/or, in some cases, transformers just exploded, and that fire was very close to us. And we came to the conclusion that we were such small factor in the total scope, the magnitude of what was going on in Santa Rosa area and south, and then in Napa Valley, that we weren't going to rate very high on anybody's radar about coming out to either help us—because those early phases were really, they were saving lives, that's really what they were doing, and property was secondary. And then by, probably, I don't know the exact time, but probably by Tuesday, Wednesday, the winds had calmed down, and the massive resources were pouring in from neighboring areas, and we'd see people—we'd see fire engines here in groups of three to five, stationed in places—and they would be from Oroville or from Santa Barbara, people who just said, "Okay, you tell us where to go," and they would set up these stations, and they were patrolling.

So they were really in a property defense mode at that time, and then all the active fires that were being blown around by wind shifts and so forth. So, we were constantly looking at weather forecasts and saying, "Which way is the wind going to blow? Are we at threat from the south? Are we at threat from down at the end of Chalk Hill Road here?" It was burning up, and then the fire department came in and they set some backfires in places, and there was no way to really communicate that to people. So then we would see just over the hill from us, poof, a fire goes up and gives a lot of smoke, and we didn't know what it was, and it's near where Zelma's horse was stabled along with forty or forty-five other horses. And they did, in fact, they put a backfire there, when the winds were in the correct orientation, so that it would burn away some of the fuel. And of course, we didn't know that, so we go up to our neighbors up the road from us here and we had an observation post, and so we could look out and kind of see to the south and to the west, and we're saying, "Okay, last time we were here, it's at that ridge, and now it's at this ridge." And so, the anxieties were pretty high.

So our evacuation was not a forced evacuation. It was a voluntary one, and again, we figured that, with so few people out here, we're not going to get anybody's attention, so we're going to have to take care of ourselves. That's not at all a condemnation of the officials, it's just, put the resources where

they were really needed. And then, of course, my son and daughter-in-law live in Calistoga. He's on the police force. She's a dispatcher in the 911 office, and they're just in that north part of Santa Rosa. It was literally in the eye of the storm. They're in this, it's a county building; it's the jail and several other things there. And she'd been on duty in this, all lines, all communication forms, everything working, and she hadn't been on break or been outside for about twelve hours, and she walked outside and she had her cell phone with her, and she called us, and here's a woman who's seen just about everything. She's a paramedic, as well. She's seen just about everything, and I've never heard her be so upset. She was standing there, and literally, all around her—they have a fairly large parking lot there, around the county buildings. And she said, "I can see and hear things exploding. Everywhere I look is flames." And they're right by the freeway and so she could look back, on the Coffey Park area, things had jumped across the freeway.

She was on duty, I can't tell you how many days, it was continuously, and they get little bits of breaks, and then they would come right back on. She couldn't get home to Calistoga, because she couldn't go down Sonoma, Highway Twelve, and come around and come up through Napa. She couldn't get up Napa Valley. She couldn't get down Sonoma. She couldn't get down the freeway, and if she did, she couldn't get back up Napa Valley. And so, my son was Calistoga Police, and they evacuated. He had a telling story. I talked with him on the cell, and I said, "How you doing?" And he said, "Well, the only people that are left in Calistoga"—theoretically, some people didn't leave, but—"are first responders." And he said, "We have CHP from all over the state. We've got sheriffs. We have Oakland Police," and he said, "When all these people came together, their command center, the first thing they did is they rolled out a map, and they said, 'Okay, these are the houses in town that have swimming pools.'" And as law enforcement officers, trying to make sure people were getting assistance and so forth—and I don't think they have looting, but being aware of things like that. He said, "If Calistoga gets overrun, these are the places you can go jump in a pool." And I go, "Okay, that's like, last minute, yeah." And he said, "Yeah, that's it, that's what they're going to do. They're going to stay until the whole place is overrun, but they'll go find pools," and he was showing them and telling them where they were. And you go, "Okay."

Well, it never got down there and it never wiped across Calistoga, but I can tell you, on the north end of Calistoga, just last night, Sunday, the twenty-second, we drove down, the first time we were able to go through Knights Valley and down into Calistoga, and that's a route that I don't know how many hundreds or thousands of times I've driven, and Zelma and I were together, and it was a truly sobering sight. You could tell that everything, as far as you could see on both sides of the road, was just wiped out. And it was so hot that huge trees were so damaged they had to drop them for safety reasons. And they don't leave piles of brush. They were trying to shred the stuff and get it down to smaller, something that was hopefully not going to



catch fire again. And the houses and farms and barns and so forth, and we look out, and we go, “That’s all gone,” and vineyards where fire had burned through it.

And then you drive along, and there’s this little house that sits down in this little valley, and I could see down in there, just off of the Highway 128, and it’s sitting there perfectly untouched. I don’t know if the fire went over it, or they managed to preserve it in some way. You drive down and then the little Christmas tree farm down there as you go up, and to go over the little ridge to—so it’s [makes exploding sound] completely gone, and the barns and the buildings and everything. Drive over and down, and there’s a house that you can tell was scorched all around, all the landscaping is, but they saved the house. Out buildings are gone, and burned out hulks of cars, and they saved the house, and you just go, “It’s bizarre,” and it really kind of brought back that—it’s probably a form of kind of a stress syndrome. We’re trying so quickly—when we left on Monday, we said, “Okay, there’s a very good chance, when we get back, we won’t have a house.” And so, it brings a sort of sobering thought to your mind.

We fortunately didn’t feel like we were like, burning right at us at that time, so we had an opportunity to really think about what we took out of the house, and we have three cars and two people. And so, [laughs] Zelma said, “Look, we’re not leaving this rebuilt, totally redone Austin-Healey behind,” so we figured out a way to kind of ferry it out to the edge where it was safe, over to the Alexander Valley School—there’s a parking lot—and then come back, and then get both of our cars loaded up and get them out, and then sort of move into Healdsburg, and then we come back out and we get the Austin-Healey and move it into Healdsburg. And then of course, while we were there, Healdsburg had an advisory evacuation. So we didn’t have flames nipping at our heels like a lot of people did, but there’s this kind of sense that you get pretty clearly that you don’t know where safe is, and it’s psychological for us, more than it was really physical. So, yeah, it a was pretty important period of time.

05-00:15:10

Meeker:

In the face of so many people losing their homes, maybe the fate of this year’s harvest, or the status of vineyards, it pales in comparison, but given that you’re very plugged into the community and still do a lot of consulting work in the area, what sort of impact have you seen on grapes and the 2017 harvest?

05-00:15:38

Freese:

Yeah. Well I guess I’d start first of all with, the wine business is obviously a people business, like any other business, and so we have a lot of the farm workers who lost, and kind of management type of people in both vineyards and wineries. And I talked with a young woman who’s up at Coppola here in Alexander Valley. I saw her last week, and I said, “What are you up to?” And she goes, “Well, so we still have grapes in the field.” They’ve taken a

corporate attitude that they're going to bring all their growers' fruit in first, and then they'll bring in their own vineyards. And she said, "So I'm looking at vineyards, trying to figure out how we're going to get stuff picked," she said, "then I spent three hours in the winery, because we're short on staff, and to bring more grapes in, we have to empty fermenters. And so anybody who could pick up a shovel and scoop out tanks was busy doing that," and then she said, "and we had a strategic meeting about what's going to come next," and, "so everybody's doing everything, whatever they can do."

And the true assessment of what the damage is, I think is physically, vineyards have burned through, and I've seen cases where it was hot enough—you think, well, a vineyard can't burn; it's green. They can burn, and usually it's the cover crop that burns, and then scorches the vines, and if there are any wooden structures in the vineyard, those can catch fire. And in South Africa, I saw a fire that was so intense, it didn't affect us in our vineyards in South Africa, but it was so intense with one of the clients that I work with up on a mountainside that—we use a little device called a Gripple, where you can put the wires in from two directions, and you can pull those wires, and they're kind of like used—as a kid, you get these little things that—and they call them Chinese handcuffs or something. You put your fingers in and you can't pull them out. Well, that's what a Gripple is like, but it's for wires. That fire was so hot that it melted those, and they looked like if you take a candle and turn it on its side and let it drip. It was a puddle of molten metal that then cooled and turned back into solid metal you could pick up, and here's a Gripple, and it's like molten wax, that it solidified.

So, they can get really hot. So that's physical in a vineyard, but the one that we're probably more broadly concerned about is the impact of the smoke, and since we're late in the vintage, a lot of what is in the field yet—most of the white grapes were out and what can happen with the smoke is, it just hangs in, in a vineyard, no matter how proximal the fire is, that, those smoke characters can be absorbed. And there's a little bit of uncertainty about the physiology of how it actually worked. There's probably a physical effect on grapes. They have what we call a waxy layer. It's basically what protects the outside of the fruit, and they're hydrophobic, so water doesn't want to sit on there, which is a survival technique to help prevent the berries from rotting. But it has this kind of waxy substance, and a lot of these smoke characters, evidently, can kind of embed or quote, "dissolve" into that.

So they're there on the outside of that, and when you have red grapes and you crush them, and the skins and seeds and everything go in together, and then you start to produce alcohol from the fermentation, you actually are producing a solvent that can help dissolve that out. Where they might not be soluble in a water-based solution, but an alcohol-based solution, sometimes those come out. And some of those characters are what we call free, and some are bound. And I'll have to admit that I'm not the expert on this, but I read some of the reports, and that some of the bound characters can actually release themselves

later on into the wine. I've smelled particular cases in South Africa and here, previous fires, that you can walk into the cellar—there's a particular aroma at harvest time that's just one of the most glorious aromas. You walk in and there's this fruity kind of fermentation aroma in the cellar. And if you have any fruit in the cellar that has fire affected, the first day, sometimes you can't smell it when it's immediately crushed, but the second or so day after fermentation starts, you walk in, and it smells like you just stuck your head in a fire pit, this acrid sort of aroma, and it's really disgusting.

So, that character, we don't know, and we don't know all the ways it can get into fruit. The people who are the real experts are the Australians, the Australian Wine Research Institute, AWRI. They've done a huge amount of work on it, and so right now, even contemporaneously, I'm pulling up articles and sending them to clients and saying, "Okay, this might be helpful." And some of those vineyards, quite frankly, people couldn't get to them. Vineyards might be in an area that's an evacuation zone, and I have a client who said twice, the sheriff came in and ejected them. They said, "Look, you can't be in this area. It's an evacuation zone, and you can't have a crew of six or ten or twenty guys out here harvesting, because everybody's—could they get out in time if it fired up again?" I think, again, concern, a rational concern about spread, but I think also a lot of it goes back to those early days I referred to, that Sunday, Monday, when the wind was blowing like crazy. You see something like that, and you go, "That's how fire behaves," because you take that, that image is so locked in our brains, and how it can sweep so quickly, and how those embers blow forward and fires just erupt, sometimes a mile or more beyond where the actual physical part of the fire is.

So, we're still in that process. This same client who was having problems—this last week, early in the week, Zelma and I drove up on Highway 101 north of Healdsburg up to the Geyserville area, and just beyond, and there's an exit there, Canyon Road. It's fairly high. It's kind of up on a hill and it overlooks things, and we could stop there and we pulled off, and it wasn't a novel idea. There were a lot of cars stopped there. And we could look off to the east, and we could see the fire that was still actively burning in the Geyserville area and that caused an evacuation of Geyserville. And so, it goes across; it goes across the Russian River and then up over some ranges of low hills, and the fire was so intense. We couldn't see flame, but there was just smoke everywhere.

We have a very good friend and a fellow I work with, who has a small vineyard in, right at the edge of Geyserville on that east side, but he's a—modern art collector, and he loves constructing things, and artists that work there, and there's a very noticeable and landmark piece of construction that's a real tall tower that they do performances in, musical performances and other things. So it's a really good marker point. We have friends who—

05-00:24:10  
Freese:

Oliver Ranch, yeah, yeah. So we could see that, and I knew over that ridge was this one client who had a vineyard there, that has Cabernet, Malbec, and that, I had said to him, the week before the fire, I said, “Look, this isn’t quite ripe yet.” It was scheduled to be harvested, and it was about ten days before the fire, and I said, “We need to let this sit for a little bit longer.” And he said fine, and so we had rescheduled it for just before the fire, and the crew, we couldn’t get to it, and they said, “Look, we can get to it on Monday.” And of course, Monday didn’t happen, but we’re sitting there and we’re watching. Helicopters are flying from the north down and they’re dropping water with these big buckets, and it’s a rotation of about five of these guys. And then, there’s the smaller CDF twin-engine plane, fixed-wing aircraft that we see flying, and then behind it, is one of the 747s.

And it is like, this spotter plane looked miniscule, and here is this giant 747, and what we saw was, the small plane was actually leading the 747. They’d make a round, and then they would go flying from south to north up that ridge, and the 747 would do a drop, and then they would circle around, and they would go south, and they would come back up again, and so they’re coming out of the smoke plume. And we can’t see the plane, you can’t hear it, nothing, and then the smaller plane would emerge, and right behind it is a 747, and obviously, the small guy’s a spotter. And, 747s don’t fly slow, really well. And I remember somebody telling me one time the stall speed on a 747 is something like 125 or 150 miles an hour or something, and that’s fast, for delivering a payload of retardant. So here this guy would come out—they would emerge from the smoke, *bang*—the small plane right on his heels, reasonably close. Here would come the 747, and then there’d be this huge, long drop zone, and you could tell the 747 was powered down because when soon as he was finished with a drop, he’d hit the throttle, and you’d see this burst of some smoke come out of the engines.

So, he was basically idled down, I think, and then he would hit the throttle and say, “We’re not going to let this guy come out of the air,” and [blows air], he’d start to climb, and they’d go around and they’d make another run. And, you sit there and you go, “The human ingenuity and power and the sheer power of nature, head to head right here.” And then we saw these five or six light-colored fire trucks. I don’t know where they were from. They were snaking up the ridgeline, and they stopped, and then they just stood there, and then, the reason was, there would come another run. And so they did several runs; I don’t know how many runs those guys can do with a drop like that. But, every time he did, you’d go—people were cheering—“Yeah! You go!” [laughter] Yeah, it was pretty amazing. So, a lot of sights and sounds—not sounds, not so much, we didn’t get that close, but fire engines, we’d hear sirens here running up and down the road.

And then back at the horse ranch, there was actually a camp there. They were CDF guys, and I think people were taking them food. They were camped

there; they weren't going to move. They were a strike force that, if they were needed to go any place, and they were watching a backfire and so forth. Yeah. I don't know, it just goes on, but the loss of property and life—I just don't know how people are going to survive from it. We don't have enough housing, for those, and we're going to lose people who just will have to move and they won't be able to come back, or they're underinsured, or, the drama of coming back into it is the sheer shock value of it. I don't know. Kids, who basically see—in cases, one case, there was the father, said, "I'll take the kids," and the wife was to follow and they got separated in the smoke, and she ran off the road and nobody knew she was down, and she died, and the rest of the family got out. We don't have any experience with dealing with that kind of stuff, so.

But, the wine industry will go on. There'll be a lot of discovery about how badly things were affected. I'm working with clients and friends who've never been through this, some ways to possibly work with when they're buying grapes from a grower. Some people say, "Well, I just won't receive the grapes," and I say, "Look, the things that are key on smoke taint really have to do with the time and the severity of the exposure. Longer the exposure, and the later it is in the harvest and the number of days with the smoke, really have a tremendous amount of effect on how much of that character could come into the wines." And so you can have things that are affected early in the maturity cycle for short periods of time; sometimes they'll show effect and sometimes they won't. We were probably in a window of one of the most damaging times, even though in many cases, when the wind would shift, the smoke would clear out. But we were here for five days running, where it was just really hard to breathe, and we'd wake up in the morning, there was no wind overnight thankfully, but the smoke was just settling in the valleys. And so you go, "Well, fortunately we don't have wind, but unfortunately, it's settling down on people and grapes and so forth." So, I don't know. I can't come close to making a forecast; we'll just have to wait and see how we deal with it and work through it.

05-00:31:08

Meeker:

Well, thank you for talking through that—

05-00:31:10

Freese:

Yeah, well, it's kind of a long story, but—

05-00:31:12

Meeker:

Well, it's fine, and it's such a transformative moment that I think that it made sense to pause and talk about what the immediate impact has been.

05-00:31:25

Freese:

But sobering I can tell you for sure, and impactful, yeah. We'll drive through places probably, that'll be scarred forever, probably forever, that were so bucolic and sort of ideal and so forth. But also it says to us, we've, I think, maybe personally and maybe as a culture and as a community, been not as

careful as we could have been, or should have been. It caused us to re-look at the concept of defensible space, and already making plans about how things are going to change, and, yeah.

05-00:32:16  
Meeker:

I hadn't heard of the 1964 fire until this one, and so, I think that, for instance, the fire that ravaged the Oakland Hills has been remembered and commemorated and has, to a certain extent, changed some behavior. Now we're a couple decades out from that, but maybe that is something that can come from this, is a better sense about how to protect and minimize the damage that inevitably comes from these things.

05-00:32:51  
Freese:

And I'm nervous particularly today, as we sit here, because the weather forecast for Southern California is exactly the same conditions we had two weeks ago. In the South, they call them—

05-00:33:07  
Meeker:

Santa Anas.

05-00:33:08  
Freese:

—Santa Anas. Here, they're called the Diablo, for the devil. And there a high pressure zone that sits in and you get these offshore winds, and the humidities are abysmally low, and the wind speeds can be really high. I heard reports of sixty-five-plus miles per hour at least in gusts, and there were times here for us—we weren't really in the eye of it because the way we're kind of buffered a little bit, but I'm looking at some of these huge fir trees, and oak trees, and so forth, and I'm thinking, our limb's going to come down, and you see places where whole trees were blown over. Yeah, anyway. Okay.

05-00:33:50  
Meeker:

Well let's turn the clock back a little bit, and actually talk about something a bit more positive. Last time we wrapped up, I asked you to describe one of the more difficult vintages when you were at Mondavi. So, what I'd like to ask you about now is one of the better vintages that came in when you were there, and how did you take most advantage of a really good vintage?

05-00:34:25  
Freese:

That's a great question because oftentimes, we sort of think good vintages just sort of make themselves. But I think probably one of the significant things out of your question, and it's the same for a challenging vintage, is, how do you know what it is? And I think that's a question and that's a, I think, really good question, and I ask myself that question a lot through a growing season, and as we get into a vintage. But it's also one that, what I have come to appreciate is that with younger people, younger winemakers, younger viticulturists coming in, they don't have a frame of reference, because they don't know. Maybe they haven't had a challenging vintage, and they just don't have a clue. And so, they, people tend to do one of two things: They think, this is challenging and the whole world's ending, and it'll never be the same, and we're just

doomed, and everything's going in the toilet, and we just can't do this, and some people kind of lock up. And others kind of go, okay, well, maybe we can figure this out.

But I think, particularly in the role of a consultant, one of the things that I came to believe quite a long time ago when I was still at Mondavi—because sometimes we'd sign up new growers that didn't have a lot of experience, or a management company that didn't have a lot of experience in an area, but I'd see it particularly when I started my consulting business is, one of the things I'm supposed to do is to bring some, for want of a better word, some institutional memory to an environment or a vintage, so that I can help at least lay out some of the thoughts about it. But I've also realized that, however much I know and however much I've learned, I still don't know all the answers. So, what we oftentimes will do is, I'll say, with a winemaker I'm working with, for example, a winery, “Okay, I've seen this, this, and this, and I can tell you how those end in; in this particular case, I'm not sure how much of that we can draw on.” And so I can, I will, for example, I'll go back sometimes to literature, or experiences I've had some other place that maybe people haven't had here.

So, that's all put in the context of, knowing what you have is really the critical part, because if you're going to optimize a good vintage, or deal with a challenging vintage, you have to know kind of what you're dealing with. And one of the things I learned quite a long time ago, and I want to put this in a good sense, is that when I work with a client in my consulting [phone rings] business, the first thing I do is I ask—

[break in audio / side conversation deleted / phone call]

05-00:38:47  
Freese:

So, know the difference, I think is probably the starting point, and I was going to say that one of the things that I've seen—and I put the context, I want to put this in a good light, in a positive light—one of the things that I've learned is that when I work with or I think about working with a consulting client, well, first thing I tend to do is, I tend to assess whether they're—sometimes you get people who want to have a consultant, but they don't want to listen to him. It's kind of like, “Okay, I've got so and so working with me, and they're going to go off and do their own thing.” So I try to have my radar up. I like to work with people who are engaged in the learning process. And so, what I was saying is that, I feel like part of my responsibility is to bring this breadth and depth of knowledge, and share that, but not say, “Okay, I know the answer to everything.” But what we don't know answers to, is I have a pretty good idea about how to work through it. And so, we can usually get through.

Now, the fun part is having vintages where you see something and you go, “I've seen this movie before, and if it ends the same way the previous movie

ended, this is going to be a fabulous vintage.” And so then, to your question, what can we do to boost that up to the next level? Let me give you a couple of examples. When I see—and this is way early, and I’m going to go back to the time when—if we have an adequate amount of rainfall, the rain stops at the right time, so that relative to the vine starting to grow, what we really want to do is to let, what we call, all the free-draining moisture move out of a soil. So when the vines wake up in the springtime, the soil, if it’s too wet, has too much water in it, the soils are, they’ve actually forced the oxygen out of those soils. And grapevines, everybody says, “Well, the water’s the key thing.” Well, water’s not the—I mean it’s a key, but roots need oxygen, and so part of the process of vines using moisture out of a soil with this, what we call at the soil capacity, where all the free-draining moisture that is trapped between the particles of the soil has drained away, well, as it drains away, it pulls in oxygen, so when the vine starts to grow, it has moisture and it has oxygen.

Now, the timing of that relative to when the vine starts to grow is important, and obviously temperature and some other things. What I’m driving at is we get a season that launches with a very uniform start, like the horses out of a starting gate. They all come out at the same time, by difference of a few hundredths of a second. When grapevines start to grow, if the conditions aren’t exactly right, grapevines come out of the gate in a very ragged kind of sense, and so you have some buds that are opening and start to grow, and others that are kind of saying, “Yeah, I’m not quite there yet, not quite ready.” We don’t know all the factors that influence that.

So, when I see a vintage that starts out, it’s a pretty uniform start, but what really counts is when they start in flowering. And I like to see, when flowering begins, at what I call 5 percent, and this is another one of those times when a most glorious aroma in our business—the flower, inside what’s going to be the cluster, the cluster starts to elongate, the rachis, so what’s going to become the stem or is the stem, has to make room for all those berries. So the flower cluster starts out really, really small, microscopic, and it starts to grow and then it reaches this stage, and then it starts to get ready to flower, that rachis starts to elongate, and that’s usually at about twelve internodes, or twelve leaves long on a growing shoot.

So I can walk in a vineyard and I can look at the whole concept of synchrony. As a physiological stage, how synchronous is it? And the reason synchrony is so important is because when we’re looking at ripe fruit, what we really want to do, from a winemaking standpoint—it’d be ideal if we’re looking at say a target harvest chemistry of a particular sugar content, and a particular acid and pH. We would like that to be one single bucket of value that’s all really almost all the same, every berry. That is exactly the opposite of what nature has designed grapevines to do. Because the grapevine is only interested in one thing, and that is, producing seeds. It does two things. If it’s very vegetative and it’s growing beside a creek, or in a lot of water supply and so forth, it’ll grow vegetatively up a tree, winding on things, telephone pole, side of your



house, whatever, until it runs out of weight to support itself going up, and then, the growing tips will fall over, and when the growing tips fall over, then the little side shoots start to grow. But if it's in an area where it is running out of goodies, its moisture or nutrition, but usually moisture, the vine will slow down. It'll say, it's essentially—anthropomorphizing here—that “this is not a good place to grow, and I better get on with a second phase of my survival, which is reproduction.” There's no reason for grapevine to make berries and seeds when it has all the goodies it needs and it has a place to grow. So it's going to grow vegetatively.

So there's a vegetative state, and there's the reproductive state. What we do in commercial vineyards is, we use the urge for vegetative growth to generate a sufficient amount of canopy to ripen—from all the physiological studies—to ripen the amount of fruit that that vine can carry. But, at some point, we want it to come to this conclusion, physiologically, that, “hey, that's pretty much it; I'm going to have to get on with reproductive growth, or else I'm going to die as a plant here.” It doesn't realize it's in a vineyard and everything else. So the strategy is, develop a sufficient amount of canopy, but not too much, because if it's too much, then the canopy's too dense and we lose fertility, and flavor, and so forth, and we can talk about that. So, what we want to do is, we want to have the vine to grow, grow to the right length, in a fairly synchronous manner, has lots of drivers on it, affecting it, to go through this flowering period, and have a very narrow range of potential maturity for the berries, and then, out at veraison time when the fruit's softening or changing color in reds, it's to have a very narrow window there so when we see that kind of a setup, then it means that the characters, the aromatic and flavor characters, and chemical composition of those berries, are going to be in a much narrower window. And so, what narrowness and that window really gives you is a concept that we would call intensity.

So when you have a wine that's made from a very focused and narrow window of ripeness, it tends to be very focused in its aromatic characters, whatever they might be, but it isn't like you smell something and you go, “Okay, I get some red fruit; I get some dark fruit characters; I get some greenness in here from herbaceous or late-ripening fruit that is low in its ripeness phase,” because the berries are going to stay until they get to a ripening, a real ripe stage, which is really ripening the seeds. We're looking mainly at the berry and its characters. But it tries to, it has a green character that discourages birds and squirrels and other animals from eating the berries, because the seeds aren't ripe yet. So, the wonder of the vine, of fruit and Mother Nature, keep this in a non-palatable condition until the seeds are ripe enough inside that berry, that they can actually be consumed by a critter, passed through the gut, and deposited somewhere, with a little bit of fertilizer, and there's a possibility of a new grapevine growing. So, it's inherently simple, but so beautifully executed. So from a wine standpoint, we're trying to push Mother Nature in a direction she doesn't want to go, is that, have everything flower at the same time, ripen at the same time in this very narrow

window of ripeness, so we get these really intense and concentrated grapes, and resulting wines.

So, when you go back to your question about a good vintage, and I'm saying we make these observations, if I see a narrow flowering window, I'm going, "Yes!"—well, if the growth is fairly uniform; the flowering is pretty narrow window. And what we track is the start and the finish, like 5 percent flowering and 95 percent flowering. The begin and the end of anything is easier to recognize than the middle of an event, especially when you have natural variation from flower cluster to flower cluster on the same shoot, shoot to shoot, vine to vine, area to area inside a vineyard. There's a huge amount of variation out there. And so what we're trying to do is to first of all, for a grape vintage, I'm trying to recognize if we have a lot of uniformity. So that, to me, says, "Okay, here's something we can build on." So then what I'm looking at is saying, "Okay, as we get into the veraison period, when the berry softening is going on, or color change is occurring, and we have a vintage where, if it looks like a reasonably good crop level, then we get very aggressive about dropping out the fruit that's outside kind of the norm."

Sometimes people say, "Well, if we have clusters and berries that are turning color, softening, very early"—some people go in and they thin those grapes off. I personally have a very hard time doing that. What we tend to do, and what I tend to focus on, is the tail end of the curve, because if you look at any—nothing's a standard distribution like we learned about in math class. It doesn't work that way in nature. Usually, you get a start, and then there's a little bit of a lag, and then there's the main body of the curve of the event, and let's call it here, and we can look at something like sugar concentration. So every day, we can go into a vineyard and we can sample lots of berries, say 200, 250 berries, and if you wanted to do it every day, you could do it. We do it like every week. We can sample, and then we do this tedious process of reading, as an indicator, sugar concentration, sugar content, of each of those berries, and then I plot it.

So I can see that there's this profile, and imagine that profile is marching. So, every day, every berry there is a little bit more ripe, so this whole parade is sort of marching. And the profile stays fairly constant, but what we can do then is, I can assess is, where's the most variability? Is it at the beginning of this distribution, or is at the tail end? So what we do is, we go in the vineyards, and we throw off green bunches, for example, green clusters. In our project in South Africa, because our vineyards—I put the qualifier, if it looks like a good-size crop, the crop level—we don't work with very large crops, because of the nature of the site that I chose and that we further developed. So what we tend to do, and we have labor and we have the physical capability to do this: we go through at say, 85 percent color change in our red grapes, Cabernet, Merlot, Cabernet Franc and Malbec, and what we ask the team to do is, they go through and they take a cluster, and they pick out green or pink berries, and throw those on the ground.

Now, when we have a situation like we oftentimes, here in California—and people think that’s a nutty approach, because we don’t have the labor volume and the time to really do that. And so we go through and we throw off a whole cluster. Or sometimes, there’s what they call a wing. It’s a little side on a cluster, and we’ll clip those off because they’re usually late to change color, and sometimes we’ll clip off the tip of the cluster, because that can be a little different in its ripeness, as well. So we may manicure the cluster, but we don’t do this pulling off individual berries.

However, now, there’s a piece of machinery that’s called an optical sorter, that once a vineyard is harvested and you run it across this optical sorter, the clusters, or it could be machine-harvested fruit comes into the winery, you dump it across this table and it’s kind of a vibrating table, and the berries have these kind of individual channels that either they’ve been taken off the clusters mechanically, in the winery, or from a machine harvest. The berries run past these little optical sorters, and it’s a little beam, and it goes, “You’re good. You’re good. Ooh, you’re too pink. You’re too green,” whatever, [blows air], little puff of air, [makes popping noise] blows it out of the way.

05-00:54:32  
Meeker:

[laughs] Wow.

05-00:54:34  
Freese:

[laughs] Yeah, so it’s really discriminatory in the sense that you can set this for an attribute, and some of them you can set if the fruit’s a little dehydrated or wrinkled or something. So, that’s giving us a lot of tools that let us take maybe an ordinary or not-so-good vintage and up the game, up the potential quality on it. We’re using it this year because we had this heat spike in late August, early September, some blazing heat. We had temperatures, 110, 115; warm nights. Those nights never really cooled off and the relative humidity was very, very low. And so, we had some fruit dehydration. People with those sorting machines, there’s no way we can sort it completely in the field on a per berry basis.

So, the sorting machines are giving us an ability to raise the quality potential. I’m going to say quality potential, and I’m going to back up, quality potential for vintage; we can raise that. We have certainly, I would hope we’re raising the quality potential. We’re certainly changing the style of the wines. So we’re getting out sort of the green, greener or less ripe. I say green—not pure green, but they’re maybe a little pink in color, if it’s Cabernet, for example. Those berries, if you taste them, and you check them chemically, they have a slight herbaceous character to them, and that can give an herbaceous note to the wines. They’re the ones the squirrels and the birds wouldn’t eat, because they have a different receptor, not just our visual. They look at it and go, “Uh-uh, not that one, I’ll take the one next to it,” and that’s sweeter, and that’s the seed that’s also riper; that’s the one they’re going to go deposit someplace.

So, if you're going to optimize a vintage, then you use all the tools you have. You're going to optimize a really good vintage, then we'll use these indicators of what we think is a good vintage coming down the pike at us. And then, do the assessment: Do we have enough crop? So, one of the things, because we don't have unlimited labor here, is there is a first mover opportunity, so when I'm working with a client and I'm saying, "Look, we're set up." They've got this; we've got these way markers or waypoints along the vintage, and I'm saying, "We are really set here. Let's do our veraison thin early, before other people have the demand on the labor." So we may drop a little bit more fruit, but we're sure we get it done in a timely fashion, because we're talking about actually just a few days, because all those berries—again, this whole parade—every berry out there is ripening, and they're marching this parade, and it's a ragged parade, and we want to cut out the late guys, the green guys, because they're the most damaging. They're the most damaging from a standpoint of wine style and character, because they're the ones that are going to be green, and they're still going to be a little bit greener-pink in character, so we can take those guys out. I think I said it before, I may have said it a little bit differently, but what we're really looking to do, for clarity, is to really get out that unripe character.

Now in some cases, we'll go for things that are overripe, if it's got a little fruit shrivel or so forth, like that. And certainly, we can get the impact of sunburn. If fruit's a little bit too exposed, the canopy's a little bit open, we get too much sun on it, and some of that fruit gets sunburned, we can go through and drop that out before harvest. Or in some cases, cruise at a really good—and they're really good at this, they'll just exclude those when they're harvesting. But we're harvesting on piece-rate these days; weight is weight. If they're going to cut something off the vine, they want to put it in the box that's going to get them credit for weight, even though there isn't a lot of weight there.

So, I would say that that's an example of how you recognize a vintage, and of course, there's climate; there's weather impacts. We had a great vintage 2017 going. For some unusual reason, even though we had really well above average rainfall, the rain stopped at the right time, the free-draining moisture went out, we had a pretty good bud burst. It was a pretty good flowering period, and yet we had these bizarre kind of heat storm kinds of things. And so things started to wobble a little bit, and now you add on fires and so forth, and so, the jury's out. We'll see how this vintage comes out, but I think a lot of it's going to be the time and the place, where people's vineyards were, how they treated them in the middle of the vintage. When I see a heat storm coming—basically, high pressure zone sets up, offshore winds expected—I've seen that movie too many times. And so, my response is, we just turn the water on, and start the drip irrigation system going.

In some particular cases, if we have water and sprinklers, and the water's a good character—that is, particularly if it's off of a well—we'll run the sprinklers to just cool the environment a little bit. But a lot of times when we

get that late in the season, the water that we have is coming out of a reservoir, a dam, and the intake is naturally on the bottom, and that water that comes out of there is pretty funky. It's anaerobic down there, and when you start the sprinkler—I can tell, here, for example, I can tell when our neighbors started their sprinklers, because I could smell it. I couldn't hear it, I couldn't see it, but the evening I could smell the smell coming, and it's a funky, pond water smell. Now, you're calculating your risk. Does that embed on the berries and carry through or not? I don't know the answer. But one of my clients said, "The vineyard owner wants to run the sprinklers." And I said, to the management company and to my client, "Okay, run it just for a few minutes, and see what the stuff smells like." And they go, "Eww," and I said, "Let's run the drip system, because it's working off of wells, and we're not putting it on the fruit and on the canopy."

So, there are probably a million different nuances about how do you optimize, but, so we're looking at judgment calls, and we don't have the answer. We don't know how hard the heat is going to hit us, but we know that, if we're putting sprinkler water on, it may have a negative impact, so we choose not to do it. And we see the heat coming, and the offshore winds, and I'm like, as I say, looking over the horizon is, "Okay, I know that's going to be tough on the fruit, so can we run drip systems." And even if you run drip system, it doesn't guarantee the vine's going to really behave like you want it to, because vines, at this stage, they're still going to go for the vegetation, so they'll let the fruit burn. And it's not a conscious thing; it's just the way they're wired, because they're still going to protect that vine structure, and if it's putting too much water, if the demand is too high, even though the stomate's closed, and they're trying to be conservative on water use, they can't go to 100 percent of shutdown, because otherwise, the leaves would burn. So they have to transpire some moisture to keep the leaves from toasting. Even still, we'll get some burned leaves.

05-01:03:16  
Meeker:

I'm curious, just the way that you're talking about it strikes me, and that is that, I think, probably a fairly widely held perception is that Mother Nature sets the stage and provides for either a good vintage or a bad vintage, and I think what I'm hearing you say is that, well, yeah, in some extreme cases, yes, the fire could really wipe out a whole slew of wines. But if you kind of look at the regular experience, and given the context that weather and rain and heat and all this kind of stuff provide, a good vintage can be made as much as it is provided, in the vineyard, through canopy management, through dropping fruit, through all of these kinds of techniques and tools that you just mentioned. So, it might not make as much sense to talk about good vintages and bad vintages as much as it does about how every vintage can be approached to produce better fruit?

05-01:04:52  
Freese:

There still is, without a doubt, vintage-to-vintage variation, no matter what technology, what we think we know. We, as Americans, are a unique kind of cat I've come to appreciate in the world. We, for lots of reasons, and we won't go into politics right now as one of them, we, I think, basically, as Americans, believe that we can always make things better. We can always do something to raise a performance, or get something that's better. I'm not sure that's commonly held in today's world by everybody, but, so, we'll do heroic efforts to try to get a few percentage points up higher on that scale of performance, and I don't know; it's in our nature. The only real limitation is generally about what the tools are. But there is, without a doubt—what I'm talking about is that sort of a mode—without a doubt, there are vintage variations, and there are things that we just don't know. They probably have to do—I'm talking about uniformity of stages and so forth—things we can try to make an impact on. There's a kind of uniformity or non-uniformity that we probably can't recognize, or I know we can't recognize. And there's something that, when you taste the fruit and we taste the young wines, you just go, I don't know how it happened, but it's above and beyond.

So that's why I'm not dismissing 2017 at all. It was bizarre, it was challenging, it had its wrinkles to it, but also it has really good parts, and I can't sit here and tell you that the spring is more important, will override the August-September. I can't tell you that, or that August-September is going to completely torpedo everything that was set up in the early part of the year. And so, I think the jury's still out; we'll see the wines. The tough thing is when you have some exogenous thing like a fire. It's natural in the sense that these environments would regularly burn. The unnatural concept for us in California is that things don't burn, on a regular basis. The Indians figured it out. If it was too long a cycle, they would light the fires, and when they weren't catastrophic. They would say, "It's been too long since the last fire. The oak trees, everything, vegetation's getting too high." They would burn it, and they really were conservationists in that, every sense of the word, because they lived off the land.

We are so dominating. I've just described some of it, how we try to dominate nature, and drive it in our direction, and I have to tell you, while that's what I do, I also, in some sense, kind of have a little bit of, okay, how much of that should we really do? But, we're wired to try to make it better, and is some of the stuff we do, does it really make it better? I think it does. Better maybe not is the right term. I think one of the things that I see in California is that, we go through periods of time where we have less extreme vintages, and so we have more regularity in a cycle, I think, now, and I think within that, we've learned some of these tools to enhance a good vintage. We've now machines that can enhance a challenging vintage. I think we can't do a sort for smoke taint, but we can do a sort for, within a cluster that has raisins or shriveled berries because of heat stress.

So, yeah, that's raising the whole boat. But the last thing I'd want to do is convey an impression that vintages don't count anymore, because it's in a sense saying, "Well, yeah, for everything that we know, we still can't do it all the time," and that's exactly true. But what we do know, we can be more consistent, I think, in performance. And, we look at high prices on wines, and people are following particular producers, small guys for example, anyone. People say, "Look, I'm always going to buy XYZ wine, because I want to see their variations, because I know that, even in a poor vintage, they're going to"—our thing in South Africa, and Zelma and I talk about quite a bit is, we're going to be the best in a bad vintage. We're going to be the best wine out there, because we know how to do that. And in a good vintage, we're going to be one of the best, but maybe not the off the charts. It's a little bit like our financial advisor says: "Look, you want to avoid the downdrafts." But you can't always forecast them, so generally when people are in investing nature, when things start to go south, people go, "Oh my God, what am I going to do?" and they sell, and so they capture the down market, [laughter] and then they take—

05-01:10:58

Meeker:

They sell low, buy high. [laughs]

05-01:10:59

Freese:

Yeah, and then they'll say, "Well, this is running up again; I think it's too early to get back in, so, sell low and buy high," and that's not a winning strategy. But, I think it's not a good analogy with what we do, because we know that if we see a tough vintage coming, we have a lot of things that we think we can do to moderate the downdraft. And so, be the best in a bad vintage, and be consistent.

05-01:11:32

Meeker:

So, I want to talk a little bit more about Mondavi, and I think that we talked about this for a moment, but I just want your thoughts on this, particularly from that period of time, and that was, you worked representing Mondavi's interests to a lot of growers who they contracted with. I know Mondavi also owns their own properties. How was your job different for those two different ownership arrangements?

05-01:12:11

Freese:

Yeah, it's a good question, and it was definitely different. I would say that when I went to Mondavi, I had a vision of—and I talked about, and won't go through again—of what I thought I could do, and I wanted to do, personally, from the concept of winegrowing. And in a sense, and this may sound like a power statement, but in a sense, I had a lot more ability to impact the growers, because I was the guy who also wrote the contracts. So, I held the purse strings. So, you could use that as a negative, in the sense that I would say, "Look." If we had somebody that was on a shorter term contract and wasn't really kind of getting on board with the direction that we wanted to go, I could do—the benign thing is, just let the contract expire, and you're kind of

eliminating maybe somebody that either wasn't engaged or didn't think we were doing the right thing. Personal reasons, financial reasons, whatever, they just wanted to go in a different direction, and we'd say, "Fine, okay, that's good with us."

And then what I was doing is constantly looking at new vineyards. This is an amazing story. We had a grower I was working with on the west side of Napa, and it was just as you go out and the road starts to just gain a little bit of elevation. It's an old river plateau, quite frankly. There are river-run rocks out there, or eroded rocks. You can tell that a lot of water had moved through there; the stones had moved. And he was an older guy who was kind of an inventive genius, quite successful in business, emotionally attached to his vineyard and the concept of doing things really well. He'd take good ideas and he'd say, "Oh, let's give it a try. Let's give it a try." He had a neighbor who was, or is—he's still with us—literally, a nuclear physicist. This guy was brilliant, designed equipment to produce medical-grade radioactive materials for diagnostics.

And I don't know if I understood his whole business, but, so, I met him one time, and he said, "Look, I'm a neighbor of this guy. I'm just on the other side of the fence, and I see what you guys are doing," and talks with the neighbor. He said, "I want to sell you guys grapes." And I go, "You know, I love the idea, but I don't have any space right now, to buy them." And he said, "Okay," he said, "when do you think you'll be able to take some fruit?" And I said, "Maybe two years." He goes, "Okay, here's the deal." To me, he says, "Would you come out and visit me when you see my neighbor? I want to see you. When you're in the neighborhood, I want you to come over. I want you to tell me everything you're telling him to make his grapes meet your expectations." And he said, "And then I'll sell those grapes to other people, but I'm going to manage them like you want them managed. If it's one year, two years," he said, "I don't care. When you have an opening, I want to be the first guy in that opening."

Intellectually, he got it, and emotionally and business-wise. He said, "Okay." He had a target, what he wanted to do. And he used to get some pushback from his other people who were buying the grapes, and they'd say, "Oh, we wouldn't do it quite that way," and he'd say, "That's the way I'm doing it. That's my management strategy." [laughter] I don't know. I think in some cases, I know, from the other wineries, I started to get some comments, like, "We're buying the grapes and you're managing the vineyard. What's going on here?" And I said, "Well, I can't really speak for him. Just, we're talking." And I didn't want to say, "He's grooming a [laughs] relationship and you're going to lose the grapes. As soon as I've got a spot, he's going to pull them from you." I didn't want to say that to these guys.

So anyway, the first year under contract to Mondavi, we are monitoring the vineyard, and I'm out there. I have my samplers; they're sampling. I'm



running the data; I'm looking at it. I'm walking the vineyard. I'm tasting the fruit. You had Pinot Noir and you had Chardonnay. And he came in one day and he was in a panic, and he has this notebook, and he opens the notebook, and he's been plotting his samples. And I've been sending him—I'd developed, and I talked about it a little bit, this computer application where we'd have these masses of samples come in and they would crank out graphs for me, and I would see trend lines in all the data, acids, pHs, and so forth. He came in, and he sits down in my office, and he goes, "Look at this!" He said, "This fruit's ready to be picked, and I can't get on your schedule. I need to pick these grapes." And I said, "It's not ready." And he goes, "Look at the numbers!" And I said, "Yeah, your numbers, my numbers, we're sampling independently. You look at them side by side, the numbers say they're in the window. But," I said, "I'll be out there tomorrow morning at nine o'clock. You and I will walk the vineyard together, and I'm going to explain to you why this isn't ready to harvest yet."

So we met, and we walked through the vineyard and we're tasting fruit, and I'm showing him how I look at the vines and so forth, and I spent like an hour or so walking with him. And we're looking, and, "that one has the coloration on the shoots," and the seeds and the release to the seeds; and how the berries come off of the rachis; and the little fibrous, what I call the paintbrush, the fibers that are the transport mechanism to get materials into that berry, what color they are; and how much stays on the pedestal when you pull the berry off. So I'm going through this whole thing, and here's this guy who's just a brilliant scientist, and at the end of an hour of this, he looked at me, and he was devastated. And I said, "What's the matter?" He said, "This is a family vineyard. My father planted it. He and I inherited it, and I've been farming it for all these years. And I've been harvesting grapes, and I've been taking them to these wineries, and they're saying, 'Oh, this is great; the wines are great and so forth.'" And he said, "And I've been collecting all these numbers, and," he said, "in an hour, you've just told me I don't know what the hell I'm talking about, that everything I've been doing doesn't actually meet the criteria for when you actually harvest the grapes."

And I said, "Don't beat yourself up about it. I'm just telling you what we're looking for. And, if you disagree with it, you can sell your grapes other places, but I'm telling you, for us, what we're doing, the wines we want to make, this is what I'm looking at to define success." And he said, "I don't have a problem with you." He says, "I'm just devastated that I didn't know this before." It was an inflection point in his life. So he looked at his book, and he says, "This graph is meaningless." And I said, "No, it isn't. It shows us something about how we got to where we are. What I'm saying is that we're going to pick this on flavor." And I said, "You notice your contract doesn't have a sugar target in it." He says, "No, but here's what people have picked in the past." And I said, "That may have been perfect in those years, but this particular vintage, it's not when the fruit's ripe."

So, every day after that, I get a phone call from him: “Seeds are developing, brown tissue’s developing.” It was fabulous, and he was one of the most fun guys I have had an opportunity to work with, because he had this technical background where he can understand it, but then he got the organoleptic part of it, and that went together. He eventually bought the neighbor’s farm, the original guy, when he passed away, he and his wife passed away. He was able to buy that, and he’s now producing his own wines, as well as selling grapes, and just having a fabulous run with—and he’s brought in I think a nephew—I think it’s a grandson he’s brought in out of another technical background, and he’s teaching him the business, and it’s a fabulous story.

It’s a very long narrative, and the short version is: I didn’t have that relationship with our own vineyards. Because they were like, guaranteed home. And, they’d done things a certain way, and it was an uphill push. But, what I said is, “Okay, well, we can’t go forward like that, so I’m spending time trying to figure out how to get to the objectives.” And basically, and I talked about this in one session before, but basically, the aha for me was that they were looking at objective standards that were a little bit like this example I gave you with this outside grower. And the winery had gone through a period of time where it paid huge bonuses for hitting those specific standards of sugar content, and our own vineyards were really good at doing that. But the fruit would come in, and we’d make the wines, and I’m going, “It isn’t done yet.” And they go, “Well look, we didn’t even have to have contracts. It’s automatic. We’re getting these bonuses and so forth.”

And that’s when it really dawned on me, or became necessary to understand that, I had to be really proactive in working with our own vineyards as intently as I was with the outside growers on the winegrowing part of it. And what I also came to realize is that, a winemaker, winemakers, from the winery, could walk into any of our vineyards at any time, and they could devastate the manager by saying, “There’s something happened two months ago; why didn’t you do this?” And I saw that happening, and I, internally, inside the winery, I said, “Look, you can only do one of two things with a vineyard. You can either work ahead, in a growing season, or you can plan for next season. You can’t go back.” And when you have a winemaker that comes out and said, “Well, you really screwed up. You should have done XYZ,” fill in the blank, “a month ago, a week ago, two months ago at pruning time, or whatever”; winemaker would walk in the vineyard before harvest and say, “Oh, well, you didn’t do this”—how’s a vineyard guy supposed to interpret that? It’s like, I just screwed up. All I can do now is try to salvage the best I can. So, you pop the balloon, and that doesn’t instill a lot of good warm feelings.

So I undertook to work with the winery to say, “Look”—then we started doing more formal meetings with our vineyard management team, and the winery, and the idea was to plan forward—“if we’re going to change pruning from the experience that we had last year, then let’s do it in December or early January

before the teams come back in late January and February. So let's actually do something where we say, 'Okay, let's do a trial. Well, let's prune this way. What's the best idea to get to that objective? Or, let's do this canopy management or this irrigation or something,' and stop going back and saying within a growing season, basically, 'You really screwed up.'" And because what I realized is, what I was doing was all the forward-looking stuff with our growers, because I'm thinking that's where our challenges are.

And it turned out that probably, some of the larger challenges were in-house, in the sense that, I think, I don't know this for sure, but I think our vineyard team had kind of like siloed themselves a little bit, because they'd seen this performance where their balloon could be popped at any time, all the way up to when the final blend had been made, the wines were separate, and somebody could sit there, while the wines were still separate as individual tanks or barrel lots, and could say something like, "See, the irrigation was wrong." And it wasn't a constructive comment. It was more like, "You screwed up." So, I went about trying to change the conversation.

05-01:27:38

Meeker:

Do you mind if I ask who that grower was?

05-01:27:42

Freese:

Yeah, a fellow by the name of George Hendry. He's one of my all-time heroes. I love him, and occasionally I see his wines on restaurant lists or in wine shops, and I'm always loving it.

05-01:27:59

Meeker:

Is it under his name?

05-01:28:00

Freese:

Yeah, Hendry, Hendry, and they're reasonably priced, and they're really good. They're technically good and they're stylistically really expressive, as well.

05-01:28:12

Meeker:

You had also mentioned this term, and I'm probably not going to remember it correctly, but it starts with an *o*.

05-01:28:19

Freese:

Organoleptic?

05-01:28:19

Meeker:

Yeah, what is that?

05-01:28:21

Freese:

Organoleptic is kind of a general term for the senses of, probably mostly applied to, smell, taste, aroma, flavor, having to do with all the compounds that—I don't know how many different compounds—are in a grape and in resulting wine. It's hundreds, if not a thousand. And they're all there in nuance amounts of influence that has come from—oh, as I say sometimes,

when you pick up a glass of wine, especially if it's made from a vineyard that's a single vineyard, that's a sum expression of the life of that vineyard, and particularly this vintage. It's all the way back to what rootstock and clone and variety were chosen and planted, and how that vineyard was developed over a period of time, and how it got to be in this vintage, and is it very vegetative? Is it very stony and rocky and dry soils? So it's a sum expression of the total of that site and the life of that vineyard, and then with particular emphasis on the vintage that we're just working with.

And, there aren't very many agricultural products that, where you can then take that bottle, you can age it for a year, six months, ten years, twenty years—we're opening wines that I worked with when I was at Mondavi, and that I knew in the eighties. It's grapes that are the late seventies, the early eighties, grapes that I worked with from the vineyard side and delivered and know they go into that bottle. And we're opening them thirty years later and saying, "Ah, I remember! This is like"— [laughs]

You asked the breakfast question for a sound check, and I talked about—

05-01:30:33

Meeker:

The Muscat.

05-01:30:33

Freese:

—quince, that was poached in 1982 Moscato d'Oro from Mondavi, and that was a rescue from the '82 vintage, because it had started to rain. We talked about '82, '83 as some problem vintages or challenging vineyards, vintages, and the Muscat was, I'd see, was going to go in the toilet really quickly. And so, we just picked it, and made this wine. It's really delightful. I think it's 7 or 8 percent alcohol, and it's got the beauty of the age on it, and has this floral kind of Muscat character. And so, I come into the kitchen, when we bottled it in 375 milliliter bottles, the winery did, and I came into the kitchen, and I go, [sniffs] "Muscat? Cooked Muscat." We had several bottles of it, and she had opened one and [makes gurgling sounds] and was poaching the quince in it. And I go, "I don't know if I'm enthusiastic or heartbroken." [laughter] And we weren't drinking it, so we might as well cook with it. And so, it is what it is.

So, there were different approaches, growers and the winery. They still had the same core. The same core is, to grow wine, you really have to get ahead of it. And if you're going to get ahead of it, you have to know how a vine's going to behave, or kind of what its thing is. When I started to really understand that, and I looked around, and I said to myself, we are working in an industry here in California where people don't really fully appreciate how the plant that they're working with actually functions. Because I talk a lot about phenology, and stages, and length of those stages, and start and finish of a stage, and is that stage occurring at the right time relative to moisture stress in the vineyard, and so forth. And to me, that's like understanding—Zelma sometimes says, "Well, ask me what time it is and I'll tell you how the clock

works.” But to me, if I’m going to tell what time it is to do an operation in a vineyard, I need to know where it is in a bigger context. And so, I get really fixated on this phenological scale.

Last Friday, I was on a Skype call with my vineyard manager in South Africa. He’s making those observations. Our Cabernet Franc started to flower before the Malbec, and the Cabernet Franc, at 5 percent flowering, was eight days ahead of last year. I’m booking my flights for January, I already know that I need to push the date ahead a little bit, because I know we’re going to harvest earlier than we did last year. And as I work with my clients, I spend a lot of time on that, and once they get it, then they understand how we know when and how much. It’s timing of an event. If we’re going to manage something like leaf removal or shoot positioning or water stress, I know exactly when we need to do the operation to get to a severity. So we don’t just pull off the water, we cut it back, so that the vine gets to an objective measure of stress at the right time, and it’s the right amount of stress.

So once I started to understand how those things worked, I was kind of on a discovery program, and I mentioned Europe, and what I understood was that, in France—this may sound goofy, and I think I may have said this. You go to France, you want to find out when to visit so the winemakers are actually going to be around. And they aren’t going to be around in August, because if you can find out when their flowering stage was, I can tell you when they’re going to leave for vacation, when they’re going to be back, because they’re going to be gone for a month. And they’re going to be like the guy in a baseball game who just hit a single, and he slides into first base. They’re going to come sliding in right when it’s time to start bringing in fruit, because they know when the flowering stage is. They know when veraison’s going to occur, and they know when they’re going to pick.

So I started looking at that, and it was kind of humorous at first. And so I started then telling people, “This is when the winery has to be ready, because this is when you’re going to have fruit.” And there was a case I talked about in Carneros, that winemaker didn’t believe it, and once she saw it work, changed her life. She no longer was stressed out by still having bottling and not having people on board, and not having her cellar staff trained and new people up and running, and everybody’s had their vacations, and so forth. So that then let me come back and work with the growers getting over the horizon, and then the winery-owned vineyards, the same kind of treatment.

05-01:36:37  
Meeker:

So, I think the next question I have about this is, when you’re working with special sites, particularly those sites that are going to go into like the Napa Valley Cabernet Reserve, like To Kalon, or something like that, was your job any different for those special sites than it would have been for the regular quality sites?

05-01:37:03  
Freese:

You said Napa Valley bottlings, yeah, yeah they were, and I think the conditions were what I'd call permissions, because we knew, something that had a really good track record, there was a quote "permission" to be a bit more aggressive with it, so that we knew if we had a ragged kind of a broad flowering window and therefore a broad veraison window, that had the, I'm going to use the term, permission, to get in there early and do the work to get out the greener fruit. Yeah, so, and then there were other cases where maybe a vineyard didn't have a consistent track record, and it would sometimes go Reserve, and sometimes not. And when I look at that history, and I would go back through, and because we had a destination, we knew where those wines had gone, from previous records and the way growers and the vineyards were compensated for the fruit, that I could start to say, "Well okay, if it performed well in this vintage and not well in this one," I'd make up a reason. Not make it up, I'd go, "Okay, why would that be? What could be?"

So I'd go back to the wines and the winemaker, and the individual lots are blended away at that point, so I'd go back to the winemaker—I mentioned Bob Mueller, he was the head winemaker at that time—and I'd say, "Bob, you have this incredible palette memory. What was goofy in that season, or what were you seeing in the wine? What do you think kept it out of being a Reserve?" Sometimes it was fairly benign. We had such a large vintage of Reserve-caliber wines that we didn't need it. Or, it would be because we were trying to hit a production target as well, and they couldn't force something in that wasn't going to work, but if there was room, and it worked in the blend, [makes whizzing sound] it'd be elevated. I'd say, "Okay, that's a business reason. What about the ones where it didn't make it for a character reason?"

So we'd talk through it. I'd go look at the vineyard. I go, "Okay, if this is happening, how can we influence so that we don't have that character again?" Oftentimes, it was a diffuse kind of character. It wasn't this focused kind of punch, and that, I would see, is because of, in some cases, uneven—it was a fairly large vineyard block, and we'd pick the whole block together. And so we started doing things where we would map out, and then we started getting these tools of these NDVI images that we were using to look at phylloxera spread, and the phylloxera impact on—maybe we hadn't seen it yet, we could see it in the NDVI image, but I'm saying, I can also see the area where the differences are. So we can count, "Okay, it's ten rows in from the east side, and it looks like it's about 200 feet down the length of the row." So we would block that area out, and we'd pick that later. And then we'd say, "Okay, the rest of the vineyard is more uniform, so we have a better shot at getting this really focused character expression." And then we'd come back a week later or something, and pick that other area and keep that separate. And it was good on its own. It was really good if it was allowed to get to a ripeness stage that was appropriate, but it was behind everything else.

So, some of that we did just on the ground. In the early days before we had the NDVI, we were routinely flying infrared, and this is really Dark Ages material. Infrared film is very sensitive to heat. And there was a guy who had developed the technique. He was a professor over at Davis—see if his name comes up—fabulous guy [Dr. Bill Wildman], and he developed the application of being able to do these images from fixed-wings, single-engine aircraft. And there were heroic efforts that, it couldn't be too hot, it couldn't be too cold, it couldn't be too windy, it couldn't be too cloudy. Anyway, from those, we could see, and we'd print them out. There was no such thing as a computer image at that point, of these things. So I could see those for all of our vineyards, and I would make a conjecture. I'd say, "Okay, this is a little more dense of an image. Let's go out and walk that, taste it, look at it," and I'd say—there's a term I used a lot at that time, "the eyes of faith," [laughter] if I think it might work, and then people would say, "Okay, well, let's give it a shot," and so we'd cut it up. And then we got more sophisticated images with NDVI images. So, yeah, it was just bringing technology back so we could start to achieve this, everything we could do to drive towards uniform expression.

05-01:42:52

Meeker:

What was the data that was being provided through those images? Were you tracking brightness, or what were you tracking with them?

05-01:43:02

Freese:

So, what I would look at is, in both the infrared—it's actually a technique called false-color infrared. Through the infrared images and also through the NDVI images, all I'm looking for with those is differences. They don't tell me anything about the physiology or the wine character, anything. All I'm doing is using them as an  $x$ - $y$  coordinate difference, to draw lines, or determine boundaries. So then what I would do, and—

05-01:43:36

Meeker:

So, differences in how much the plant was growing out, or—

05-01:43:39

Freese:

Yeah. And most of the time what we'd look at with those images is, we get a sense of the temperature of the canopy, and we get a sense of percent ground cover, because we'd have the rows, the lines of vines, their canopies, whether they were vertically positioned, or a lot of those canopies were what we call sprawls, two wires, shoots would just go up and they would kind of drape over. And so it's, how much canopy are we seeing and how much soil are we seeing? So, the soil would have one temperature signature, and the plant would have another. And if the plant was under stress, moisture stress, it'd be warmer, and so it would have a brighter signature; or if it was cool, it wasn't under moisture stress, it would have a cooler temperature. It was that basically the vine is cooling itself by this moving moisture up and out, and coming out the stomates, and that evaporation, evapotranspiration, would keep the vine a little bit cooler. Plus, the ground was cooler because there was more ground

cover over it because the vine had gotten larger. So sometimes we get large vines, because they grow actively in the spring, and then they use all the moisture in the profile, and then they stress late in the season, because it's like the vine goes, "Whose idea was it to make this big canopy that's using all this water, and there's no moisture down there?" You go, the vine is, probably—you know I do this anthropomorphic thing—"That wasn't such a bright idea!" So we would try to do things to discourage it from doing that in the future.

05-01:45:28

Meeker:

Were you guys amongst the first in the Valley to use this kind of remote sensing data?

05-01:45:35

Freese:

Certainly NDVI. The infrared had been used for awhile; we adopted it big time, and so we would just fly all of our growers. But the NDVI, basically, was developed with the early work I did with NASA. Talk about a tool that was so quickly adopted, and nobody today knows where NDVI came from. It's always been there. Like kids today think they've always had cell phones. "You don't remember the dial phone?" "No." [laughter] So it's, yeah, we were early in development and adoption of the NDVI because then we'd fly all of our vineyards, and we adopted infrared. It wasn't inexpensive, but I tend to look at things of, how many tons of grapes that I have to elevate from a Napa Valley Cabernet into a Reserve Cabernet in order to pay for these, and it's a very small number of tons. A pain in the ass at budget time, I would have this giant budget for remote sensing. I always get pushback, and I'd say, "Well that's twelve tons of Cabernet moved to a Reserve program, out of however many thousand tons of grapes that we receive, of Cabernet grapes that we received," and I never lost the argument.

05-01:47:19

Meeker:

What was the decision-making process then for deciding whether that twelve tons could be elevated?

05-01:47:27

Freese:

It was really performance based in the sense that—and this was a fabulous thing that Mondavi had as a capacity—unless we had some compressed or panicky kind of event during harvest, we could really keep individual lots separate. I used the example a little bit ago about a corner of a vineyard that we cut out and pick a week or some number of days later, relative to the rest of the vineyard, and we fortunately had the capacity, the physical capacity and the commitment, to keep those lots separate, because it's really, the prevailing question was not could every kid grow up to potentially be president, is, could every Cabernet eventually grow up to be Reserve? And could every Pinot Noir ton out there potentially grow up to be a Reserve, and every Chardonnay, and every Sauvignon Blanc?

So it was always like, that's the overriding question. And I don't know if the numbers are correct, but they were relatively small numbers of expenditure



relative to the potential, and the decision making process was me probably being a pain in the ass saying, “Why would we take a risk for a relatively modest”—and so I’m always working in relative numbers, right? Relative to the number of tons, relative to the costs of that number of tons, we get this absolute outcome, which I’m sure, people would go, “Oh, criminy. Here he goes again.” [laughs] And so I’m just harping away at, “Just imagine if we had twenty more tons of Reserve Cabernet, what the value is of that.”

So, yeah, and then the process itself was keeping them separate, so I’m saying, “Identify these, keep them separate; make the wines, taste them. Ask the question: First of all, did that operation make an important difference, a significant difference?” First question: Did it make a difference that’s large enough to move it up a tier in value? If it did, then we’d go, “Okay, bang, that’s a lock for next vintage. We’re going to keep doing this, and seeing if we can perfect it, and see if we can get this whole vineyard up another level.”

05-01:50:04  
Meeker:

Was the winemaker making that decision?

05-01:50:08  
Freese:

So, all this evaluation, yes, is: can that lot move up to a next level? And it was a series of tastings, three actual tastings during the development or elevation of those wines, that were tasted independently by a battery of the staff, and then the scores accumulated, and then potential blends made, and seeing volumes and targets, and then they’d do sample blends and say, “Okay, does that lot work in here or not?” And then ultimately, that reward going back to the grower, saying, “Okay, we’re working up into a higher tier of value here.” And then, so, we just do that every year. It was an incredible amount of work, incredible amount of effort, and this dedication, people were just clawing, clawing at every ton to say, “Can we make it better? Can we make it better?”

05-01:51:18  
Meeker:

And this process was something you were involved in along with the winemaker, yeah.

05-01:51:23  
Freese:

My scores didn’t count, and I was perfectly happy with that, because the winemaking team were more involved in the wines all the time, and I couldn’t be that involved. They’d say, “Okay, there’s a whole workflow that says, in a week and a half, we’re going to have all the Cabernet barrel lots up for tasting, and that’s going to be some 250 different glasses of wine.” And I would go to Bob, I’d say, “Give me your first cut, and tell me the things I really need to look at,” because we had these kind of hot-button issues that we’re working on, and he’s going to say, “Well, you want to particularly pay attention to these. They’re making progress. The wines are looking better than they did originally; they’re not making progress.” We’re coming up for a grower meeting and a review, which was growers coming in, having a winemaker and myself and maybe one or two of my people, we’d sit down, taste the wines,

discuss them, tell them what our sense was about what we did, what the outcomes were. Frequently, that involved a lunch at Mondavi in the vineyard room, where we'd be five people around a table. We're the only people there, the whole kitchen is focused on us, and the grower's going, "Yeah! There's a reason why I like to do this." [laughter]

But that was the process, and then is an iterative one, say, "Okay, are we getting better? Are we not?" It didn't make any difference. We'd try something different and just keep going around, around, and around until we either said, "That horse no longer has a pulse. It's not going to make it across the finish line no matter what we do with it"—and then that would be the case where we would have to say to the grower, "You're stuck. For our style, it just isn't working. We just, we can't reward you, and I think I know people that would love to have that fruit, and I'd rather see you be in a place where people are saying, 'Yeah, when is that fruit going to come in?' as opposed to, 'How are we going to use it?'"

And sometimes even before contracts had expired, they'd say, "Okay, yeah, let's see if that works." And I'd say, "You have a parachute. Give it a couple years' worth of work, and we're not tearing up the contract. If it works for you or you take them five or ten tons of your Cabernet, or Sauvignon Blanc, or whatever it is, and if they're not ecstatic about it, you've still got a home. We're going to work through this thing." If the contract had expired, we'd say, "I don't think you'll have any trouble placing this fruit. If you do, come back, and I'll see if I can help you."

05-01:54:30

Meeker:

Is it possible to offer a general characteristic of those wines that sort of became ineligible in your opinion for what Mondavi was trying to do?

05-01:54:43

Freese:

Yeah, it was really clear. The killer character was herbaceous and green. And this was an era where there'd been some international tastings, or somebody—I don't even know where it came from, quite frankly, but the green character became—and I still have it. I've still got the gene that I can pick up a green character in the wine, [blows air] like that. And usually, I can say, "Okay, it's green, probably because of one or two reasons." And it's just something that we got so fixated on, and I say fixated. I'm not saying it negatively, because we learned a lot about how to get rid of it, and it was, or to get me on to, was a lot of this uniformity, these low-ripening, these very, very uneven vineyards where we had green fruit and we had overripe fruit, and we have everything in between. And a little bit of green fruit goes a very long way towards giving you these characters. In fact, the compound that is oftentimes associated with it is a compound.

Generically, it's a methoxypyrazine, and it's a ring compound, has methyl group on it, and it looks like a component of a chicken wire, [laughter] okay,

one of those sort of shapes, and it is a compound that they say that has detection limits—depending, people are differently sensitive to it, aromatically and taste-wise—that you take a drop of this pure compound, you could put it into an Olympic-sized swimming pool, mix it well, and you could detect it. So it's parts per billion level, and I think it's one of these things that says to the birds, "That berry is not ripe; don't eat that berry." In fact, the seed's not ripe, so once the ripening process gets on, that compound starts to break down, and that's a very energy-rich organic structure. And so the vine does something with it, breaks it down, cannibalizes it, uses it, often to other products, does whatever. It doesn't waste it, for sure.

So that was a driving character in our lives at that point in the wine business, and huge amounts of energy, angst, effort, physical work, conjecture, wobbling crazy operations were done at that point in time, but I mentioned this Napa Valley Vit Research Group. One of the key focus points that we started working on were these green characters, but not going back through that. These five or six wineries were funding people to try to get at how to eliminate that character in vineyards, and we were principally focusing on Cabernet. Different varieties have different dosages of it, and they have different genes that express those characters, so it's a pretty complicated character. And in order to mitigate it, we had to find out how to basically either—it's always going to form—we had to figure out how to accelerate its decay, is essentially what we had to do, manage it for that.

Now at the same time, what I would see, and just as an aside to that story, I would see that the Opus [One] partners, the Mouton Rothschild winemakers, would hitch up to one of these tasting sessions where we'd have these, literally, 100-plus glasses of wine up there, barrel lots, and it would get weeded down in the early go for what the winemakers from Mouton were interested in. And then I said that I would get a little note or a phone message from Bob. He would say, "Okay, those lots are marked out. They're pulled forward, and so it's a lot less than we started with." I'd go up and I'd taste through those same lots, and I'd come back and I'd go, "Wait a minute. These specific ones show me some attributes of what I'd call green." And then, we'd have this discussion, and what it turns out, from a winemaking standpoint, goes in Bordeaux, they don't have vintages like we do. They have a lot of rainy vintages and cool vintages, and they just don't have the warmth. And so, turns out they work with these characters a lot, and they know how to differentiate, organoleptically, the difference between the types of characters.

So, they would tend to work those wines a lot. By working, I mean racking them, aerating them, doing winemaking treatment to them, yet there could be one, a glass beside this one, different vineyard, and I'd go, [sniffs] "That's different, isn't it, than this one here? What is it about this one that's different?" And then, kind of following that thread and learning to say, "Okay, this is the kind of green that we're not going to be able to work with, and this is the one that we can work with." And it turns out that, the way they work

with those wines, to me, they tended to be an important part of the final blend, because my impression was they added a body and a weight and a breadth to the wines that was kind of baseline. You could see it in the wine that's a character that's not our more straightforward, dark fruit characters in Napa Valley, but it has this broader, more kind of European style pattern to it, profile to it.

We never were there, we're never there, but I was seeing that tendency to lean towards that, and so I'm going, "Okay, you got to get sharp here. What is it in this vineyard that we can't fix, and in this one we can, we can work with, and it can be a contributor in the winemaking elevation itself?" So then that's that next chapter in the book. It's like, okay, so I'm going back then looking at the vineyard, and I'm going, [knocks three times on surface] "What is it? What is it? What is it? What is it?" I'm walking through this vineyard over here and watching it during the growing season, and saying, "Why this one and not this one?" Then it was what I said, "Okay, it's nuances of, this one never stops growing, for example. It's still growing when it should've gone into this phase of ripening the canopy."

And so I came up with visual scoring sheets. I gave you an example, walking through vineyards with George Hendry, about how much brown tissue was on the shoots, and how long the shoots were and what the tips looked like, and what the berry looks like when you pull it off. And so I made up these kind of score sheets that were numerical score, usually zero to five. And sometimes, zero was terrible and five was perfect, and in some cases, what I would do is, I would make the number—so, what I wanted to do was, the highest number was always the preferred one. And so, if a high number was a five, and the canopy was dense, then it would get a zero or a one. If it was an open canopy, the kind I like, it would get a five. Trying to think of an example where, if it was too exposed, it might get a zero. So, there were gradations of optimum, and then suboptimum. I don't know if that makes sense, but, so they were the kinds of things where I could give this to people, and we could go out, and we could grade a vineyard.

And so I'm starting to say, "Okay, that green character that we don't like is associated with these characters year in and year out." And they're particularly indicative of that character at this period of time, so we would start doing it at the beginning of veraison and the end of veraison, or maybe we'd do it where we expected the vines to stop vegetative growth, and they weren't. And then we'd do a pre-harvest, and then we'd start to say, "Okay, there's a pony in amongst all that horseshit." Like, "find the pony" is [laughs] what I used to say. "We've got all these observations; find the pony! Where is the nugget? What is it that's giving us that character versus that one?" And they were, today's world, they're pretty generalistic generals, general generalizations, but it was enough to keep driving us in a direction.

05-02:04:50

Meeker:

Hmm. And so, since that time, I think that we've seen fewer wines that have these kinds of characteristics, and so I imagine these learnings and knowledge have disseminated.

05-02:05:03

Freese:

Bang. You know, I want to tell you: California gets a message. They've got it, and the result is, the obvious result is, if you get it riper, you get less of that character. And so, we see a lot of 14 and a half percent alcohol wines. Now what we I think also have learned from an industry, that those wines have a lot of texture and richness and body, and these are really kinds of things that get high scores. So you have the critics who are going, "Alcohol levels are high," but they're giving them high scores, and you go, "Okay, well, which way do we go here?" And you get a number of people now that are working—one of the people I have a lot of respect for, as an example, is Cathy Corison, over in Napa Valley. She's really saying, asking this question: "How can we get maturity without going to higher alcohol levels?" And that has been a question that I've carried since those days, is what tools do we have to get maturity of these attributes, these organoleptic characteristics, without having high alcohol? And we've gone through timing and severity of stress, and to canopies, and I don't know, it just goes on and on and on. And quite honestly, I'm a little bit frustrated. I haven't found the magic nugget.

05-02:06:41

Meeker:

Well, let's sort of save that search conversation for when we talk about Vilafonté, because I imagine that's going to be a central part of it. So, on that note, why don't we wrap up for today, okay? It's one o'clock. I actually have a 1:30 down the road.

## Interview 6: December 15, 2017

06-00:00:00

Meeker: This is Martin Meeker interviewing Phil Freese for the Wine and Foodways Oral History Project, and today is the fifteenth of December, 2017, and this is interview session number six, and we are here at Phil's home, outside of Healdsburg, California. So last time, which was in October, we met, we spent a lot of time talking about the wine-growing process at Mondavi, and you gave some interesting and in-depth explanations of what you were looking for in terms of good grape-growing practices, and what a good harvest would look like, how you would manage a good harvest, and differentiating kind of levels of grape material and how that would relate to different cuvées, for instance, of what you're looking for in the creation of a reserve Cab versus a baseline version. Sorry, I'm not explaining that very clearly, but—[laughs]

06-00:01:32

Freese: No, no, I think it's a good recap, yeah.

06-00:01:36

Meeker: So I'd like to continue a little bit more with your work at Mondavi, and I recently just read the Mendelson book about the Napa Valley viticultural areas, and—do you got it right there? Oh, look at that, you've—

06-00:01:58

Freese: Happened to be known as *Appellation Napa Valley*.

06-00:02:01

Meeker: And you've got the gift pack, too, it looks like.

06-00:02:03

Freese: The gift pack, and it's signed. Richard's a real close, personal friend of ours, and worked with him a lot, yeah.

06-00:02:09

Meeker: Well, and you're referenced in that book a few times—

06-00:02:13

Freese: Oh! Okay. I haven't read it yet. I'm kind of hoping for a movie. [laughter]

06-00:02:19

Meeker: That would actually make an interesting movie. Well, the one, I think you mentioned a couple of times, but the one that I'd like to ask you about, just because it has direct relation to Mondavi, was the creation of the Oakville AVA, and how it became somewhat controversial because there was an original proposal to create a Benchlands AVA, which would have been, if you will, a ground crew, and then a broader Oakville one that would've included, for instance, the riparian areas along the Napa River that conceivably would have been less esteemed and therefore produce less valuable grapes. In the end that proposal was rejected, and in favor of a much less specific AVA. Can

you maybe tell me what your involvement was in this process, and, yeah, then start there?

06-00:03:32

Freese:

Yeah, okay. I guess what I would do is I'd back up and say that my impression, kind of at the time, but also in retrospect, about this AVA process, I think I would characterize it as being one from the federal government regulatory side. What they were really trying to do is to not exclude people, and with all reasonableness in mind, to get excluded, you had to be really kind of way out off of the core of what people were proposing. And I can remember a lot of very heated discussions in amongst the group: the ones who were the, this the core, everybody else outside it, draw the lines very tight, and then the others who said, "Well, look, I bump right against your line, and you can't really tell me that my grapes are that different, or the outcome of the wines is really that different from you just being across a property line that's now a fence line. It doesn't make any sense." So what the process really tried to do is to use—what was the right term that we'd come to—I would call them generically natural delimiting boundaries—

06-00:05:12

Meeker:

For example, those would be—

06-00:05:14

Freese:

Like an elevation. Okay, so we'll go up to 500-foot elevation on a contour line. So many of the AVAs have those little squiggly margins, and then you'd come to things like a political boundary, and the political boundary might have been like a county line, and they'd say, "Well look, okay, can we go across a county line?" or, "Can we go across a township line?" And I think it was a fairly difficult process, which I came to feel like was, it may not be surgically precise, but it gets us going. And Richard has, had, at that time that was when I first really got to know him and working with him, and he has this wonderful ability to listen to a lot of different things and sort of say, "Okay, well here's a meeting point we can come to."

Not everyone in the group was willing, really interested in doing that to start off with, but nobody was sort of throwing the toys out of the cart and saying, "Okay, well, if this isn't going to work my way, then we're just going to destroy it." Nobody did that. But there were a lot of good discussions about why that, not here? What are the attributes? Is it 500-foot elevation? Is it 750? Is it 1,000? Is it 250? Okay so, if you drew a line—so the lines, they were kind of backing into a solution; let me put it that way. So you'd say, "Well look, reasonably, this vineyard that Nate Fay planted in the early seventies can't be out of its particular appellation. It's just like, that would be goofy." But in today's world, you might not draw the line out there. So we'd say, "Okay. How are we going to get to this end point that's a reasonable end point?"

So that's kind of my recollection of it, and a lot of this back and forth. There were power players in there, power in the sense of, nobody really seriously

thought they were going to cut out Mondavi. It just wasn't going to happen. There was too much at stake, too large an area of landmass, and importance in the marketplace, that the recognition and the knowledge that the average consumer, well, an average wine consumer, would have about what's reasonably to be Oakville versus Rutherford versus something else, Yountville, say for example. So it was probably a really good example of pretty good sausage making, you know?

06-00:08:16

Meeker:

Well, that's interesting that you describe it in that way, because the more that I think about it, I wonder why AVAs are not strictly tied to evidenced-based terroir. So basically you get a geologist, and they figure out what the particular areas of geology is, and a meteorologist and they look at the climate, and then also other things such as elevation difference, and that you actually identify an AVA that makes sense in the natural world, solely. [laughs] But then you end up, the way that it's made is that not only do you have that, but then you add business considerations, and you also add political considerations. So Mendelson argues against expanding an AVA over a county line, because he's really invested in protecting this Napa appellation. Yet the county works, but there's still, there's two major parts of the county, the Valley and then the East Side, which—

06-00:09:43

Freese:

Well, Carneros is a great example.

06-00:09:45

Meeker:

Right, that too.

06-00:09:45

Freese:

It transcends county lines. It goes across the political lines. That was a tough fight, yeah.

06-00:09:53

Meeker:

So just from looking back on this, let's do a counterfactual. [laughs] If you had your druthers, how would you have drawn the Napa Valley appellations?

06-00:10:15

Freese:

Well, the conundrum. It's a great question, okay, and every person you asked would give you a different answer. What I'm going to do, I'm going to pose another question, and to see if this helps. The question I have, and I came into this in the process of—the elephant in the room is, what's the objective? What are we trying to achieve here? And that question, if you had ten people, you'd get twelve answers, and everybody would have a slightly different cut on what they were trying to achieve. And there were the lumpers and the splitters, and the lumpers said, "Look, an AVA is really about us having a reasonable way to say to a consuming public that this general area has these attributes." And the splitters would immediately go ballistic, and they'd go, "You can't tell me that a hundred feet away that's the same Cabernet as we get on this side over here." And then the rockets would go off, and people would have these



discussions, and then it's like, well, is your wine different because of the site, or because of the way you made it?

And I, for example, spent a lot of time saying—to put this in the context of our other discussion, so I'm in there saying—well, people would say, “Well you get grapes from a lot of different places. What's the answer to that question?” And I'd say, “Well, it's yes to both of them.” And the other context is, this is a time when I was really focused on the concept of wine growing. And I said, “I'll have to tell you that I can take grower A and grower B and they can be a reasonable distance apart, and what I look at is they have completely different ways of doing what they do, growing their grapes, water management, dah-dah-dah-dah. Just, yeah, the soil's maybe slightly different or quite different, but,” I said, “our standard is, for example, that both of those actually go into a reserve. They go into a wine that we call a reserve, and it's an Oakville appellation.” Said, “And admittedly, they're not exactly the same, but they complement each other.” And so is complementarity a part of this?

Or most wines are blended, so if the splitters are talking about this vineyard, “Okay, so show me that as a separate wine,” and they couldn't do it. We could do it because we had them in barrels in the cellar, and then oftentimes we'd bottle some of those separately to keep them for growers for tastings and so forth. And I would say, “I can see those vineyards coming together, with respect to their success of going into the reserve blend, or the Oakville appellation blend, and while they're not the same, they're really quite compatible. They're like pieces of the same jigsaw puzzle.” So if you're a splitter and you want to say all the pieces are separate, then you don't get the whole picture. And if you're a lumpier and you say, “I want to complete all the pieces of the jigsaw puzzle and now it gives me a picture,” that's, yeah, it's more complicated than the individual pieces, but what's the objective?

06-00:13:54  
Meeker:

Right. Well, so that's interesting, because I talked about the geologic and the climatological element of the definition, the business marketing side, and then the political side. But what you're identifying is that there's actually something else, and we might call it craft or art or art and craft, which is the winegrowing part in the vineyard. There are decisions—

06-00:14:17  
Freese:

It's the human, the human—

06-00:14:18  
Meeker:

—that are made.

06-00:14:18  
Freese:

—part of all of that. It's a good point, because the Europeans tend to talk about terroir, which I argue is a unique term that they use, but their definition generally does not include a human factor. When we talk about terroir here, whatever we call it, but you ask somebody who's a really knowledgeable and

experienced person in the wine business and you say, “Okay, what makes your wine great?” they will eventually talk about all the details: the soil, soil depth, water-holding capacity, yadda, yadda, yadda, nutrition, climate, aspect, elevation. You got all the physical stuff, and they always come around, “And of course, it’s how we make the wine,” and the French go ballistic. They go, “Well that’s not terroir. Terroir is not people.” And now, I mean in today’s world, sitting here in end of 2017, I don’t think that’s as rigorous anymore. I think the French really are willing to talk more about the people impact.

But I know and have worked with a fellow who’s a French guy, based in Bordeaux, Kees Van Leeuwen. I think I might’ve mentioned him before. He, University of Bordeaux, and he really was focused on soil and kind of the terroirs, the physical thing. And he, huge amount of research, did some fabulous, fun stuff, and kind of popular reading kind of stuff published in scientific journals. I mean, the way he went about thinking about some basic questions. And then he had an epiphany, an inflection point in his career—I’m guessing now it’s been almost ten years ago—where he said, “Look, okay, soil, got it. I can tell you know how vines are going to perform on these different soils.” He said, “Now what’s the next level?” And so he shifted over and he’s looking at climate, and what he’s also doing is then looking at, within the confines of the boundaries of what the French can do, with respect to management, then, and also the human factor. But in most cases, they’re rootstock—not the rootstock necessarily, but, well certainly, variety, spacing, vine spacing, trellising, training, and so forth.

A lot of that’s so rigorous in the French law that in a sense, they take that element of a human interaction out of it. So it’s not like you say, “Hey look, I’ve got a better idea here. Instead of planting meter by meter, I’m going to go one point five, one point six meter wide, and I’m going to stretch the vines out a little bit, and so, I am going to trellis it differently so that on our high capacity soils”—this is going to come back to a real case in point—“in these high capacity soils that have deep rooting and deep water-holding capacity, and the vines want to grow so actively and so strongly for so long that we have to hedge the bejeebers out of them like ten times during the season to confine them into this defined by law space.” What I’m talking about is work that was done in Bordeaux by [Alain Carbonneau, then in Bordeaux, now at Montpellier].

[brief text removed in editing]

So anyway, he goes out and he, on a research basis, he reconfigures the way the vines are planted, the spacing, the trellising, everything else. All of it’s breaking every rule that’s in the book. He makes the wines; he puts the wines side by side with ones made from regular vineyards that are planted and developed by the law way, and he does it all blind, and people come back and they prefer his experimental wines over the traditional ones. And then they

start backpedaling, “Well, maybe it doesn’t work after ten years, and maybe we’ll have made stuff for twenty years”—

06-00:19:01

Meeker:

The same kind of arguments that were used after the ’76 tasting.

06-00:19:05

Freese:

Exactly, exactly. So again, what’s the point? The whole objective is to get the wines correct, right? But “wines correct” is a human construct. It’s, okay, I want this kind of character, these kinds of characters, these expressions and so forth. So we would get into these—back to the AVA thing—we’d get in these circular arguments. “Well that’s what the French do.” “Well, they do it because they have to.” “We need to have a human component expressed in what we’re doing here.” “If I manage it this way and manage it this way, two separate vineyards and they work together, should they be in the same AVA?” “Well why not take Calistoga and Oakville and see?” And people would say, “Outrageous, well let’s go do that, and see if those two are complementary as well.” Well yeah, you can make a style of wine where the two work together. So we said, “Okay, that’s fine, but let’s just agree that that’s Napa Valley, and not Oakville.” So I don’t remember all the details but at some point you just had to sit back and laugh, and it was a process, where people would just, they would talk about it enough and work on it, and Richard would bring—because he has such a strong foundation in the French environment. He’s the guy they ask to come and—I don’t know if he’s still doing it—teach classes on AVAs in an international environment, to the French.

06-00:20:37

Meeker:

So then back to the Napa Valley AVAs. Do you think that it’s the arrangement that currently exists is as good as it can be?

06-00:20:50

Freese:

I think in the context in which it was constructed, the time in which it was constructed, and the sense that we were really novices about the whole concept of growing wine, and we did—for example, I’m sure Richard mentions probably, really extensively about a woman from Davis, Deborah Elliott-Fisk, again, a personal friend of ours, just a fabulous person. She is in that category of blazing and of brilliant, and she knows soil. She knows evolution, where they came from, how they got there, [and the] factors that influenced them. What’s the right term for that? It’s the basically pedological evolution of soils, and she was involved in a lot of the AVAs. She was the go-to soils person. We used other people too, who were soil scientists and so forth, but Deborah, I think, had this extra little, extra kick above about the sensitivity of the evolution and having seen a lot of vineyard soils with vines on them, and well, she didn’t ever claim to be a viticulturalist.

She was a really great observer, and so she would say, “Well look, these guys never put the roots down in this type of soil, because it’s acidic, or because it’s compacted, or its evolutionary basis is really high in magnesium

because”—and then it opens the door on the fact that we, we here, are a pretty good example of sitting on what is essentially soils thrown in a big tumbler and then spewed out, and so there you are. How did the Pacific Plate subduct under the continental plate, and what got scraped off the sea floor and piled up to make the coastal ranges and mountains? And I always use the thing of, if you took a chocolate cake and you just ran your finger across the top of it, it kind of pushes the icing in front of it and you get these valleys and peaks, and there you can go, “Mm, that’s really good.” Well, that’s what we’re living with, and you look at—I don’t have it here—it’s over in the other office, but a best representation of a soils map of the North Coast. And it’s all color coded with little delineations—you’ve probably seen it—and it’s like somebody shot at a wall with a paintball gun, with twenty different colors. There’s little splotches here, and this one there, and there’re five different kinds of each of those subcategories of soils.

And then so we’re sitting there trying to make up AVAs based on some objective information. We didn’t have a lot of weather data. It wasn’t really populated with a lot of weather stations. We had great elevation maps. That’s all they were, physical elevation maps. We were trying to populate with soils work, and Deborah would look at it and she said, “Well, in actual fact, when the guys did this in the early 1900s, they probably got the classification wrong, but it’s pretty close and it’s workable.” But if you really look at it with a true surgical look today, and you look at it with the kind of detail where people say, “Look, I have twenty acres and I’ve just put ten backhoe profiles in that twenty acres,” they were working on things on this macro scale, and they weren’t working at great depth, either, because they didn’t have these tractors with backhoes on them at that time and they could go out and punch a bunch of holes. And they were up on hillsides, and they were places you couldn’t get to, and they did a remarkably good job at extending what they knew into those sites.

So then we bring in the experts and we start to try to make our cases why the line is drawn here and not there, and then somebody, a lumper comes along and said, “But all the published data that hasn’t been just newly constructed, everything that’s in the record, that’s published, it’s in the books, and it’s been referred to for decades, and you’re telling me that you want me to throw that all out and start all over again? And it’s a government publication. The US government is running this show. They’re making the rules, and you’re going to go in front a board and tell them that their numbers are all wrong and their data’s wrong? Good luck with that!” [laughter]

So this is like, *poom, poom*, push-pull, it’s a real true argument of people trying to weigh facts. And so you get the best fit, basically. I think it’s a good fit. My sense is that it threw a loop around an area for whatever reasons, some places your elevation, other places elevation isn’t that important, and then you lay the challenge out there for people to, within that context, do what they’re going to do. And if you’re really good, then somebody at the vineyard, says,

“Look, this is such that, we’re Oakville AVA, but it’s XYZ Vineyard.” And you really want to get specific, but a lot of people push back from that because they say, “The wines are actually better if we blend them.” And we’re not blending a lot of different stuff. We’re blending three different Cabernets, or Cabernet Sauvignon from here and some Merlot here, and a Malbec or a Cabernet Franc from here, and they aren’t all the same vineyard. So they’re coming back against with the same thing. I think, in retrospect, I think we did a pretty decent job, given what we had to work with at the time.

06-00:26:55

Meeker:

So with what is known today, do you think that there should be revision?

06-00:27:02

Freese:

No, probably not. I don't think so. I think it's just, we'll just throw it to pandemonium, and today's world, we have a lot more—it's a different people climate today, too. We have corporations. At that period of time, we had strong individuals, but they were strong individuals—I'm a great believer in the right thing at the right time in a consequence of a timeline, and I think it was a good time, because we had individuals who were, they were feet on the ground. They were the people who made the wines. They grew the grapes; they worked with the growers, if the growers weren't in a—the Warren Winiarski's who knew every one of his vineyards. I mean, he knew them really well. He knew what the wines were like. He was very good at presentation, at his creating and presenting his arguments and reasons for doing things.

I think in today's world, it'd just be a bunch of corporate hard lawyers sitting down kind of going nose to nose. I don't think it would be a better outcome; I think it might be more—it's a personal opinion—I think it'd just be more acrimonious and more money spent. And I'm not sure it'd move the ball down the field, quite frankly. Because to me, when it comes down to it, it's the same thing in Bordeaux. You say, “Okay, well this is Bordeaux appellation”; what I'm interested in is that producer. I'm interested in the wine that Mouton makes, and they own all the property, but it's a lot of different soils. And so we're not looking at this little vineyard that's on the gravel down by the river and then that's all pea gravel after twenty centimeters, and in wet years that's the best vineyard, because it's well drained, and in a dry season, it suffers because it goes under moisture stress, and they can't irrigate it. So is that the best vineyard they have? Yeah, it depends on the context. What really works for them is good rainfall, dry summer, and enough rain on the well-drained soils so that the vines actually can ripen the fruit. So it's really unique to their climate setting, as well.

06-00:29:29

Meeker:

And it's interesting now that the boundaries have been established and for a couple of decades now. Maybe some of them are not that old, but this is now when I guess that the natural dimension is always going to be there, but the human dimension really comes in, because I would suspect that fifty years

from now, because of the human dimension, there might be an identifiable Oakville style versus Yountville style, even though they're right next to each other, because winemakers might be attempting to articulate a particular type or style.

06-00:30:12

Freese:

I think you're 100 percent spot on, because people will say, "Okay, this is the style of wine we want to make," and they may use more or less wood on it. Is that terroir? That's probably the terroir of the forest that the wood came from, and how it was dried, and processed, and how much toasting, and how old it is, and so forth. But that's a whole other thread, and so you say, "Okay, well, if that's a style expression, what does that say about your vineyard, and what do you want to say about the vineyard?"

So I'm kind of like, I think the AVAs are probably helpful, for the macro, and I think then you get the individual producers inside who are going to do their own thing, and trying to exclude people because they're across a line. The government wasn't going to go for that. I mean, you see these goofy ones where a really tight-knit group will go for something, and they go in front of a hearing—I don't know how the process is done in any longer; it's been a long time since I've done it—and somebody comes in and says, "Yeah, but look how they drew this line. It was just to exclude me." And I go, "Yeah, okay, give me a map." [makes quick drawing sound effect] You just draw a line. "Okay now that's the new one, now what's next?" And somebody considers it a winner and somebody considers it as a loser, but in actual fact, is it the consumer who's—so, I don't have to worry about whether that guy's in or out.

06-00:31:44

Meeker:

Have you been involved in any of these AVA conversations in areas that are maybe not as much sort of a hothouse as Napa was?

06-00:32:03

Freese:

Let me think. No, I haven't. There were some of them, for example, one of them, I don't remember the stats even on it, is in, it's Mississippi Valley, or something like that, or Missouri Valley. It's a million acres or something. It's like, [makes blowing sound effect] let's just give it a go and see what happens. Some of them are very large and some are super specific, but the process did allow for a certain amount of that sort of the Russian doll kind of approach, that within an existing, obviously Napa Valley, you can have sub-appellations. And the Napa Valley itself was really controversial about how far do you go, how far east do you go, out into Wooden Valley and Chiles Valley and up into Pope Valley and so forth. And there were, talk about people having really some pretty serious—I said at one time, we needed to make a sign to put on the door that says, "Ignore gunfire." [laughter] Because people were saying, "Napa Valley is Napa Valley. It's not Wooden Valley and Chiles Valley and Pope Valley." Then you go, well, is Napa Valley really more about, where did

those grapes—a lot of grapes came from those areas historically that went into the wines, and that were labeled Napa Valley.

So we can't undo that genie. It's out of the bottle. They were contributors. So then the whole idea, well, the Napa Valley, with some limitations, not just the political boundaries, and then, go within it to split up sub-areas. So I don't know. It's really a sausage-making process, but I'm, myself, I think you got to have something to work with, otherwise it would just be wild and crazy; people could call anything, anything. We see, even still, there were some pushes to try to label something Napa Valley that weren't really Napa Valley.

06-00:34:18

Meeker: Yeah, like the Freddie Franzia cases.

06-00:34:21

Freese: Yeah. So I don't know. I'm comfortable with it. Maybe that's just, I'm kind of looking back going, yeah, it's done; let's just go forward, yeah.

06-00:34:34

Meeker: Well, let's just go forward then. I'd like to ask you about some of the partnerships, and how that impacted your work if at all. I know that Opus One was, I believe, started before you arrived in '82.

06-00:34:51

Freese: Yes, mm-hmm.

06-00:34:56

Meeker: And what were the other partner—I guess Antinori?

06-00:34:58

Freese: Antinori, yeah. And the Italian Ornellaia, and the Chilean—I wasn't involved in those, so it's a short story. Opus was the only one that I was really involved with. I didn't have time or interest, actually, quite frankly. I was a man on a mission. I had a fairly broad field to work with, with principally Napa Valley and then also working some with Woodbridge, and then the Central Coast, and I just didn't have any illusion that I was going to actually contribute anything of significance to any of the other non-US, out-of-area kind of partnerships, so I'm pretty not even non-knowledgeable about those.

06-00:35:57

Meeker: Well, tell me about your work on Opus One, then. How did that differ, if it differed at all, from your work at Mondavi proper?

06-00:36:07

Freese: Well, it's a good question. I don't think it was a macro difference, but it had a huge impact in the sense that, for example, post-phylloxera and the Opus project were kind of in the same time sequence, and I think I've referred to a vineyard that Mondavi had that was across the street from the winery, and it is now part of the Opus Vineyard, so that piece of land is now the Opus Vineyards that are immediately north of the entrance that goes into the

winery, off of Highway 29. That parcel is flood-plain soils. I don't know any other way to say it. Napa River had wandered around a lot. That's one of the things that we learned to do, is to look, quite literally deeper, at what the source of the soils were, the origin of the soils, and I mentioned Deborah Elliott-Fisk; we worked with her quite a bit, as well as other soil scientists, in the Mondavi projects to try to define what we had.

And what I came to realize—I don't want to talk about this too much in technical terms right now, but, that one of the key things that we're dealing with in California, say in general, Napa Valley and it's more specific in this particular parcel, with a great degree of focus, is that what really told us, told me, a lot about the future of the wines that came from it, were what I'd call the available water, the water-holding capacity, how much moisture was in the soil? When we finished our normal winter rains, all the free-draining moisture had drained away, and you have a root system down there, and in that root profile, however deep it was, how much moisture is really available? And that gave us—we were doing all this stuff. We were just measuring all kinds of things. And I'd always look at these pages and pages and pages of maps and data and so forth, and I would say, "The only thing that really makes the big"—I mean, some things will tell you, if you're going to run it, it's going to be a train crash, okay? But the one that really to me made the most sense was available moisture, told me how big the vine was going to get, and how much it could grow before it started running out of moisture to slow down its vegetative growth.

So I came on when that vineyard had been planted in its first planting, and it was immediately obvious that it was a vegetative growth. So previous sessions I've talked about the idea of having the vine stop vegetative growth. Before we get into this, it has to stop vegetative growth—I'm trying to say this a little bit more succinctly, which is quite clumsy here. So we want the vine to stop vegetative growth so that it'll commit to what I call the reproductive growth. And the timing for that is very important, not necessarily temporally in the month of the year, but in the cycle of the vine. So it has to commit to stopping vegetative growth so that it can go through veraison and get on with seed ripening and wood ripening, so forth that I've talked about in some degree of depth. And in these high water-holding capacity soils, they wouldn't do that.

And so what we did is work with—I was trying to get to earlier—Alain Carbonneau, okay, because I had visited in Bordeaux, and had tasted these wines from these lyre-type and divided systems, and lower actual number of vines per acre or per hectare, but with more canopy on each one of them. So they essentially were, let's call it simply an outlet, a way to deplete that moisture that's in the soil so the vine would go, "Whoa, that was fun, but I'm out of moisture now. What am I going to do? Okay, let's get on with ripening the seeds." And tasted the wines with him and produced some different, traditional and the ones he was working on, and I said, "Tada! Alain, how about coming to California and working with us?" And this goes a little bit to



this Napa Valley vit research group, too. So we said, “Okay, let’s host him, and let’s get him here,” and he started doing some work in Napa Valley, and we got him coming too—his English is very good—coming and giving professional talks and so forth.

And so really what we were doing at that time is, I was working on Mondavi, working on Opus, and also thinking about this idea of winegrowing, and how are we going to get the vines to stop growing in these highly vegetative sites. So we converted that vineyard from its then very traditional eight-foot by twelve-foot spacing, with two wires of vertical canopy. Canopy was what we call, it was a random canopy, non-positioned. It grew, fell over, supported by the wires. Bang, we’ve got vegetal wines. They were low in color, high in potassium; pH levels were high; acids were low; and the wines were mediocre. So I said, “Okay, can we fix this vineyard?” And I talked about this before; I won’t go through the whole thing again. And we managed with using Alain’s retrofit methodology and some of our own ingenuity about how we wanted to actually build the frames and so forth to support the canopy.

We divided those canopies. Instead of one linear canopy, we made two parallel canopies separated by training the vines [the “lyre” system], by splitting the vines and training them, and then, keeping the foliage oriented so it got a lot of sunlight, but it also protected the fruit. Boom, we got an impact. The wines essentially moved across Highway 29 into the lower soils of the To Kalon kind of characteristics. They still weren’t going into reserve wines but they were better than they were.

06-00:43:06

Meeker:

Were you doing greater density to try to absorb more of the—

06-00:43:10

Freese:

Actually we’re working with low vine density, so fewer vines per acre, but each of the vines we gave a larger canopy. So imagine that you have this tank image in mind of the root system, and in the floral profile, and it’s explored what it’s going to explore, and that’s holding a certain amount of water. So the concept was, let’s use that water really quickly so that it runs out of moisture. And when it runs out of moisture, it thinks, hey, I better get on with the process. So we could get the timing to be more consistent with what we’d want it to be, to have it slow down vegetative growth and commit to the ripening of the seeds and the fruit.

06-00:43:52

Meeker:

So you were able to inspire the vine to grow quickly, greatly at first, by the trellising system, so that then it would basically use up the water, and then it would go into the reproductive—

06-00:44:10

Freese:

We put it into a field strategy. So as it go so big and used all of its moisture and then it goes, now what? And then you go, okay, well now what, you’re

going to behave like a vine's supposed to behave, to go through this natural moisture stress and get on with the ripening of the seeds, which are then going to ripen the fruit, and so forth. So yeah, so in a sense, I guess you could look at it, we got into this abusive behavior on grapevines. But what it did is it confirmed and then reaffirmed that you can actually change the character of the wines by changing how the vines grow. Now, in today's world, that's, go "duh," but then that was like, aha, yeah, it does really work. So that then, when I look at the soils, I say, "Okay, the soils all look a certain amount." We can estimate how much water is available. We can estimate how deep we think the vines are going to go—and there's no real hard and fast rule on these—or how deep the roots are going to go, so then we can design vineyards.

And so the alternative then, to come back to the limits on, is when the vineyard was removed to replant, what I suggested is that we go very high density so that the vines would actually compete with each other. And I've learned from work with Alain that in some of the work we'd done in Napa Valley and with Mondavi, vines didn't really compete with each other immediately, so the roots are like, they didn't know that there were guys on all sides of them, unless you get them really close together—or, unless you wait a long time. So if you get a six-foot wide row, and four feet between vines, and in some of those soils you have to wait about four or five years and then each of the vines go, wait a minute, there's somebody out here competing with me, so I can't grow big. So I said, "We don't have five or six years to wait. Let's do what the French do in these high-capacity sites; let's put the vines really close together."

Now let me just do an aside. What we think is high-density vineyards in like Bordeaux now are actually low-density vineyards. In the old days, pre-*phylloxera*, most of the vineyards were what you'd call a random planting. So they would have a hectare, and they would have sometimes up to thirty or more thousand vines on that site, and they weren't necessarily always in ordered rows, they were hand cultivated. And if a vine died, and the vines were on their own roots because they didn't have *phylloxera*, they would just take what we call ground layer. They'd take one of last year's canes, they'd bend it over, dig a hole, put that underground, throw soil on top of it, a stone on top if they needed to hold it down, and then a little piece of it sticking up, and lo and behold next spring that would start to grow. And the part that was underground would develop roots, and bingo you have a new vine.

06-00:47:33

Meeker:

It's like if you let a strawberry patch go wild.

06-00:47:35

Freese:

Exactly. And they do their own kind of thing. Grape vines at the canes, they were never laying just on the soil surface, so they didn't have an opportunity to like—like strawberries do. So these now low-density vineyards at 10,000

vines per hectare, with meter-by-meter spacing, were starting to run into these same issues, and they were using rootstocks that were resistant to phylloxera, and they were oftentimes very vegetative. And so they were dealing with these runaway vines, and they were very tight density, and so they got into this hedging. They just come through it and they chop off with a machete; they just chop off all the new growth.

But so, we then said, “Okay, well, the French aren’t going to go for an eight-foot wide row with a lyre-type system training that’s separated by three feet between the two arms with these angled-out canopies. That isn’t going to happen. That’s not going to happen.” So we went forward, made the case of why we’d want to do different development, never going there. And so I said, “Okay, let’s just do a typical Bordeaux vineyard.” The French said, “No, not going to happen.” And I said “Okay well, that’s as good as I’ve got. What do you want to change?” And they said, “Well look, we’d never do the rows one meter apart, because you get too much damage on them, from equipment or just working in them.” So we went to one point two meters wide, four foot wide—

06-00:49:24  
Meeker:

I’m sorry—to foreground this, this is you interacting with your French partners at the Opus One site.

06-00:49:33  
Freese:

Right, right. And so we had removed this previous vineyard—what did we call that, Ballestra? Oftentimes, the vineyards kept the name of the previous owner. It was kind of like you adopted a dog and his name, Fido, and so you just keep calling him Fido. So anyway, we went through that whole design process, and it was back and on and off again. And so they said, “Okay the rows have to be wider.” And I said, “Okay, what also has to happen is we have to have more length. We can’t put them one meter down the length of the row because they’re so close together that we can’t get enough growing points, or enough outlets, basically, for the capacity of the vine and the vine combination to grow.” So we arrived at a 1.2 meter wide row, and I think it was 1.4 meters down the length of the row. Merrily went underway. Then we subsequently, or in the other configuration across the other side of the—I’ve got these out of sync here.

Okay, so then, Opus acquired the property that’s now to the south of them, of the entrance. The winery was being designed. The old vineyard that we had converted over to this divided system was being removed, and we were designing new vineyards. The first vineyard that we designed was actually a product of a visit, and the first one that we developed was on the south side, and that was a product of, what can we actually do here with what I call domestic equipment? And so we came down to the fact that a six-foot wide row, because we had to farm it on the ground—of course, all these Bordeaux vineyards are formed over the vine row with special equipment, that’s the

tractors, wheels on each side of the row. All the work's done underneath the tractor body itself.

So we said okay. We took a trip, and I referred to this earlier, with the then vineyard manager Charlie Williams, myself, Tim Mondavi, and our guy, Dave Lucas, who was down at Woodbridge. We had an early vintage, so I said, "Let's go to France and design a vineyard." And the vineyard team in Oakville said, "What do you mean, go design a vineyard? We've already designed the vineyard, and it was designed as a wider-spaced vineyard." And I said, "Well, maybe what we need to talk about is how we're going to redesign the vineyard." And of course, from a vineyard management standpoint, it really violated a key rule of, don't change things after they've already been designed and go forward.

But I said to Tim, I said, "This is so critical that I think, Tim, I think we need to stop the vineyard development the way it's planned with this wide-spaced vineyard, and go back to ground zero, start over again." And so I said, "To do that, I think the best thing is to actually go see vineyards," and we spent time with Alain Carbonneau. We visited a lot of vineyards; we went to Italy. We arrived at Bordeaux just when they were on the start of vintage, and we went to Italy. We came back to Bordeaux, and I still, somewhere, I still have the notebook, where we had this Peugeot station wagon, and we were driving, and I said, "I'm perfectly willing to drive, but I'm not going to drive. I'm going to sit in the back seat, and I'm going to design vineyard as we go from our visits." And so at the end of every day, we'd sit down and say, "Okay, what did we learn here?"

And I said, "You're going to have to bring people along about vine density, and shoot density, and vegetative growth, and all this stuff that I'm trying to work on about winegrowing, and to convince our vineyard management team that everything that they'd designed so far for that new vineyard is going to get thrown out, or sent back, and we're going to start over again." And I said to Tim, I said, "This is probably going to be a little testy at points of time, but I just need to know who you're going to align [laughs] with here." And we agreed that we'd all kind of keep an open mind and work through this. And so I remember occasions where, at the end of the day, in the evening in Bordeaux, and Charlie would call home to Oakville and say, "All that irrigation pipe we have, and all those stakes we have, and the type of stakes, and the end posts, and so forth?" He said, "Figure out how to cancel, because we're going to change everything."

06-00:55:12  
Meeker:

And this was all viable to do this because it was Opus, right?

06-00:55:17

Freese:

Right. That was the gateway, really, that was open at that moment to do this, because they weren't going to have us develop a wide-spaced vineyard. I just knew that wasn't going to fly.

06-00:55:33

Meeker:

The French were not going to allow it, yeah.

06-00:55:35

Freese:

The French weren't going to go with it. And it's in front of God and everybody, and some of the fun parts. How are we going to be different if we're doing the same thing everybody else is?

06-00:55:49

Meeker:

Because it's right out there on—

06-00:55:51

Freese:

Highway 29 and everybody drives past it every day. Every person who operated a vineyard or a winery, or worked in one, or whatever, they were driving past, and they were looking at us doing this. And so I made a bit of the argument of that as well. And so we also, because of phylloxera, said, "Okay, we're not going to plant another AxR1 vine on any of the Mondavi properties. That's a line in the sand; it's not going to happen." We did, in fact, violate that in Carneros, and we wound up replanting that vineyard in a fairly short period of time.

But so that was the evolution, and there were some real critical questions, like, okay, if we make a six-foot wide row, how are we going to farm that? And I said, "Yeah, it's kind of like, you build it and they'll come." And I knew if we went narrower then that wasn't going to happen, and then we did this kind of Special Tractor Olympics with—I talked about it earlier, I think, of the different equipment representatives: John Deere, and Kubota was in there, and Massey Ferguson, and I don't know who else was in that group right now. But they would come out—some of them didn't even come out. They said, "You had a six-foot wide row, what are you talking about? We don't do that. We don't have anything that'll fit. Everything we have will just run down all the stakes."

So we got to the Kubota people, and the local guy, and he's actually trained as a mechanical engineer, and he goes, "Interesting." [pauses] "Let me work on this." So says, "We cut down the rear axles, turned the wheels around in back, using narrower tires in the front. They're adjustable; we can move them in. It's four-wheel drive. It's light. It doesn't have a lot of horsepower, but it's very effective at getting power on the ground." He said, "Yeah, we could do this." So we set up this, dummy kind of vineyards, and he constructed a tractor and he brought it out and he goes, "Eh, still a little too wide," and, "We can do this, but it's a little too wide. We need to do something else." So they chopped it a little bit more. Bang, we said, "Okay, send us several of those."

06-00:58:22

Meeker:

I think that that's a story that would be very surprising to people, that the availability or lack thereof of certain types of equipment would have a big impact on the plants and the vineyard. That's quite interesting. I'm curious. So this was planted then according to these new specifications.

06-00:58:45

Freese:

Mm-hmm. And I'd say it was conceived in the back seat of a Peugeot. It was just like all the notes about: What did we learn today? Will this work? Will that work? Alain says, "Yeah, it'll work." He knows something about California. He said, "It'll take awhile to express itself," which, he was exactly right, because they didn't have quite the competition when we first planted them.

06-00:59:05

Meeker:

Well, what was the expression? How long did it take, and what kind of characteristics, if any, set it apart from its neighbors?

06-00:59:16

Freese:

Well, it was different by design, and everybody could see that, so they go, "There goes Mondavi; there go Opus." That design got copied a lot, in the later years. I'm trying to remember; from a wine standpoint, we were probably into year six or seven, something like that, we really started to see. It took awhile, and so we did a lot of what I call heroic management going in. Clusters were large in the initial years, and there was a lot of them. And so we were putting other human inputs in there about how we thinned the grapes, and the timing of when we take them off, because if we took them off too early, and the vines, for the amount of canopy that they had, they thought they had a lot of water. They also tended to make very large berries and large berries works against concentration. So then we would try to figure out from a management standpoint, how do we know when it's time to throw off the fruit? So we didn't want the bunches all so dense and stacked up that they failed to develop good color.

So we were working out a lot of things that today are standard practice. Everybody goes, "Well it's always been that way, hasn't it?" But it wasn't. The little side cluster that would form we call the wing, or the shoulder, we would go through and cut those off, and people thought we were nuts. And I'd say, "Well look, I can show that the uniformity of the sugar content in the bunch that's had that trimmed off, versus the one that hasn't, is a lot narrower, so it means they're more focused." And then it was like, a whole discussion of well, is more focus actually what we want? We want a broad range of flavors. And I said, "Okay, well let's get a broad range of flavors by blending or treating different blocks, making individual wines, and then blending the wines. Let's not do it by a lot of heterogeneity in the vineyard."

So then that was another focus: Well, is that right or wrong? I mean this is like sort of a-natural. We're making wines that are supposed to be expressing the

site. And we start doing all of this trimming and cutting and thinning and so forth, and I said, “To heck with nature. The purpose is to make these really focused and concentrated wines. So just maybe I’ll go to hell for abusing Mother Grapevine, but I think it’ll work.” And so we started doing the experiments, and we did small lot wines, and we came to the techniques and say, “Okay, that’s what we’re going to do.”

So it was kind of a laboratory, in a sense. We tried a lot of things. And the vineyard was actually designed to get to a number of retained buds, or growing points, or shoots, or whatever, on a number per square meter basis. So one of the things that Alain Carbonneau did for me was to how to think about what’s the right density, not of vines per se, but of actual shoots on a square meter of a vineyard’s surface. Since we’re saturated in sunlight, which, oftentimes Bordeaux is not, because they have cloudy days, we have a very permissible climate, because it’s cool nights and warm days, a lot of sunlight, so we’re going to get a different character in the wines. And so we said, “Okay, let’s go in that direction of those kinds of characters.”

And it was just reading a lot of literature, and I remember a number of really good conversations with Alain Carbonneau, tasting his wines. He’d say, “This is what happens when you get the right number of shoots per square meter,” and you can get it by dividing these canopies and having fewer vines on a square-meter basis, but they have all these extra growing points, because instead of one line of canopy they have two lines of canopy, and it isn’t the number of growing points on a vine as much as it is—“it is,” I shouldn’t say that. I want to back up on that. That’s not a correct statement. But it’s how you look at how hard the vine’s having to work, the root system and the trunk, and how hard it has to work, and when it’s going to run out of this moisture that’s available in the soil.

So it was kind of like a smorgasbord of ideas. We’re saying, “Okay, how is this going to work? Let’s try this; let’s do that.” And those vineyards then we replicated over on the Mondavi side, the four-by-six spacing, and at that point, we also did—I don’t know if we want to go there at this point, but it was a trial, and I’ll just refer to it as a trial. We did meter-by-meter spacing. Was it meter by meter? No. It was one point two by one point four spacing. We did a small amount of meter by meter. We did these verticals like I was talking about, and then we did a wider space but with a divided trellis. And the idea was—I can’t remember the exact numbers—was to try to do increments of the number of buds per hectare, so growing number of growing points per hectare. So from the equivalent of the 10,000, then we went to 5,000, and we went down to 2,500, and, but in the process, we changed the configuration also on the 2,500 to put it in too, so it’s fewer vines per hectare, but more canopy, so that we got the same number of buds on the hectare, but we got it with a lower number of vines. I don’t know if that makes any sense.

So fewer vines, but they were larger, as opposed to a lot of very small vines. And then the question was, what are the wines like? And so we made wines for a number of years, and the meter by meter, the really high-density stuff is a pain in the butt. I mean, there's a lot of hand work, and our timing was off and on, and there was a lot of controversy about, well, if it's a real true trial, should we be irrigating—because they ran out of moisture really quickly, and they were on a different soil than the one across the street that I was talking about earlier. And they ran out of moisture really early, and they went into moisture stress, and I'm saying, "The trial is not to see if the vines will survive; it's to see if we can make better wine, so we should manage them for their optimum. So when they run out of moisture, with all the configurations and constraints that we had designed, it's okay to irrigate it," and vineyard management wasn't really convinced of that. So no matter what I said, they were kind of like, "What he says and what we do, they don't have to be the same."

Okay so anyway, but the point is, the Opus project opened this gateway to really start to look at some of these other things, and we wound up, post-*phylloxera*, planting a lot of these narrow spaced, six-foot-wide rows. Then we could farm those. Production-wise, we could farm them, and we were also working with different rootstocks, of course. We got away from the AxR, but we were also seeing the effect of rootstocks in different soils, some of them that were more quote "vigor-inducing" that made smaller vines. And so we'd say, "Okay, which rootstock do we use in which soil?" And coming back to this concept about, once we worked with the soil and the physical part of it, and figured out what the water-holding capacity was, then we could start to design vineyards that were tweaked by rootstock and/or spacing, and/or trellising, to fit to individual soils for a particular wine outcome.

That, in a sense, kind of refers back to the previous discussion about AVAs, because in a single vineyard, we'd have three or four different configurations of planting, and in any sense of the word that would've been a viticultural unit, and we had three or four different configurations in there. And then I came back and I was starting to say, "Okay well, take that, AVA. Figure that one out." Because the French are told how to do it; we can do the human input, and we can get lots of different expressions. And so we would find that in some sites, one gave us better wine than another, but they all worked in some sense in a blend, and one brought more texture. For example, one brought more kind of structure and focus. So we learned a lot and we opened up a lot of questions.

06-01:08:58  
Meeker:

So by the time that you left, just take Opus, for example, there were these different vineyard designs.



06-01:09:07  
Freese:

There was, but they had evolved to pretty much the higher density ones, the six foot wide, because then Opus came in and they said, “Okay, if we think we can get better wines, and for whatever other reasons, we’re willing to commit to purchasing the over-the-vine-row equipment.” Bobard is the common brand that people use, and so today, there are a number of people actually—I shouldn’t say a number. Another one is the Drouhin project in Oregon, their Pinot Noir project up there where they committed to being a Burgundy house. Of course they’re going to go for it. So they have high-density vineyards and they have over-the-vine-row equipment, and they’re doing a brilliant job, I think. That’s a great example of somebody came into an existing area, with a different idea, completely baffled everyone, for two things, and I think I talked about this earlier and I’ll say it again. They came; in the first years they purchased fruit from existing vineyards, and they made wines that were more highly acclaimed than the people they bought the grapes from. Human input? Mm, maybe.

Then they started developing their own vineyards, and everybody said, “Elevation’s too high, the soils are wrong, yadda, yadda, yadda. I’ll give you a thousand words about why this is going to fail.” [makes blast-off sound effect] They went straight to the top, because they said, “This is the best of the best. We’ve got the rainfall. We’ve got the elevation; we don’t have elevation in Burgundy. We can get midway up a slope. We can do row orientation. We’ve got all the sweet spot stuff.” And everybody else there is going, “Oh, you love this elevation? You will never ripen the fruit.” And the French go, “Okay, we’re going up here.” [laughter] And they executed it perfectly.

And that’s what I think really contributes to an area, and that’s one of the things that I think that Opus did is, “Okay, well maybe we’re wrong,” and that’s where I think I referred to, there was a guy who was a great influence on me, who had nothing to do with high-density vineyards, fellow by the name of Dr. Nelson Shaulis. And he actually, what he did, he was back in New York State working on juice grapes. And you go, what’s the gap here? I mean, how do you jump across that gap? But what he did was, he understood vine physiology, and shoot densities, and capacity, and leaf area-to-fruit ratios, and all these really technical things. Didn’t matter what model he was working with, system he was working with; he understood how all that stuff worked.

He actually was the guy who was also a big influence on another guy, a viticulturalist in the industry at that time and still in the industry, Richard Smart. You may or may not have come across him. He’s a—I want to get this right. I think he’s a Kiwi. If I get it wrong, that’s going to be disastrous. Anyway, so he was working in New Zealand and then some in Australia, and quite a bit in Australia, working on some of these same kinds of issues, but he was a post-doc, I think, with Nelson Shaulis in Geneva and New York. So you can see, and Dick Smart went on to write a number of research articles. He

was a researcher for awhile and then launched off and started his own business. He wrote a book that was very influential in the industry called *Sunlight Into Wine*, and it was a compilation of his ideas, and then he got individuals—I did a small piece for that—who contributed too, experiences at that time. But he was really working on the concepts of light exposure and grow orientation, and a lot of the technical stuff.

So this stuff was all going on at that time, and the thing that I started to invoke when I was at Mondavi was something that—I'm going to go back to Nelson Shaulis. Guy was a true pain in the ass. He was probably in his early eighties when I met him, and just a fabulous guy. He's kind of like a gnome. He had a certain wisdom about him. He had this very deliberate kind of speech, really warm, engaging guy, but he was absolutely unforgiving about not using the language of what we were working about technically, not using it correctly. And I still wince every time I talk about vigor, because that was a whipping post for him. He says, "Vigor is a verb. It's not a noun; it's a rate of growth, and, everybody uses it like a noun." And in fact, he wrote a compilation of terms that he never got finished, and he sent me a copy and he said, "Proofread this," and he died before it actually got published. And I always thought, maybe we should go back and find that, and publish that.

Anyway, so anyway, one of the things he told me, and I nailed him one time. He gave a talk one time, and he said something, and I don't remember what it was exactly, and I went up to him afterwards and I said, "Nelson, with all due respects, you said this, this, and this." And then the process of it, listening to him was like drinking from a firehouse. He's so focused and such a clear communicator, but the sheer volume and depth of what he talked about was overwhelming. So I said to him, "Nelson, you said something and I just don't think that's consistent with everything else, and all the things that you've talked about, and the terms and so forth." It was right after he got off of the stage and he was kind of getting ready to leave, and I said, "Let's go have lunch." He goes, "Yeah, okay, great." And I said, "But I have to ask you this one question. I have a problem with what you said there." He turned around and he just kind of stood up straight, and he looked at me and he says, "Look. I may be in error, but I'm not in doubt." [laughter]

And I'll never forget that. It was pretty early in my career, and I said okay, and in fact, what he said, over a period of time, I saw he was correct. He just didn't have all the pieces in place to say, "This is exactly the way that works." So I love that, and every once in awhile, I'll get to a point—I have this other one; it's a cartoon. The guy—I think I talked about this—to scientists—the board's full of calculations, and then there's a gap, and in that gap, the one guy says to the other one—and he wrote in there. There was a missing term and he goes, "And then a miracle occurs." I think I told you about that. And the other guy says, "I think you need to be a little more specific here."

06-01:17:15

Meeker:

So all this work you're doing at Opus and Mondavi, are you reporting this to the North Coast Viticultural Research Group?

06-01:17:26

Freese:

So we're using these kinds of approaches in the vit group. Some of it is going into work that's going on then. We're working with Mark Kliewer from UC Davis, who was a really fabulous guy to work with; Mark Matthews, who was fairly new at Davis at the time, very senior now, and wrote a really an interesting and somewhat controversial book. [Mark Matthews, *Terrior and Other Myths of Winegrowing*, UC Press, 2015]

[looking for a book]

I'm going to do this without totally disrupting everything. I don't see it here. Anyway, I'm going to make a note; I want to come back, because what he does in that book is, he sort of puts a challenge out about a lot of these terms. I always loved Mark because you think you know something, and he'll ask the question about, "Okay, so how do you know that? How did you get there? I think you maybe made a big mistake there. Let's go back and take a look at it and see if it really works or not." And I think his book undertakes doing that, in kind of saying, well a lot of this sort of stuff that we tossed around and we think is real is probably not substantiated by the real evidence. He was another great person that we worked with, and he didn't have the opportunity, neither Mark Kliewer nor Mark Matthews had an opportunity, they didn't have any way to actually make wines, and so that's one of the things that the vit group said, "That's what we do. We can make small-lot wines, or, we can scale up these trials if they look at all encouraging and do five-ton units, or ten-ton units, or twenty-ton units. We'll test it and see if it works or not." But yeah, those guys, they put the technical foundation under it, and then, sometimes we would be involved in those publications; sometimes they were just the principal investigators themselves.

06-01:20:10

Meeker:

Can you give me an example of maybe an idea that they brought that eventually has been adopted to a certain extent, as a result of the research, and maybe the test sites that you guys were running?

06-01:20:25

Freese:

Probably one of the key things that came out was that the then common configuration in vineyards was these relatively wide-spaced vineyards, and I think we talked a little bit about how we got to wide-spaced vineyards in California, that it was a Davis trial. It was the polar opposite of what we were talking about just now. The trial was, how few vines do you have to plant, or how few vines can you actually plant on an acre of land, and still get a decent yield? And it got down to a vine every eight feet down the row, and twelve feet wide. And you could get a four-ton-per-acre crop. So you could farm them very, very effectively, because before that, everything was pretty

narrow, from probably five- to six-foot-wide rows maybe on a square planting, and they were all farmed with horses.

So it was kind of our kind of version of, or parallel to what the French were going through post-phylloxera. We had these old vineyards that were planted, these six-by-six, six-by-eight spacing, six-by-seven, all kinds of different configurations. And so the research at that time was, they'd go through these existing vineyards and they'd pull out alternate rows or alternate vines, and work down and try to get the least number of vines they could, because your cost basis is on a per-vine basis. So if you want to save money, you'd farm fewer vines, and let those vines produce more grapes. Bang.

So what we were busy doing then is going back to and working with, specifically, an example, we were working with those wider-spaced vineyards that had these what I call free canopies. That was two wires. Shoots would grow; they would go up through the wires [and] they would sort of catch onto the wires. Some of them are supported; they would fold over. They would give this umbrella kind of effect. And so you had the fruit inside; it's very protected from the sun and it was pretty low cost. You prune it. It sort of positioned itself from a shoot standpoint, and you kept it free of diseases, pests and diseases, go on vacation, come back, pick it; you're done.

So then comes the age of making life complicated, and a specific example is, that what we associated was, at the time, that wherever the vineyards were, if they were vineyards that were very vegetative, they tended to have these herbaceous kind of characters. I'm going to talk about just Cabernet, just cut it down to one red variety. Herbaceous characters, these leafy and green or kind of bell pepper sorts of characters in Cabernet are death. We define that as being a death knoll in a Napa Valley wine. Whether it's true or not, we taught everybody that it was absolutely a no-go zone, and you couldn't do that. Again, I want to argue about whether it's good or bad, but that's just what we did.

So what Mark Kliewer did is he came along, and there was a woman who came on about the same time that Mark Matthews joined the department. Mark Kliewer's pretty senior. Mark Matthews came along, and there was a woman who was hired. Janice Morrison is her name, and, she was interested in the same issues, like, where did those herbaceous characters come from? Well, in actual fact, herbaceous characters are there to protect the fruit so the critters don't eat them. They don't want the fruit to be eaten, anthropomorphizing here. The vine's designed such that the fruit isn't consumed before the seeds are ripe, because that's a dead end. That's like wasting energy. You're not going to get the critter to go out and deposit the seeds any place where they're going to grow, because they're not ripe.

So we kind of figured that out, and so the question is then, how do we get away from these herbaceous characters, and these canopies that we had were

not going to get us there. So we'd do things like, go in and we'd pull out leaves, and we'd try to get sunlight down from the top, or in from the sides, and fruit wasn't well displayed; we'd need to get more sunlight in, thence came the book from Richard Smart about sunlight into wine, because it was really picking up on this idea that you have to get the right amount of sunlight into the fruit, but not too much and not too little. So Mark Kliwer started it; Mark Matthews worked on those issues. Mark Matthews was working to also look at, are we aggravating the problem by irrigating at the wrong time? Janice Morrison was working on some issues about what happens if you create artificial shade—can you have a well-exposed fruit—and, because the natural canopies are uneven, working with shade cloth and some other ways to artificially shade the fruit, but get a uniform kind of dosage of shading, and timing and severity of shading.

So those are some examples of this vit group, vit research group, saying “Okay, if we're going to make better wines, how are we going to get these herbaceous characters out of them?” And then working with irrigation, just canopy design, and working on some of these alternative canopies, in come ideas with like Alain Carbonneau, who's working with these divided trellis, where you split the vine and put the canopies so that you've got these parallel—or, they're called a lyre, like the lyre that the orchestra people use to hold the music. So they were lyre systems, and you get sunlight exposure, but the angle, which we perfected, I think, I'll say, perfected at Mondavi, of the right angle of that, so that you get sunlight in the morning, but not during the heat of the day, and then you get some in the afternoon. So it was just this tumultuous process of, these ideas are coming in and we're designing vineyards, planting them on some of these ideas, and then saying, “Okay, how does that work? Are we making better wines or not?”

06-01:27:53

Meeker:

How did you determine that last factor?

06-01:27:56

Freese:

The wines?

06-01:27:56

Meeker:

Yeah.

06-01:27:57

Freese:

Basically, we would put them in front of the winemakers, and say, “Here they are. Blind, what's your preference?” And we'd say, “Well the preference is always for the ones that have lower herbaceous, green pepper, bell pepper kinds of characters.” So that's when I said, “Okay, we are, as an industry, we've gotten out of—” in the very early days of Napa Valley, bottled wines would be defective sometimes. So then I said, “Okay, let's work on a—” and then everybody's talking about quality. And I said, “Okay, what's quality?” [side conversation deleted] I said, “What's quality?” And I kept arguing, “You talk about quality, and you don't define what it is.” So I said, “Let's do this.

Quality has two basic components. The first one is freedom of defects. Wheels don't fall off your car when you drive down the road. That's quality, okay? That's an attribute of quality, but you could drive a soapbox car down the road and not have the wheels fall off of it, but that isn't what you want to drive in. So then let's talk about the elements of quality, which are degrees of excellence." So what we wanted to do was get away from the defects, and then make that a standard. That's our objective. We aren't going to have the defects, and herbaceous character, we called defect.

And by that time, our understanding of chemistry and so forth was advanced enough that—in the seventies and eighties, people weren't producing and putting into bottle very many defective wines. We still had the occasional wines that would go through malolactic fermentation in the bottle, or something else would go goofy with them, but that doesn't even happen anymore. Everybody understands the microbiology and the chemistry and so forth. So we're getting to the point where we were working on eliminating the last defect as the basis of character. So then, the next level with this group was saying, "Okay, so we know how, or we're learning how to get rid of the defects. How do we go to the next level and see elements of style, attributes that are characters that are stylistic expectation for expression of the wines, and really let's put some legs under quality." And so then we're talking and look at concentration and different characters. Yeah, the kind of things that really then sort of get you up into that next level.

And I continued to work with the group, where we were looking at, okay, if a vertical trellis with this kind of shoot density is giving us certain attributes, certain characteristics, and none of them are herbaceous characters, we've gotten out the defects, how do we get the intensity of concentration? We go through, and we do a lot of this manicuring stuff that I was talking about, taking off the wings in the Cabernet, making sure the clusters weren't stacked on each other, and make sure that every shoot that was proper length had enough leaf area to ripen adequately the fruit that was on that shoot. So a lot of it was remedial stuff. We'd throw a lot of grapes on the ground. And then we'd say, "Okay, we need the shoots to stop growing at the right time," so we'd work on timing and severity issues about having the vines stop their vegetative growth two weeks before we're going to get into veraison, so that the vine got these abscisic acid kind of hormone signals from moisture stress, and the vine's going, "This is game over. We can't grow anymore. We better get on to the reproductive phase. Let's get those seeds ripe." So we're starting to kind of peel that onion, and come to understand what needs to happen at what time.

06-01:32:24  
Meeker:

How were you communicating this knowledge? How was it being disseminated to the broader community of winemakers?

06-01:32:33

Freese:

Okay, so a couple things were going on. So with the vit tech group, one of our requirements—actually, it was a requirement—is that every one of the researchers target their work in such a way that it will stand up under peer review and become publishable. So it has to be publishable, unless it just turns out the experiments just flat out didn't work, because sometimes you have a great idea that turns out as not so great idea because it doesn't work that way. So sometimes even negative—

06-01:33:11

Meeker:

Don't you want people to know about that, though?

06-01:33:12

Freese:

Yeah, so what we'd say: "If we're going to have a failure, let's make it a well-characterized failure." So we can say, "No, that doesn't work." Too much shading actually, artificially, gave us the same problem. Even though we say, "Well, it's a measured amount of shade, at 60 percent shade cloth, is that—" actually, what we did, which was a valuable failure, is that you can open the canopy, you can put up the shade cloth, you have a known amount of shade, but what we did is we stopped the air movement. We had a right amount of sun, but we didn't get the air movement. So the first hot day, the fruit all cooked. Go, "Well, that doesn't work that well, does it?"

06-01:33:53

Meeker:

[laughs] You end up with jam.

06-01:33:54

Freese:

We got our sunlight right, but we didn't get the air movement, so the temperature went skyrocketing high. So okay, there's a failure; it's worth noting. Some people are still repeating it today, but anyway, they didn't read the literature. So it had to be publishable, positive or negative. We as a group got the access to the information first, and we asked the researchers to not talk about it until, and this is natural with a researcher—they do this anyway—until the ideas were fully formed and fully tested. Researchers don't go out and talk about—sometimes they'll talk about wild and crazy stuff, if they're in the right venue, and they're with the right people, and thinking about, can we get more funding?

But generally, that was not a big issue for us, and that we had tasted all the wines and we understood the experiments, the results, and the application of it, and then because mostly, Zelma's in there with Simi, me from Mondavi, guy from Sterling, Rob Davis from Jordan Winery, etc. So these are fairly good-size wineries. It's kind of a self-reinforcing project because we had the people who'd do the extension, they'd go out and work with all the growers. So at that time, I was working with what, I don't know. This is interesting; I never thought about it this way. I was probably working with about 3,000 tons of Cabernet, 2,500 tons of Cabernet, 3,000 tons, depending on the timing, at

all different levels, different numbers, but similar kind of impact in all these other wineries, so we had a built-in extension service. We were it.

And then, the growers that we worked with oftentimes would be growing grapes for other wineries, and the other wineries would say, “Hey, what’s going on? Why are you doing the Mondavi block, you’re treating it this way? What’s going on?” Other winemakers would go, “Well how did that work out for you?” And they’d say, well, they love it. “We no longer get the herbaceous character that you over here in this block, you’re complaining about it. We don’t get it over here.” The guy go, “Do me too. Do ours the same way.” So you start to get this sort of pebble-in-the-pond effect. And then, the research papers would start coming out, and other people would pick up on them. And presentations would be done and nationally and some of them internationally about what we were up to. So there’s the kind of the interaction. Richard Smart was working on his stuff in New Zealand and Australia; people are publishing; they’re trading, inviting people to come and speak about things; and so the word starts to get out pretty quickly.

06-01:37:20

Meeker:

Were there ever any published studies or conclusions that you arrived at in this context that were either controversial or polarizing in the way that people didn’t like the results they got, wish that it was done another way, those kinds of things?

06-01:37:45

Freese:

Well, I can think of a case where the work was actually misinterpreted, and I think it’s still misinterpreted. A lot of this exposure issue, people took it to mean that you just give this really radical exposure to the fruit, and in fact, the research says you need a moderate amount of exposure through the entire canopy. And somehow or another, it seems still that that message has been missed. And I still work with, occasionally, not people I work with now, because they know that I have a really strong kind of commitment to this, general exposure through the canopy and on the fruit, and so nothing is extreme. Nothing is extreme—I’m seeing another car here.

06-01:38:40

Meeker:

Somebody has arrived in a white—

06-01:38:42

Freese:

This is a very busy spot this morning. So that, I think, is still misinterpreted by a lot of people.

06-01:38:52

Meeker:

Looks like a friend is coming out here. Why don’t we pause?

06-01:38:54

Freese:

Okay. [tape stops, restarts]—pletely, but we really, on this theme about the vit group and things, so, really what’s going on is you got all these things happening at the same time. So the vit group was formed to address some of



these things that we were all thinking were key issues and that weren't being addressed, because the researchers didn't have money to do the work.

06-01:39:17

Meeker: Mm-hmm. They didn't have the study site.

06-01:39:20

Freese: They didn't have the study site, and to get grant money, you have to have some results so you can convince somebody that it's a good project. And there was an industry group that was started that was supposed to do funding, because federal funding was really going away, because we were working on wine, and nobody wanted to talk about spending federal money on wines, except for how not to drink them or abuse them. So we said, "Look, we can move the needle here by just coming up with some money. We can get these guys engaged," and the idea wasn't to fund everything they did, but was to fund enough to light the fuse to then get the subsequent funding from other areas. So it did, and it worked, yeah.

06-01:40:23

Meeker: And that worked. Is there anything else you'd like to say about the viticultural research group?

06-01:40:38

Freese: I guess I would say, one of the other things I learned is that—this is more of a general, kind of philosophical thing—as, and I look back and I think is still the case, it's hard to do—is that sometimes, we as individuals wind up in a place of physical and temporal space that we're in that is—it's the right moment to be in the right place, and the trick is to recognize those and take advantage of them. And this general period, I would call, it was a kind of a golden age of winegrowing, viticulture, winegrowing. Wine research itself, in this elimination of defects and faults and so forth, was on its own track, and what we were finding is that the winemakers were getting new and better tools and techniques, but they would get ahead of the winegrowing.

And so we were in the process of trying to catch up, to say, "Look, no matter how good your barrels are, and no matter how much you work with air incorporation and so forth, you're not going to get rid of these green characters. We're going to have to do that in a vineyard." And so when we were busy doing that, then they could build on it, and that's part of what I mean; it was a really receptive audience, because they had the same issues. And so and we could do stuff to make, to, as I say, move the needle, and so I think we all realized that, in that group that this was a time we had to just go for it, and it was a great time. We were having a blast.

06-01:42:42

Meeker: So this is an organization; this group still exists, right?

06-01:42:47

Freese:

I think it does, and I don't know how it's configured and what they're up to these days, and so forth, and I've kind of lost touch with them.

06-01:42:55

Meeker:

Did you start to move away from it when you left Mondavi?

06-01:43:01

Freese:

I was involved for awhile. And I guess the corollary to what I just said about time and place and knowing when to hit the accelerator, was that those moments don't last forever. They kind of come and go, and I felt like we'd sort of done what we came there to do. And then we were kind of getting on with implementation, and at that point. At that point, I think that academic environment, it really focused on the guys in Australia. Australian Wine Research Institute, and the funding in Australia, and their pursuit of these what I'll call management impacts on wine outcomes was such a big focus. Then you had people in Bordeaux who were doing very similar things. Alain Carbonneau was very active. There were people in Italy.

There was a guy in Italy who designed this experiment. He had a hill, and he planted vineyards all the way around the hill, in different row orientations, sunlight and trellis. [laughs] It was amazing. So then they would make wines, and they had it by elevation as well, so you could be up on the hill, and the climate was slightly different, or you could be lower, and you could do kind of all the points of the compass. I mean it's just a blow-your-hair-back kind of thing. I look back, and I say I think we planted the seed there, and so I think we did what we came to do. And then, people were moving; their careers were moving in different directions; and we started kind of basically saying, "Are we still going to fund this group?" Things were changing at Davis. It was a nice sort of peaceful sort of evolution.

06-01:45:36

Meeker:

Mm-hmm. Well, you were at Mondavi until '96, right?

06-01:45:41

Freese:

Ninety-four, '95, yeah.

06-01:45:44

Meeker:

Okay. When you talked about starting at Mondavi, you had a very clear plan that comes to fruition. Did you have a similar plan going into your departure from Mondavi?

06-01:46:04

Freese:

Yeah, it was very, very clear. A couple things were driving it. One is, not necessarily the driver, but a driver, was that Mondavi was in the process of the transition. The impact of phylloxera had a huge impact on the winery. I still don't think that was significantly recognized, or it was high enough in the recognition sphere. There was a lot of recognition given to sort of the transition, the family transition, sort of the corporate direction. Honestly, we

had a lot of vineyards to replant, and didn't have the money to do it. And I think that was helping drive this idea about getting some—

06-01:47:10

Meeker:

Selling it.

06-01:47:11

Freese:

Yeah, or bringing in a partner, or selling it entirely. And one of the things that I've come to appreciate and I appreciated then was that, I just sat down and I said, "You know," as I said before, "I've done what I came to do." And then, that's one thing, but my philosophy is I don't like to leave things. I like to go to something else, and what I realized is that my next thing was to then start to work with smaller producers. At Mondavi, I was losing the impact of what I call fingerprints on the product, because it was large and we got larger committees, and different people had ideas about what they wanted to achieve, and market, where they wanted to go in the market, and there was this, how hard do we push on or put our efforts towards, as a group, or as an organization, towards Woodbridge, because that was a real growth area. The Central Coast, what's going on there?

There was a lot of stuff going on and then, as I said, I wasn't involved in the overseas projects, but that was a focus of time and energy, as well, and I was getting to the point where I didn't wind up having enough time to spend time with the growers. I had people doing that, and I'm thinking, that's the fun part. I'm sitting in my desk a lot, thinking of projects, and I said, "I want to get back where I've got fingerprints on the grapes. So" I said, "okay, it's time for me to take what I'd call, to put the show on the road, what I had worked with to help develop," and to basically put it into private practice, so I could work with small producers. And the only time I violated this one time, was to not work with large corporate wineries. And it was nothing except that it was so hard to get to the levers that actually made things change direction, because you had to work up a very steep kind of set of people who were trying to convince someone else to pull the levers to actually change the way you did something in the wines or in the vineyards. And I like working at this level where my clients were the people I saw everyday, and it was the owner said to the winemaker, and to the vineyard manager, "This is what we're going to do. I don't have to be there to make it happen, but you guys do it."

And so that's what I really loved doing, and so I said, "Okay, that's what I'm going to do." That's why I think I said earlier that when I decided to leave, I made a list of people I wanted to work with, and I put it up on the board and I said, "Okay, here's my strategy. I wait until they call. Everybody who calls in between, I can examine it and I'd say, 'Yeah, do they fit or not?' and if they didn't, I'd say, 'I don't think I can. I'll help you get where you want to go, but I'm not the person. I'll help you find somebody, or give you some resources you can work with.'"

06-01:51:09  
Meeker: So this is the genesis of WineGrow, right?

06-01:51:11  
Freese: Yeah.

06-01:51:12  
Meeker: So that was, I guess, I see it was established in '93, so there was a little bit of overlap between starting your own initiative and your time at Mondavi.

06-01:51:22  
Freese: Yeah, it was—because basically, I had given notice that I was going to leave, and I'd given notice to Tim by way of my organizational structure when it came to budgeting time, where he picked up very quickly that I wasn't in the organizational structure any longer. [laughter]

06-01:51:46  
Meeker: Okay.

06-01:51:48  
Freese: And I said, "Yeah, that's exactly the case. This is, it's somebody else's project now. I'm going."

06-01:51:57  
Meeker: Well who then was on that list of people you wanted to work with? Are these growers, or winemakers, or both?

06-01:52:04  
Freese: Principally, it was wineries, because my focus was to impact the wines, but to start in the vineyard to do it, whether it was developing new vineyards, working with vineyards that they had, working with growers, and so Cakebread was right at the top of that list.

06-01:52:25  
Meeker: Why is that?

06-01:52:27  
Freese: Well, I had gotten to know Bruce Cakebread, and Bruce is a rare, unique, and wonderful individual. He is unrelenting about execution, but he also very much knows and appreciates that you have to have a real focus on—you set an objective and you work towards it. I don't care if it was building, remodeling the vineyard or the winery, building a new block on the vineyard or the winery, he understood that if they're going to change the wines, you really had to go back to the vineyards. And he had a really good winemaker, but I think he shared the idea that they weren't executing in the vineyard; they were doing good grape growing, but they weren't growing wine, and that's really the working definition of what I was looking for.

06-01:53:29  
Meeker: And so you would've already had conversations with him about his vision and his diagnosis of what was wrong at this point.

06-01:53:36  
Freese:

Enough to really understand that they would be a really good candidate. And he basically—I don't remember how this happened. I saw him somewhere, or yeah, I think it might've been at one of the AVA meetings. I trusted Bruce a lot as well, and I told him that I was busy with this kind of transition, and what I was going towards. I said, "Mondavi's been a great run. It was unique opportunity, resources, the things that I got to do, make stuff up, figure out, to get money for it, and go do it." It was a toy store, really, quite frankly. Very few things that we decided that we wanted to try that somebody in the organization, in the mid-level, they would go, "Oh, so you want money, [grumbles] {inaudible}," and I'd say, "Well okay, we'll see how Tim feels about that." [laughter] And Tim would go, "Sounds like a great idea. Let's do it."

I think I related about the Pinot Noir project. It was like, who takes the first step? Do we pay more money for excellence in the execution of the vineyards, or do we wait until they execute and then we say, "The wines are better, we'll now pay you more"? And I said, "The second one's never going to work. We'll be old and gray before we see the results of that. If we want a quick action, I just need a budget; I need to be able to go out and tell people this is what we want to do, and we won't make any fatal mistakes, no shot below the waterline, and we'll evolve it. In several years, we're going to have this nailed." Said, "Do it." Financial guy said, "It's a lot of money," and I said, "Not my money, but I can tell you who's going to ultimately have the word."

So but the time had really come to move on, and I'd explained to Bruce, I don't know how significant that conversation was, but it was basically, I said, "We've got to get on, people in the industry really have to get on board with winegrowing, get over the concept of growing grapes. We have one market for those grapes, and it's you putting in the bottle." And evidently, that made an impact on him, because he, I think he called me up and he said, "Let's talk about this," and we had a conversation. He said, "Let's do it."

06-01:56:31  
Meeker:

Who else was on that list?

06-01:56:33  
Freese:

It's a good question. Far Niente was on the list. I still, in that transition, one of the things that I did do is, Tim said to me that he wanted me to—first of all, he said, "Will you stay on," and I said, "No, that bus has left the station." And I said to him, "Don't offer me more money, because that's just going to piss me off, so just take it. I'm going." But he said, "Well what about continuing to work as an advisor?" and that's, I think I said this before, is that, "I can't do that to the people at Oakville. It's not going to work. I can't leave and still be supervising and directing people here. But I'd be glad to work with Central Coast, and/or Woodbridge in an advisory role," for them because I'd never directly supervised those people. And so that went on for—I forget the details. I probably worked with them another, it was a number of years, significant

number of years, for three years, four years? I should know that number. But that was an opportunity both as an income, and also to help kind of let people know that I was making this transition. And I think I told you the story about Seghesio, where Peter, I met him, and I actually tried to talk myself out of that, and he wouldn't accept no. And it's a company I still work with; I think we're still making progress. Who else was in there? I worked with Jordan for a while.

06-01:58:56

Meeker:

With all of these groups, Seghesio, and Cakebread, and Jordan, what was it that qualified them, put them on the list, to begin with?

06-01:59:08

Freese:

Okay. The Seghesio's a different story, because they were doing something that didn't put them on my list, but what put people on my list is if they were actively engaged in really pursuit of another level of wines; they had good resources in the sense of winemaking and vineyards, and hopefully vineyard management; and they had a demonstrated commitment to really doing stuff, and were engaged, and that's a word I like a lot, is engaged. They were like, "Okay, how are we going to get better?"

So I was not about trying to sell services. I said, "Life's too short for that." Because if you try to sell somebody something, it means they either didn't recognize that they needed it, or they didn't appreciate that they needed it, and I said, "Life's too short for that. I want to work with people who immediately go, 'I don't understand how we're going to do this, but we need it.'" The same thing that Tim said to me, essentially, when I described to him when I was ready to leave the vineyard management company. I said, "We need to grow wine." He got that immediately, and he said to me, "I don't know how we're going to do it, how you're going to do it, but we need it, so let's figure it out; let's go." And that's really what I was looking for, for people that qualified on the list. Yeah, then it was just a matter of not overextending myself. I said, "I'm not about trying to see how long a list or how full a menu I can get. I'm really about focusing on excellence."

06-02:01:07

Meeker:

So I would guess there were a number of people who contacted you who you respectfully declined to work with.

06-02:01:13

Freese:

Yeah, yeah. And some of them, there were these criteria: good people, basically, is it, an owner/operator that understands it, gets it, has empowered the people, the winemaker and the vineyard guys, and they have good resources to work with. Yeah, so, yeah, I didn't know any better. I just said, "Well, I could say no if I don't want to do it." And Zelma was still working, at the time, and I said, "Well, I'm just going to do this the way I want to do it."

06-02:01:54

Meeker:

How long did it take you to get it established to the place where you felt good about it?

06-02:02:04

Freese:

Well there're two ways. I guess one is from the quality and character of the people I was working with. That was instantaneous, because I had this kind of sieve. I wasn't going to work with people who weren't kind of at the same level of engagement. The other one was setting up kind of a financial basis of—you know. So I said, "Okay look. I don't want to start out with a restaurant where you run in deficit for a long period of time." So I sat down and did myself kind of a budget and I said, "Okay, there's my hurdle. Once I hit that, then this is sustainable, financially." And it wasn't that's a lofty a goal. It's like, we had other incomes, so I didn't have to be a sole breadwinner.

And so I hit that in the first six months, so then I said, "Okay, and everything above that is then the question about sustainability." And sustainability for me wasn't the financial sustainability. It's like, when I get up in the morning, and I put my socks on, and I say, "Okay, I'm spending a day with these guys," the question is, I'm saying, "I really want to go do that," as opposed to, non-sustainable for me was saying, "I don't think that's going to be a lot of fun today." I said to myself, if I get to the point where I think it's not going to be fun, I don't think we're moving the project—I had a working definition of success; that's basically a meaningful progress toward a worthwhile goal, and it was up on my bulletin board.

And so I would look at it; I'd carry that around; and I would, sometimes I would sit and we're in a meeting, we're in a tasting, we're working in a vineyard, and I'd say, "Are we making meaningful progress toward a worthwhile goal? If we aren't, what's the issue? Is it me, that I'm not communicating well enough, I'm not stimulating them, or have they reached a plateau, or there's some reason we're getting pushback?" Could be the owner, the winemaker, somebody says, "Look, I don't believe this is going to work." If they're dragging the anchor, then I would say, "What's the point?" And so I'd say, "Okay, I think we've gotten up to a certain level; let's just leave it there, okay? And when you guys try that, and if you want to go to the next level, then let's come back and talk about it again."

So the business itself, I said, "Look, I am terrible about tracking hours, and invoicing, and stuff like that," so it was real simple. It's a retainer contract, two-page contract. Think it got to be part of a third page, eventually. And here's the deal in their wording in a short sentence: it's basically, you set goals, I help you get there; when we either get there or we find out we can't get there, or for some reason, one or the other of us is not happy, then we're done.

And that's the one with Far Niente, for example, where I said to Gil that it's a one year agreement, with a thirty-day cancellation clause, and he goes, "This is stupid. How can you do that?" That's where he wasn't very happy with. And I'd say, "That keeps everybody honest. If I get tired, or get bored, or I think we're not making progress, then either one of us can just say, 'Okay, I'll pay you for the next thirty days and we're done.'" And some people had a little struggle with that, but I never had anybody who did that. So I said, "We'll do them on a one-year basis, and then every year, we'll sit down and do kind of a self-assessment: Okay, this is what we started out to do; this is what we got. Where do we want to go next? How are we going to get there? You want to sign another one year or not?" They said, "Okay, we'd go give it a shot."

06-02:06:29

Meeker:

That's a nice business model.

06-02:06:30

Freese:

Yeah, it was real— [laughter] I didn't know any better. I just said, "Well, that's pretty much the way it's going to keep it fun."

06-02:06:40

Meeker:

You had just brought up Zelma, and I'd love to get your account of that particular side of your personal story, your meeting and joining forces.

06-02:06:56

Freese:

Mm-hmm. Yeah. Well, I met Zelma; she was at Mondavi as the winemaker, and I always tell the story that, and so I'm some guy out here working for this vineyard company that's delivering a lot of grapes from Wooden Valley, and from Chiles Valley, and probably making their life at the winery more difficult, because Bob Mondavi had signed a contract for—and the property in Wooden Valley was 400 acres, is 400 acres, and the property in Lower Chiles Valley was 142. I remember that exactly. And on those collective 500-and-some acres of vineyards, we had a significant amount of what I characterize must've sounded like a good idea at the time: Napa Gamay.

06-02:08:03

Meeker:

Ah. Valdiguié.

06-02:08:05

Freese:

Yeah. And I think—

06-02:08:09

Meeker:

I actually like that grape, by the way. [laughs]

06-02:08:11

Freese:

I've had some wonderful wines from it, but we collectively, both from the growing standpoint and from the winery standpoint, it got out of favor very, very quickly. And they were making red wine out of it, sort of. I think it was a good red wine, but I mean, the vineyards were productive. We got humongous yields off of them, and we're going, "Yeah, the price per ton is low, but we're



catching you on the tons per acre.” So I walked into that. We had Cabernet that was a significant amount of Cabernet from both of those vineyards.

Fun story about, in the Napa Gamay: I had an opportunity to be a participant in grafting over from Napa Gamay to other varieties, I think the largest mass conversion of vineyards in the state of California. We were doing huge amounts of grafting over, and so, I’d help work out a procedure that gave us a pretty quick turnaround. We’d basically lop off a vine, put two new buds in of another variety, and then I said, “Oh, we can make it even more clever than that.” We worked out another technique where, actually working with one of the guys at Davis, where we’d cut long sticks of two or three buds of say, Cabernet, and we would graft those on the side. We’d do two of them. And so immediately when that vine started to grow, and that had calloused in and become part of the vine, we had four growing points. So you have a vine that was a big productive vine, and if you went from two one-bud to two two-buds, we had twice as many growing points, and literally in the following year, we’d get back to half a crop. So we’d graft them over one year zero, the following year 50 percent, year after that, we’re 100 percent. Bang, we’re back in production.

So I met Zelma, and we were in the process of doing a lot of this stuff, but also producing a lot of Gamay that people weren’t wanting, and how to work through that, and also producing a lot of Cabernet that had some pretty negative characteristics to it: big canopies, the things I described, herbaceous, green characters. We’re trying to figure out how to get away from this. But I had actually met Zelma—no, I’m jumping too far forward. I actually met Zelma, because when I went to work for the vineyard management company, we were selling grapes to Simi and she was at Simi, so it was just the end of her time at Simi, and when she was going to Mondavi. So I actually met her at a technical meeting, knowing that she was a winemaker at Simi, but again, I was a cog in the big—

06-02:11:39

Meeker:

She was at Simi after Mondavi, right?

06-02:11:41

Freese:

Yes, oh yeah. I’m sorry, I’m just going backwards here. Yeah, yeah. Okay, so I met her at Mondavi, then she moved to Simi. So first time I met her I think was at a technical meeting. I would say, kind of jokingly, that, I said, “Well, she’s so stuck up. I’m just some viticulture guy, growing grapes.” Yeah, I remember where it was; it was in San Diego at American Society of Enology and Viticulture, and annual meeting, it admittedly was in one of these kinds of things where it’s the end of a social time and there are like 500 people there, and a lot of stuff going on. And then one thing led to another. We were both married at the time, and both of those relationships on their own merit ended.

And then, she was at Simi, and I said, “Why don’t you—we’ve worked together in these projects,” I said, “come to one of the summer concerts at Mondavi?” And she did, and I said to Annie, who was the cook at the time, I said, “Zelma’s going to be here.” Annie is Margrit Biever’s daughter, and I loved Annie. She was a fabulous cook, and just a wonderful person. And I said something to her, I said, “Oh, Zelma’s going to be at the concert.” She goes, “Oh yeah, oh that’s fabulous!” And she said, “How about if I make some of my special brownies?” She says, “I know Zelma loves brownies.” And I said, “That would be a fabulous idea.” And so I said to Zelma, I said—it was just kind of a friends thing, and I said, “And by the way, somebody’s going to come and say hello to you that you haven’t seen for awhile, and she has something for you.” So Annie came out and she had some of her famous brownies, and we were also pouring some of the first of the Pinot Noir project that I’d been working on. And I think the brownies and the Pinot Noir did it. [laughter]

06-02:14:30  
Meeker:

Were these brownies just regular brownies, or—

06-02:14:32  
Freese:

They were some exotic kind of chocolate, and the right amount of fresh walnuts. Mondavi was on the, from the food side, was really on the cutting edge of kind of new, local cuisine, fresh this and the best of food products, and Mondavi was running all these great chefs’ programs. So they had people from every place you could think of—Julia Child was a regular, and she and Bob Mondavi were great friends—and that kind of stuff where you’ve got the best ideas, then people are coming in and saying, “Well let’s go find the best beets, or the best lettuces, or the best lamb, or the best beef.” And so it was really a complement to what was going on with the winery side as well, saying like, “How are we going to get the best of everything?”

06-02:15:33  
Meeker:

For you and Zelma, how long into your relationship did it take for you to start dreaming up what becomes Vilafonté, I mean, talking about working together professionally, because she has the cellar and you have the vineyard?

06-02:15:59  
Freese:

So we were married in 1990. So when I talked about leaving Mondavi, really the discussion was, what’s next? Because I think we both are very much about not—you probably picked up on this—not spending a lot of time looking back at what didn’t work, other than saying, “Gee, that didn’t work out quite the way we wanted it to. How are we going to do it differently?” So I was talking about what was next and what I wanted to do, and part of that was, I said, “Life’s just not long enough, because we only get to do one vintage a year.” I said, “Part of my business, I want to work in the Southern Hemisphere.” And then that, we were traveling anyway, because we had been invited to South Africa, Zelma and I, for a seminar we did; Zelma, again, multiple times for tastings. And I was looking at other places in Southern Hemisphere to

possibly work, and that's when I hit on South Africa. And I'd been there enough, and on one of those trips, I said to her, I said, "Okay, I think I'm ready to launch here. On this particular trip, I'm going to go home with a couple of clients," and I did, in that short period of time.

Basically, now it gets to what I'd done when I left Mondavi. I knew the key players, and I had in my mind a short list of people that I wanted to work with and work for, and they had to pass the same sort of test of engagement and commitment. And the first one came over, a separate big event, a place they call the Castle. It was an original castle or fortress that they built, the Dutch had built, that then was the center of Cape Town as Cape Town built all around it. And I sat with or had a chance to speak with one of the guys I respected a lot, told him what I was thinking about, and he said, "Great. When are you going to be here next? Let's do this." And then subsequently, I spoke with another guy who was in a different area, and he said, "Great, when are you going to be in here? Let's do this." He said, "Life's tough, and if I don't make better wines, it's going to get tougher." And so we launched. But it was a similar kind of model, just less frequent visits.

We'd always talked about wanting to start something ourselves, and then we came up with, which was a brilliant plan, and like most brilliant plans, it wasn't so brilliant when you started to really think about it in depth. And the brilliant plan was that we would in fact make wines in several places around the world, and we'd do it together where we would basically contract and work with an existing winery, and existing vineyards, and what we would bring is this next elevation of winegrowing and winemaking to that, and we'd make a wine, kind of joint ventures sort of thing. And what we realized very quickly is that we're not good flying winegrowers and flying winemakers, because we're too engaged in the details. I do it now working with clients; Zelma does it working with people in winemaking: I go spend a week with somebody, and we're like, in real depth, but it's not just come in, somebody—the winemakers do this. They come in, they spend a morning with somebody tasting wines, say, "Do this and this, let me know when it's done. I'll be back in two months." That's not our style.

So then we said okay. We did our Riesling project, and that's what we kind of thought was going to work, and then we realized, we're too hands-on, fingerprints on everything kind of thing.

06-02:21:09

Meeker:

That was the one in Germany.

06-02:21:10

Freese:

Yes, yeah. And so we decided to—because we were looking very seriously at Eastern Washington, and there we were looking; we said, "Look, that's domestic; we could actually own a piece of land there." And so we thought about possibly doing that, and then we said, "I don't think that's consistent

with our lifestyle, because we don't want to just travel all the time working on projects in Northern and Southern Hemisphere." I'm not sure why we're so slow on the uptake, but anyway, so then, one of my clients in South Africa asked me to take a look at a piece of property he was looking at and I did, and I think we talked about that, where eventually, I told him, I said, "The project's way too complicated for what you want to do as a business, everything you're about, your history, your vineyards, your winemaking, your vineyard management, everything. Nothing disparaging about it; it's just not your deal, because it's seriously a challenging project." And that's when he said, "Okay, how about if we go in it together?" And I think we talked about how that really just didn't work out. I was correct. I mean, he didn't have the patience for what we wanted to do, and we didn't have the ability to execute at the level that we really wanted to do. And then transitioned into our current—

06-02:22:45

Meeker:

Was this—

06-02:22:46

Freese:

—current partnership.

06-02:22:46

Meeker:

—Gyles Webb?

06-02:22:47

Freese:

Gyles was the first client, but no, the partnership was with Backsberg. And that may not appear in anything that we have discussed to date.

06-02:23:01

Meeker:

Yeah, I haven't seen a reference to that.

06-02:23:02

Freese:

The link is that our first trip to South Africa was orchestrated by Michael Back's father, Sydney Back, who is probably South Africa's closest approximation to Bob Mondavi—not in his business sense, but more in his vision about wanting to put South Africa on the map, understanding that what got South African industry to where they were at that point wasn't really going to take them into the future. It was very regulated. They were trying to avoid overproduction. There was government regulation. You had to have actually a dispensation that allowed you to grow grapes, and it allowed you to grow grapes on a certain area of land. I don't think, speaking under correction, I don't think it limited the amount of fruit you could produce; it was just the amount of land you could grow, and of course, people figured that out pretty quickly. Plant Chenin Blanc and crop it at thirty tons a hectare, and there you go. I don't care what the price is; I'm just going to get more tons.

06-02:24:13

Meeker:

Is that why Chenin Blanc was the grape, because it's productive, or—

06-02:24:17  
Freese:

Partly because it's productive. It was also very versatile, because at that time they were making a lot of brandy, distilled, and the French model, you know Chenin is very important in the brandy production, and it was pretty easy to grow. They didn't get it to extremely high sugars. Some people were making sparkling wine out of it; some were making still wine; a lot were making distillation. And it was old bush vines; they basically pruned it and did some animation of trying to keep it free of diseases. So it had some botrytis in it. Actually, it probably was a little bit better. So it had some rot in it, and a little VA. You just run it through the still; the VA goes off first and then you catch the alcohol. It was pretty amenable to work.

Anyway, so that then I think then our focus really changed away from wines of the world, to putting our focus on the South African project, and then that vision of producing really a—because we looked at the industry and said, “Look, this is an area where the capability, the resources are there; they just haven't been refined and developed.” And we realized that, probably our weakness there, we had two weaknesses. One is diseases-free plant material. Our potential weaknesses is diseases-free plant material, and people who know how to execute at a high level of precision. And we worked through all of those, till we got our current configuration, where we got our own people.

We said, “No, we want a small project. We can use labor management,” and our then partner would bring in their teams, and they were not a team that was accustomed to or focused on fine detail, and that's just who they were. That's no judgment call; that's just who they were, and we couldn't get the execution at the level that I wanted. We used some outside teams with their management, and none of it worked, and I finally said, after the partnership changed, and we took out our then partner, Michael Back, I went in with our current partner, Mike Radcliff, and we said, “Okay, we're small, and it's going to be a lot of overhead, but we're going to hire our own vineyard manager. We're going to have our own winemaker. Zelma's the winemaker, I'm the winegrower, but we each have an operations person underneath us, and we'll train our own people and we'll just do it.”

06-02:27:22  
Meeker:

So I think I'm starting to lose a little concentration, so I think that that's probably a good spot to end for today, and when we meet again in 2018, we will pick up and give full justice to the Vilafonté story. But I think you've set it up nicely, and that will give us a very clear agenda of what we want to accomplish in the next meeting, and I know that there will be a lot to talk about, because it's a really interesting story, and this is sort of the crowning achievement, I think, in both of your lives. So we definitely want to give it due attention, and I think that I need to be fresher when we do that.

06-02:28:05  
Freese:

Okay.

06-02:28:05

Meeker:

Okay. But this was great; I think that, again, we made a lot of progress today.

## Interview 7: March 16, 2018

07-00:00:13

Meeker:

This is Martin Meeker interviewing Phil Freese. This is the sixteenth of March, 2018, and this is interview session number seven, and I'm here at Phil's home, outside of Healdsburg, California. So, we're going to pick up where we left off many months ago, and that is your account of beginning to engage with the wine business in South Africa. So, why don't you kind of recap and get us started on that particular topic?

07-00:00:53

Freese:

Okay. So the year is 1990. I was still employed at Robert Mondavi Winery. Zelma was still actively engaged in Simi. So the third component of this is that we, Zelma and I, had been invited to come to South Africa to talk to the Cape Estate Wine Producers. The South African wine industry had been pretty well organized into—I'm not sure what the right term was. There was a lot of control, in the sense of planting quotients and allocations. They were really seriously trying to avoid overproduction, and the collapse of market.

07-00:01:50

Meeker:

Because South Africa had some bad examples of that happening in its history, where they've had to throw everything into brandy production or something like that.

07-00:02:00

Freese:

Right, boom and bust kinds of things, yeah. And so, our mission—and the Cape Estate Wine Producers was a group of wine producers who had decided that they were going to launch out and go into their own, in the sense that they were—many small producers would then move their production. So they had vineyards, they'd have wine production facilities, they would make wines, but the wines would then go to, not exactly a cooperative, but it was an organization of small producers whose wines would come to a central facility and oftentimes be barrel aged and finished for finished wines, and then packaged, bottled into cases, where the producer, the original producer of the grapes and the wines, would have a label, and that label would go on to their bottles, but all the finishing work was done in this larger facility, a kind of a collaborative effort. And marketing was done in that sense as well. So, it was an idea to try to get market clout and volume and size and so forth.

So there were people who did that, and there were also people who just sold their grapes to these larger groups, or sold bulk wines to the larger groups. And so there were a lot of different, I would call it, my simple description of roots to market, for the producers.

07-00:03:31

Meeker:

But a different methodology than was found in Europe or the United States.

07-00:03:35  
Freese:

Yes, yeah. They were kind of doing their own version of it. So, some of these small producers said, “Well look, we really are making wines of great distinction and character in these areas, and we think we’re big boys now and we’re going to kind of launch out and do the whole thing. We’ll grow the grapes, make the wine, finish the wines, market them, and so forth.” And so anyway, many of these producers left these collaborative organizations and they launched out on their own, and what they were missing is access to information and international knowledge, and expertise, and so forth. I’m not sure these larger organizations were really bringing that, but they had their own internal, oftentimes advisors and head winemakers and so forth, who would deal with a lot of the technical things.

So anyway, the Cape Estate Wine Producers then were inviting people to come in. Also to just add the footnote that, a lot of South Africans were traveling overseas, as students and as young producers, to try to get experience. But during the apartheid era, many in the country said, “No thank you, we’re not going to have you guys because we don’t like your politics and your racial relations and so forth at home.” So, that avenue got closed, but many of the South African winemakers were also trying to, not only at Stellenbosch, at the university, but they would also go overseas for school, and Geisenheim was a—and Germany, and some of them went to France, and some places where they could actually still get access.

But still, the Cape Estate Wine Producers said, “Okay, let’s bring in expertise.” And so, that was an era, in the late 1980s and the early 1990s where these Cape Estate Producers saw that, if there was one of the things that they acknowledged that they were really low on with respect to input and expertise was the use of barrel aging of wines. French oak barrels were rather expensive, and people didn’t really understand them. They were hesitant to plunk down a lot of money for something that may or may not work. They didn’t know all the details about hygiene, and proper use and care of the barrels, and also I think that, when barrel producers exported barrels, they may not have been sending their first-line barrels to some of these other countries.

Anyway, I guess I’m now on the record of saying that, but they didn’t know, and so, one of the first things was just to simply look at the barrels and say, “Okay, what’s the definition of quality here? What is quality?” Or, oftentimes I say, “The starting point is, what’s freedom from defects?” And a lot of the barrels would have blisters, and poorly toasted or uneven toasted, and some leaks, and things like that.

Anyway. So, Cape Estate Wine Producers invited Zelma and myself to come over. They really wanted Zelma. They got me as a kind of a secondary, and what they didn’t know, I think, about, and what I went to talk about, was the concept of growing wine. And so even in 1990, that was a real focus that I had



brought to my time at Mondavi. Also in 1990 it turned out to be a very opportune time for me personally, because I had been there since 1982, I had come out of an academic background, I was at a kind of a tipping point about what I was being able to achieve and some of the missions, and I'd talked about that at Mondavi, and transition of the concept of growing wine and the implementation of it. So, I had announced and secured Tim Mondavi's endorsement to take a sabbatical.

So, that sabbatical was really starting in early January, and of course, just to make the footnote that a sabbatical in a wine business employment was a completely foreign concept. But once I worked through it with Tim, he said, "Sure, yeah, go do it."

07-00:08:26

Meeker:

How long was the sabbatical supposed to be?

07-00:08:27

Freese:

It was about four months, five months, something like that. Typically it would've been a year, but I realized that I could achieve what I wanted to do in a shorter period of time. I really needed to get away from things, and to look back from the outside, and I think we talked about that a little bit, but yeah, I thought that was probably a sufficient period of time.

So going to South Africa at that time was, the real defined purpose was to talk with and describe to the Cape Estate Wine Producers, this group, about wine growing from my side, and Zelma for barrels. And, just a quick recap: That was a seminar, a full-day seminar, just the two of us. We had a pretty good turnout. There were about 500 people in this convention center in Cape Town. We were a little—that South Africans have this term called "gobsmacked," [laughs] about what it was, and there were two speakers, and 500 people, and that was it.

So anyway, we did that, and we then also had requested, and they were happy to do this, that we would go out and do some small workshops. And so we do these, basically a morning in a wine setting, with say, six or seven producers. Their charge was to bring wines that they thought were of interest, and the interest could be problems, something they're really proud of, something they have a question mark about, how's this look for a style from the use of barrels, or what could be done with it.

So it really was an interactive and very open, very straightforward communication, and then we'd spend—per my request, I said, "Okay, let's look at the wines in the morning, but I want to see those vineyards after we do this workshop session, and talk about how that wine came to be, seeing the vineyard that it had come from." And in January, was really a great time because it was just like before the vintage would be beginning. Many places, we'd see grapes that had gone through veraison, and some hadn't quite, so we

had a chance to see vineyards that—their question’s always, when’s the best time to look at a vineyard to evaluate it, and the answer is a very clear and distinct: depends. [laughter] Depends on what you want to get out of it. So for me, that was a perfect time because you could see kind of what they had done, what the growing season had given them, and then I could take a look at it and say, “Okay, here are some things. You probably can’t do a lot right now, but in the future, you might want to think about this.”

So that was the context, and then, that period also really whetted my interest in South Africa, both of us. I think Zelma and myself both really said, “Wow, they have this potential to produce these fabulous wines here.” Some of it just needed fine tuning. The core was there, just polishing the diamonds, you know, polishing the gems. And we were really taken with the wines and the concept and the people and so forth, and met a lot of really wonderful people, and established what would then come to be great relationships and friendships with many of those people. Some of those producers, I went on then to work with subsequently in my consulting role. But what the Cape Estate Producers also did is they introduced us to some people who were outside the immediate area of Stellenbosch, and they set up so we could go visit those people, outside of our formal meetings and these technical workshops that we did. So, yeah, it was a fabulous introduction. The South Africans are hospitality focused, and they did a really terrific job, so good that we got the hook, and so it became a fixation for us.

07-00:12:54

Meeker:

When you were going out into the vineyards there, were there any particular things that you started to see that kind of stuck out like sore thumbs? Was there anything that you knew that really needed to change, if they were going to increase the quality?

07-00:13:14

Freese:

Yes. I would say that it wasn’t anything that was entirely unique to South Africa. And pretty much, the core is, and this is from my belief of how I grow wine, okay, so it’s not to say that they were wrong, but if we were doing it my way, what I was looking at is to decrease the vegetative capacity, or the vegetative size of the vine. My mantra is, grow just enough vine to produce just enough fruit to make your target wine. And there’s still a definition of success that operates in a lot of places that, grow a big vine and a lot of grapes, and then we’ll let the winemaker figure out how to make the best wine out of that.

So that’s a very simplistic kind of look at it, but what I saw was that oftentimes they had these beautiful vineyards, and they were big and dense canopies and productive, and they were doing all the tools and toys, hedging the vines and these kinds of things. And so I’m going, “Well, guys, why grow more vine size than you actually need to ripen the amount of fruit that you need?” I don’t think it was input that they had really expected, and some of the

people go, “Well, yeah,” and others said, “That is really goofy.” So, I didn’t really have a horse in that race at that time, so, I just said, “Well, I’m just going to tell you what I think you could achieve here.” And some of those people actually heard that, and then subsequently, I was working with them in consulting basis later on when I went back for that specific purpose.

But I would say in general it’s like, build a big vine, then, try to make it fit into a box of what it should look like later on, and I think part of that is because they had resources; they had horticultural skills. Horticultural skills and winegrowing skills, you have to have horticultural skills as a foundation, but winegrowing skills are attenuation of those horticultural skills, if I can put it in one kind of rough way, where, just because you can grow a big vine doesn’t mean you should, and I say, if you can do something, you have the capacity to do something, doesn’t mean that you necessarily should.

07-00:16:12

Meeker:

Does that mean their yields were below what they should have been? Like, what was the outcome of—

07-00:16:18

Freese:

Well they had large yields in many cases, and then what I saw as a very classic case of, I would look at production records, and they would go from, starting with the first year of production, the production would run up very quickly, it would hold for a little bit, and then it would start to go down. And that was a classic symptom of what you oftentimes see in vineyards. There can be other things that cause this, but classically, you see that kind of thing both when vines mature, but also when they get to be so vegetative that they’re really shading the buds inside the canopy that are going to produce the fruit for next year.

So the whole thing about grapevines is, they will do that. As long as they have resources—water, nutrition, sunlight—they’ll just grow big, because that’s their survival strategy. They only go into the reproductive mode—this is some repetition; I won’t go into a great detail, but they only go into the reproductive mode, that is to make berries with seeds in them, when they’re limited on something. And so, these vineyards were not limited, so they just were growing big, and they were doing what grapevines would normally do, is just grow big, and then, there was no reason for them to slow down and feel threatened and have to produce grapes and seeds, so, they just kept growing big.

So then they were dealing with these vineyards that were a bit of a mystery, but then the wine quality wasn’t quite there either because oftentimes in very dense canopies, you don’t get enough sunlight penetration, and they’re more prone to diseases. So, you can bring to bear a lot of horticultural, plant husbandry skills to try to then combat some of those problems that I thought

people were perhaps creating because they were building these big vines. So that was pretty much the core of my message.

07-00:18:17

Meeker:

Were you finding a lot of chemicals, and nitrogen-based commercial fertilizers, and all of that kind of stuff going on there?

07-00:18:26

Freese:

Yes, yes I was, and I mean, it's not like it's all history—I'm going to put it in a bit of a context. Here we have these guys that were working under the—maybe not all that profitable for them, but it was safe and secure—umbrella of this mother ship that, kind of taking care of them a little bit. It was still not an easy swim for them at all, but, when they launch out on their own, then all of a sudden they're going, "Well, if my yields are low and I'm not still in the position where I can come in and talk prices, this could go underwater pretty quickly." So what they're telling their horticultural, their viticulturist guys out in the field is, "Look, just get me grapes, okay? We'll take care of it in the winery."

And that was kind of the era, if I were to simplify it, where people were making wine. They weren't growing wine; they were making wine. Now that's not across the board everywhere. People have these thoughts in their mind, and quality was not completely thrown out of the bus, but they probably weren't quite aware of how to fine tune, so those yields and vine size, and control of the timing and severity of water stress, and nutrition input, and so forth, how to fine tune that so they could get closer to their winemaking objectives if they could reign in a little bit on some of these horticultural inputs. Does that make sense?

07-00:20:10

Meeker:

Yes it does, absolutely. So I'm curious. You first visited in 1990 and then I believe you purchased land in '97?

07-00:20:19

Freese:

Yes, yes.

07-00:20:20

Meeker:

What transpires in those seven years to take the risk of purchasing land to grow wine grapes on the other side of the world? [laughter]

07-00:20:34

Freese:

As some people would say, "Well gee, you chose the place that's almost geographically the farthest you could be away from California." So yeah, it's a good question. So, let me put it in a bit of a contextual thread. I come back from my sabbatical; I attempt to do some changes that I thought I wanted to see and implement I thought would be good for Mondavi. I had some understanding and kind of some agreement with that, but I really just didn't think it was ever going to happen in a real meaningful timeline for me. I also was looking at that point at, we [Mondavi] had a lot of new things going on

with respect to the Central Coast, and Woodbridge, and Opus was really a big project, and the Byron Winery was, and there were a lot of interesting, exciting things going on, but I realized when I came back that I wasn't going to be there long, very much longer.

So, I said, "Well, okay, let's make sure I've implemented or I've started to look at what my path's going to be afterwards," and that's when the idea of my starting a consulting business, the WineGrow business, and really focusing on these issues I described about the South African producers, of really focusing on those issues from myself being an independent business, and then in the meantime—and so that business really got launched in say '94, and that period of time—

07-00:22:32  
Meeker:

Were you calling it WineGrow at the time?

07-00:22:34  
Freese:

Yes. I was setting up to do that. So, I didn't start the business until I left, okay, because one of the things I do not really abide is—you know, there's always the one to, if you're a winery and you have a winemaker working for you, are you going to let that winemaker make his own wines under his own labels? And I've never been a real fan of that, and I thought, well my case is no different. I can't, with good conscience, launch another business and put focus on that while I'm still at Mondavi. Now, intellectually, I was working out what I was going to do, but I didn't start the business—actually, the first conversation I had with anybody in the Napa Valley was literally on the eve of my turning in my resignation. It turned out that when I turned in my resignation at Mondavi—we talked about this before, I won't go into detail—Tim engaged me to actually stay working with the winery in kind of an advisory capacity for a period of time to transition the staff, so forth.

So, in that period of time, Zelma and I, Zelma was invited back for some tasting, international panels, and the South African Airlines had at that time a pretty robust program to select wines, South African wines to put on their business and first class. And so, she was invited to participate in some of those panels as international judge, and then there were competitions between the Southern Hemisphere producers, and she was a judge in some of those, and I would tag along on some of those trips. And then in 1994, '93, '94, I really was asking—it was in 1994, I think. On one of those trips, I said, "Okay, I'm out of Mondavi. If I'm going to start this business, I would dearly love to work in the Southern Hemisphere as well."

And so, in that sort of general time era, I had made a trip to Australia, New Zealand, and then, I think on that trip, wound up back at South Africa, and I said on that trip, "Okay," that "if I'm going to work in Southern Hemisphere, it's really going to be South Africa." I love the sort of the newness, the freshness of it, the climate. There are a lot of small producers. There aren't

very many large producers in South Africa, you know, the really large sort of Australian style, people who've managed to make themselves into large and oftentimes large and pretty high-quality producers. There just weren't enough grapes, and there weren't the sizes of these, you know, hundreds of hectares of vineyards that were available, and there were a lot of small producers.

07-00:26:04

Meeker:

Tell me about the climate. What was it about the climate that attracted you?

07-00:26:09

Freese:

You know, the climate and soil story is a really good one, because they really have more classical Mediterranean-style climate. Even though we're described as a Mediterranean climate here, I've never been in any other Mediterranean climate where you can't sit outside at night and have a meal without having a heater running above your head to keep you from freezing, because the temperature goes to fifty-five degrees. That doesn't normally happen in the Mediterranean climates I love, so. But anyway, in South Africa, it was a different kind of quote, "Mediterranean climate," and the proximity to the sea, so on the south, with the Indian Ocean, and to the east, with the Atlantic, and maritime influences and "buffering" the climate.

And also, I think part of the attraction was that they have what I've described before as seriously old dirt, and these are old soils where we find these half-a-million to million-year-old stone tools, early hominoid stone tools that are on the soil's surface and says, "Look, this is old soil, old dirt." And because of that, I thought, inherently, if one were really looking for new sites, you go look for old dirt that was kind of not super productive. That was the idea; it was in the back of my head. And so, when I was advising people if they were looking at vineyards, we oftentimes were looking at sites that weren't these real high-capacity, deep—they have some beautiful, deep red, clay, iron-rich soils, but they oftentimes are very high capacity as well; they grow big vines. So it's a bit of a challenge, and frequently those are also on hillsides, and you get high-capacity soils on hillsides that are little bit difficult to farm anyway, and you get big vines. It offers you some challenges.

So, the climate, I think, was very attractive, not simply from a human comfort standpoint. The daytime highs were not as high as we get here in California. We tend to, in California, see summertime high temperatures and very low relative humidities. And in most continental climates, you tend to see, if you have higher temperatures, you don't get really low humidities, and oftentimes, many of those European climates have some summer rainfall as well. So there were a lot of things that really set South Africa to be probably more similar to California in the sense, or areas in Spain or, Italy, maybe not, but in areas that don't get summer rainfall. But the modulation of the temperatures in the Cape are more shallow, so not as cold at night, and not as warm during the day. Relative humidities are not as low during the day, but they're still relatively

high at night. And that whole combination has a material impact on the photosynthetic capacity of a grapevine.

And so, I looked at it, and then we started tasting wines. And well, we're becoming more aware in 1991, one of the things that probably struck me the most is, people describing the Cape as being a hot climate, and that probably was coming from the fact that their nights were warm and the humidity was high, higher than we get here, in the daytime, the temperatures weren't as hot but the humidity was higher, so the human discomfort index was higher than you'd get in a climate like here. So we can have a ninety-five degree day with very low relative humidity, and as a human being, unless you're standing out in the blazing sun all day, if you're in the shade, you have perspiration and respiration; you're okay. There, if the humidity's high and the temperature's eighty-five or eighty-seven degrees, the discomfort, the human discomfort index is higher. So, and their nights were warm, so they describe themselves as being a hot climate.

Also, if you go and you get really technical and you do a growing degree day summation, like Winkler Index, for example, which has the regions one through five, the Cape would oftentimes come out to be fairly high on a growing degree day or Winkler Index, because in the Winkler Index, once the temperature goes below fifty degrees, you stop accumulating growing degree hours or days. As long as the temperature is above fifty degrees Fahrenheit, ten degrees centigrade, you're technically still accumulating growing degree days. Okay so, because nighttime temperature in Stellenbosch, for example, or Paarl Region, may go to a low of, I don't know, fifty-eight to sixty-five, something like that. So technically, even in the middle of the night, you're accumulating growing degree days. Doesn't make a lot of sense, does it? There's no sunlight; there's no photosynthesis; there's no light reaction photosynthesis going on; and so, people would come up with these numbers, and foreigners would, you know, people from overseas, would look at these temperatures and they would do the calculations and they'd go, "Oh, South Africa, a very warm to a hot climate." And you go there and you go, "Well I don't think so."

One demonstration of that that was very, very clear to us is tasting Sauvignon Blanc in South Africa, and those cool climate characters come through in many areas, particularly when you get down south of Cape Town on the peninsula, or you get to the very southern coast, or you get into some of the mountain regions, or even you go to Thelema, which is, it's about five miles outside or four miles outside of Stellenbosch, up on a mountainside, and their Sauvignon Blancs are this just wonderful expression of these sort of cooler climate fruit. So we go, "Look, growing degree days, wine, that really tells the story," and then you look at Chardonnay, and some of the reds and so forth, and you go, "Okay, the story has a disconnect in there someplace."

So, from an aspect of climate, I mean, I looked at it. I said, “This is almost perfect.” If you get the right soils, the climate is really compatible with what we wanted to do, and then working with these producers in different regions gave me an opportunity to see what the real issues are. And then, one of them was a then client, wanted me to look at this piece of property, because I’d been harping on him about how they were growing their grapes in too good of a site. He said, “Well, look at this,” and I said, “That’s too good of a too-good site, because it won’t register in your current management style. It’s going to be too off the wall and a lower vigor potential.” And that’s when we eventually then went into a business partnership with him.

07-00:34:22

Meeker:

Was that Michael Ratcliffe?

07-00:34:24

Freese:

That was Michael Back [of Backsberg Estate].

07-00:34:26

Meeker:

Oh, Michael Back, okay.

07-00:34:27

Freese:

Yes, yeah. Yeah. So, it’d be helpful if we didn’t have two partners whose given name was Michael. [laughs]

07-00:34:33

Meeker:

Right, right. Well, can you maybe walk me through the business partnerships, and how that—because I know there were different chapters in that, so—

07-00:34:44

Freese:

Yeah, there’re two key chapters. The first one is my working with Backsberg Winery and Michael Back. The link I want to jump back on there is that Sydney Back, Michael Back’s father, was the guy who really was the spearhead of us getting to South Africa. Sydney was one of these guys who—well, his parents came out of Europe. They were I think essentially refugees, Sydney’s parents. And Sydney was what I’d call a wise, old soul, and then he had a really gentle way about him, very clear, very straightforward, but a really super nice guy, and he was also a bit visionary in the sense that, he was one of the leaders with this group that was wanting to remove themselves and establish the Cape Estate Wine Producers. So the relationship they had with their larger winery partner, he thought they were really ready to go out, go on their own. And as such, I think Sydney was charged by this group of the Cape Estate Wine Producers to contact and to bring resources in from outside.

Now Sydney had been on a trip that visited—I think I’ve got this correct; I’m not sure on the timing. But the South Africans were wanting to travel, and as a group, they would get, or small groups, they would get out and move around and travel. The South Africans in general, as just South African citizens, I think had some struggle during the apartheid era of getting into the United States, but what they really didn’t want to do is be associated with any



specific businesses that were listed as no-go kind of, people coming in. So, both at Mondavi and also at Simi, we would get and had and received, we'd get questions from and we then extended invitations for some of these groups to visit. And, you know, we weren't necessarily supportive of the apartheid era, but we're going, "Look. If you're going to build something better, you probably start at the people level."

So, we welcomed the groups, and we met a number of South African producers, and through those sort of exchange and that welcoming, and bringing people in, hosting them and so forth. Sydney said, "Okay, well, Zelma's the person we need to go to on the barrel business." So, coming back then, so the introduction is that then we, when we were on visits, we would see Sydney; we met Michael, his son. I started my business, my consulting business, and it was Sydney, I think, said, "Look, we need to take some of this message to heart, and let's start working on it." And during that period of time then, Michael Back said, "Well let's look at this piece of property; we're thinking about buying it." I went, looked at it, said, "Okay, here's the process, but I think it's too extreme, maybe, from what you have to what you may want to be, but it's a pretty extreme jump." At that point then Michael said, "Okay, well, what about if we do it together as a separate business?" And that's how we got started.

That business relationship, Michael's a different kind of cat than his father, but we went forward. It just turned out that we recognized that it probably wasn't going to work, for a number of reasons, and so we said, "Okay." The business part of it is, what do we do with the vineyard property, and Zelma and I decided that we wanted to keep it, and we were going to actually fight to keep it. And so, we did, and we said, "Okay well, we have to have someone care for the vineyard while we're not there," and we didn't have an onsite manager, and I was at the same time working with Norma Ratcliffe at work, and had met and knew Mike Ratcliffe, and at that time, Mike was fairly young. He was doing other things, but he was in the process of coming back in the business of working at his family winery.

And so I was talking with Mike, and he said, "Well, yeah, look. I can do kind of caretaker for you, but why don't I just buy out your partner?" And I said, "Well, yeah, okay." We said, "Okay," and that's how we got to be where we are today. And Mike, obviously, was great. It wasn't totally fortuitous. I knew him; I'd helped sponsor him. He wanted to go to Australia to go to one of their extended—it's basically a master's program that focused on marketing, and I'd worked with his mother and his father for enough, and I'd seen and knew Mike was a real solid kind of guy, young, coming into the industry, but definitely a really high-quality potential partner, and solid individual. So anyway, there we go. And so that got us into where we are now.

07-00:41:22

Meeker:

When Michael Ratcliffe came in, had the grapes been planted at that point in time, the vines were planted?

07-00:41:29

Freese:

Yes, the vineyard was planted, yeah, and we were in our early years of production.

07-00:41:38

Meeker:

Had anything been released yet?

07-00:41:40

Freese:

No, it hadn't. We had made wine at Backsberg. We were very concerned with the facilities there and the oversight. We're operating from remote, and so there were a lot of things that just really weren't fitting for us, and when the separation of the partnership came about, Michael Back said basically, "Well, you need my facility." We're sitting in a meeting and I said, "No we don't. We're Californians. We know how to make wine any place, so long as it's good facility." And he said, "Well, that'll never work." I said, "Pass me the telephone."

So I called Gyles Webb, who I was working with at Thelema, and he was also working with a startup winery, Tokara, that was up and running, and I actually was working with, as an advisor, at that point in time. And I said to Gyles on the phone, sitting there in the office, "Could we make wine at Tokara, this coming vintage?" And Gyles said, "Yeah, sure!" And I said, "What do we need to do?" And he goes, "Well we'll work out the details. It's not going to be hard. Sure, you're welcome." I hang up the phone; I pushed the phone back across his desk, and I said, "Okay, we're done. We have a home. Let's wind up this partnership and we're out of here." And that was our launch. So 2003, that vintage was actually made at Tokara. That was our maiden vintage of Vilafonté.

07-00:43:34

Meeker:

So I'd like to talk about the process of getting to know the soil, getting to know the land, and deciding what grapes get planted where on this piece of property. So, tell me where this plot of land is and how big it is.

07-00:43:56

Freese:

So, the vineyard itself is located in what's known as the Paarl Region, the Paarl District. So Paarl is the city of, line of sight from Stellenbosch if you go kind of north, northeast away a little bit. Speaking under correction here, it's line of sight probably fifteen or twenty miles, something like that. So it's not far. Geographically though, it's important because you don't go line of sight, because you have to go over the Simonsberg Mountain. And so the Simonsberg Mountain, and when we get on to the area that we're really interested in, it's a north-facing slope, and we are not on the mountain itself, but we're in the down-slope area.

So our property is essentially, well, it's forty-two hectares, something like that, somewhat over a hundred acres. And it lies in what I best describe is if you took a piece of paper, as a rectangle, and you were to hold it up at about a five-degree angle, and then you were to take the sides of that paper and you were to gently fold them up another five degrees off of that, off that main rib line, that, in pretty rough character, describes our property. So we have some gentle slopes, not so severe that we get side-slope issues and erosion issues are not a big issue for us. The property I never thought would be something that we could plant out the whole thing, because the soils are clay, and some of them are heavy clay, and they're really difficult to work with.

But I think, as I've said before, the clay is one of its great attractive features, for me, and this soil, because clay soils tend to, they hold moisture really tightly, and so the vine has to struggle to extract that. And if one is careful to not over jazz up the vine, and you let this clay effect really work, the vine has to struggle to finish the season. So it keeps berry size small; canopies are small; and you get a lot of concentration, and I associate that with high-color intensity; texture in the wines, a lot of soluble solids and goodies in those wines; and also a vineyard that, if properly managed, one can make the vineyard go through its proper steps in a phenological cycle.

From bud burst to flowering is pretty variable, because it really depends on—we're temperature limiting oftentimes in that period, after the bud burst and into the flowering period, because you can have a warm winter and an early bud burst; if you have a cool spring, then it's going to still take a very long time until you get to the point where the vines are ready to flower. And vines are going to flower at about twelve internodes of shoot growth. Doesn't matter how long that shoot is; if it's very vigorous and the internodes are very long, say six inches, it'll still flower at twelve internodes, but the shoots are going to be really long, and they're going to be so long that they flop over and they make a shaded canopy, and vegetative vines with long internodes also make very large leaves.

So the idea is not to have dinner-plate size leaves, but to limit that growth so that you get your twelve internodes, and ultimately say, fifteen to seventeen internodes of total growth. Well, having the internodes short, say, at three to four inches, maximum, keeping the leaves relatively small, so the canopy's open, and having the vine stop its vegetative growth, I'd say up to fifteen, maximum seventeen leaves in length, and having that all fit in about one point two meters or about four feet of total shoot length. So that's like designing a building and saying, "Okay, I want this height, width. These are the characteristics of the bones of it, and so forth."

So that's a very clear model, and that's the model I generally try to work on for really high-tier wine production. Our site can do that, and in fact, it can do that, but frequently what we have to do is, we have to push it a little bit, so that we may have to push it a little bit to get longer shoots. But, it's easier to

push a vineyard that it is to hold it back, because you don't have very many tools to hold it back. The principal tool you can use to push a vineyard a little bit is just add a little bit more water, and we know, I know, specifically, what kind of stress level, measuring things like openness of, for the stomates through a—well it's the tool called Leaf Water Potential. I think I talked about that in early parts of this, and how we came to use that.

But if one knows some real, specific, technical measurements that they can make, and you also know a timeline of where you want to be in the total phenological cycle of the grapevine, and what your mile markers are for success at each of those stages—and I just do it on weeks, or, you can do it on number of days. I know at every stage exactly what that vine needs to look like, and I can say, “Ah, we're a little short, let's boost—our leaf water potential's a little too high, means vegetative growth is going to stop a little bit too early.” For this particular stage where we are in this journey, then you just tweak it. If you have a vine that's growing like a jungle, you don't have a lot of tools, you can hedge it, knock off the vegetation and throw it on the ground, and the vine goes, “Okay, I still have that potential to grow,” and so it just starts on what we call laterals, or side shoots. So they come out of those even new buds that are on this green shoot that are growing, and then, *poom!* You get these things that grow out, and then they make the canopy dense again.

So anyway, the site was selected. The climate we thought was appropriate to produce a vineyard that would make that sort of physical characteristics of the vine, and that we could also control the cycle, so that I know how many days I want from flowering to veraison, and I know, by experience, how many days we get from veraison to harvest. So much so that when I see flowering in late October, early November, I book my travel, and I tell the winemaker when we're going to harvest our first grapes. Now if the winemaker knows when we're going to harvest the first grapes, and he actually trusts and believes that, then he or she can do all the things they need to do in order to be ready to receive grapes.

07-00:52:08

Meeker:

Did you know from the outset that you wanted to plant Bordeaux varieties, or did you look at the land first and say, “This would be, land and the climate, this would be great for Bordeaux varieties”?

07-00:52:23

Freese:

Yes, we knew specifically we wanted to do Bordeaux varieties, and let me just say that, if you're growing a white variety that you want to gain a reputation and some acclaim for, you grow and produce Chardonnay, in anything other than the Rhine Valley, or some places in Austria, Alsace, and so forth.

07-00:52:45

Meeker:

Really? You think that Chardonnay is the one noble white grape, I mean, outside of more—

07-00:52:56

Freese: There're two noble white grapes.

07-00:52:57

Meeker: What, Riesling—

07-00:52:57

Freese: It's Chardonnay and Riesling, okay? In today's world, business wise, if you want to plant a stake for a great producer, you choose Chardonnay or Riesling. Now, I'm not saying that other varieties don't earn, or couldn't earn, or don't deserve a higher reputation, but I'm just telling you, if you look at the world today, white grape, it's Chardonnay, and/or Riesling. My opinion, but I've spent a lot of time getting to that opinion.

07-00:53:31

Meeker: And probably maybe like Viognier, but just at the northern Rhône or something.

07-00:53:36

Freese: Yeah, exactly. I mean, you go into any restaurant, any wine shop, and you just look for facings, and it's Chardonnay, and then it's other whites. That being said about white varieties, the one that commands the pinnacle on the red side, are Cabernet, or Cabernet based, or Bordeaux-style red wines. That's it. You can do Syrah and Zinfandel, and I work with these varieties, Pinot Noir. Pinot Noir is a different kind of cat, because it stands on its own, but it's so local specific. But you look at, people all over the world are growing and producing really very, very good to fabulous Bordeaux-style red wines.

So, in a sense, the Bordeaux varietals are more plastic, in the sense that you can work with them, I think. Pinot Noir has a certain plastic nature to it, but it really changes the style a lot, so I'm not discarding, and I think Pinot Noir and I love it, and I love to work with it. It's probably one of my most favorite varieties. But if you're looking at starting a business, and you want to get some international acclaim for it, if you're not doing Cabernet-based or Bordeaux, red Bordeaux wines, it's what I call the world's tallest midget. You know? You may be really popular in some areas, but it's really difficult. I'm not saying it's not deserved, but it's really difficult to get notoriety and recognition for those wines.

07-00:55:25

Meeker: So, when you originally looked at this piece of land, did you think that, wow, this would be really great for Bordeaux, not just any type of grape?

07-00:55:36

Freese: It's hand and glove. I mean, it was perfect, yeah. Yeah. Now, not to say that we didn't think about—Zelma and I both love Grenache, and we probably could produce some fabulous Grenache from the site. We could probably do some other things that are fabulous, but we said, "Look, we're going to invest," when we decided we were going to do this, "we're going to invest

twenty years in this project. That's what it takes to build a vineyard, to build a reputation, consistency, kind of have enough wines to show that they age well, all the things that we know." It's a serious commitment. And we said, "If we're going to make wines that are going to age, they're going to get that kind of recognition that we're looking for"—and we realized that was probably going to be our single shot at producing those wines that we wanted to produce.

So, we thought, in fact, that we would, as a model, that we'd produce one wine. And it was very, very clear, when Zelma started trying to make the blends, that the wines did not fit in one blend. They really were two separate blends. Now, we are of the big five, not the South African big five animals that people go to see, but the big five Bordeaux varietals. The only one we did not plant is Petit Verdot. We didn't need it, because I could look at the site and I knew that for tannin structure, or color, intensity, power, and so forth, that we didn't need a Petit Verdot to do that.

And so we planted the Cabernet Sauvignon, Cabernet Franc, Malbec, and Merlot. And the property, when we first planted it, it was eighteen acres, I think, something like that, out of this hundred acres of potential. And, we knew that our success—so, I'm going to characterize myself as what I would call a reductionist. Okay, so, when I look at a problem, an issue, a vineyard, a wine, whatever, I tend to say, "Okay, I want to reduce that to its component pieces," with the idea that, what we'd like to do if you apply it to a wine, and Zelma and I are 100 percent on this, that on this first planting of what we decided we would do is, we'd make the smallest management units that we could make that—or blocks, as we would call them—the smallest block planting that we could that would give us a unit of fruit that would be compatible with a small fermenter.

Okay so, the idea was, we'll design the vineyard, and I realized that, even though it sounds like you take this piece of paper, tip it five degrees and five degrees, that it may be fairly homogeneous. We did like, I don't know, fifty or more, and probably seventy-five soil profiles, through that entire property. This was before GIS location and you know, computer models of soils and so forth. And it was very clear to me that it was an extremely complex site, with lots of different attributes to it. Elevation and aspect are oftentimes key drivers when you decide how to plant a vineyard, and they were not so much of a major driver. So if you're on a steep hillside, you are really limited on some of the things you can do. For us, we had a lot of flexibility.

So, the drivers were to get to small units, blocks; to try to capitalize on the ability to keep separate units, this reductionist kind of thing, so that then those individual units could be used as blending components. And within each of those units then we tried to work to, and I've described some of the work we do with veraison thinning, and the style of pruning, and the very precise going

through and picking green berries out of the clusters and so forth. So we're driving towards small units of, as uniform as possible, fruit as we can get.

So laying that vineyard out, we're basically in one hectare units. So, that's about two, a little less than two and a half acres. So, each of those units then was put into a perspective of what little aspect we did have, of a change. What I would always try to do is to run the rows so they run down the slope. So I'm interested in aspect relative to the sun arc, but I'm also really given, in these clay soils, to making sure that we can get drainage, because clay soils are great for water holding at depth. What I did not want was soils that stayed too wet in the springtime. So as much as possible, we like to get the free-draining moisture out, and that's where we put in the drain tiles, and I think I talked about those before.

07-01:01:48

Meeker:

Drain tiles?

07-01:01:49

Freese:

Subsurface drainage, so that moisture would run down the slopes, and we basically bury a perforated plastic pipe under the soil, probably about four feet or so deep, and we make a curtain of stone. So, here's this plastic pipe laying on stone; it's installed so that it would drain. It would run out to the lower point, and then, so it's laying on a bed of stone, and then we do this, what I call curtain of stone above it, right up to the soil surface level. So, any moisture that's moving across the soil surface hits the top of that curtain, falls into the stone, which easily drains down, hits the perforated pipe, [makes whooshing sound] off the property. Any water that's moving through the soil itself hits that curtain of stone and [makes whooshing sound] free-draining, bang, hits the drain tile and it's gone. So the idea is to see if can reduce the soil moisture, get all the what I call the free-draining moisture out of the site as quickly as possible.

07-01:03:07

Meeker:

Is that still desirable in a year like this year or recently when there's such severe drought?

07-01:03:14

Freese:

Yes it is, and one can't flex this. You can't turn it on and off. And so, the key part of that description is getting any free-draining moisture. So, what we've failed to do in these last, basically three to four cycles, is have enough rainfall to even fill the water-holding capacity of the soil. So it's, once it's full, it's—the analogy I use, the rough one is, you put a dry sponge in the sink under the tap, you turn it on in a slow drip, and you watch it or you measure the amount of water, and then at some point, what you see, if you watch the drain, is that the sponge can no longer hold anything and it starts running out. You turn off the tap, and you watch it, and that will drain for quite some time. When it stops draining, then that's the equivalent of a soil that is free of free-draining moisture. For a sponge, it's not going to drain out, just under gravity, but for

soil, we call that “at soil capacity.” And so that’s how much water the soil can hold once everything has drained away from it. So that’s, in a drought situation, we never even got to soil capacity, but when it drains more than we need, everything we don’t need is gone.

07-01:04:41

Meeker:

There’s a lot of discussion these days, not only in terms of clonal varieties, or different clones of the varietal grapes, but also I think more discussion also of rootstocks. How did you make those decisions in terms of, when you were planting?

07-01:05:06

Freese:

So the entry point is choosing varieties, and so varieties to me, we started with a potential blend, kind of what we thought would work as a potential blend, again with this idea we’re going to make a single wine.

07-01:05:24

Meeker:

Actually, let me back up a little bit, and I don’t know if this is a question that you can’t answer or would even want to answer, but did you have a benchmark in mind, maybe not something that you wanted to emulate, but something that you were aiming for? Was there a particular Bordeaux varietal that you thought that you could approximate in terms of impact, I guess?

07-01:05:53

Freese:

That’s a great question. It triggers, actually, as a thought, it triggers two things. One is, frequently, when I work with people and they’re talking about making another wine, what I ask for is basically a job description for that wine, and, usually people aren’t prepared to do that. They don’t do that. Usually people make wines and then they evaluate them and describe them.

So my process is a little bit different if I’m working with a client. I say, “Okay, tell me what wine you want to make,” and if that’s not easily done, and usually it’s an individual exercise, you give a winemaker, the assistant winemaker, the vineyard manager, the winery owner, the marketing guys, you say, “Okay look, this is your homework, and you can’t cheat. The marketing guy can’t go sit with the winemaker and say—everybody has to write their own job description.” And then, we pull them together and we say, “Okay, you just designed a giraffe,” or something, “and you wanted a horse.”

So in that particular case then the next step is oftentimes to say, “Okay, choose. Each of you choose a wine that you think for some reason isn’t the wine but it has some attributes of a wine that you really think—like the aroma, like the flavors—‘I like the length of it, the mouth feel, texture, overall impact’—whatever, but you just choose something that you think is really good,” and we could taste them and then start to work on, “that’s an attribute that you like, and this is an attribute that you like, and people can agree they like that.” So that’s a bit of an exercise. Okay. So, we didn’t do that.



07-01:07:46

Meeker: [laughs] Okay.

07-01:07:47

Freese:

We didn't do that formally, because Zelma and I have spent our entire careers doing that. And particularly, Zelma has all kinds of skill sets, but recognizing components for and then making finished blends, she's off the scale good at that. Very few people can do that, and fortunately we have a young winemaker now at Vilafonté, Chris De Vries, who I think has the ability to absorb that. So, she's jazzed about working with him. So, no, we didn't, we didn't do that. We basically sat down and said, "Okay, here's what we need for components to make this wine." And she said, "Go plant those vineyards." So then I'm going, "Okay, this is going to be aromatic; this is going to be texture."

07-01:08:57

Meeker:

Well what was the aromatic? What was the texture? Is that the varietals that you're talking about?

07-01:09:01

Freese:

Yeah, so then we said, "Okay, we have four varieties to work with. We have a general characteristic." So if we talk about a job description, it's a bigger job description. "Okay, this needs to be something that we are both convinced that"—the really great wines of the world, you can drink them any time. Sometimes they're more fun, and more enlightening, but when they're young, intermediate, or in their senior years, they should always be really good wines. They just say, "Look, this is five years old and it's still a baby, but it's a loveable baby." It's not some horrible, unapproachable wine. So that's part of the job description.

07-01:09:56

Meeker:

It's not colicky. [laughs]

07-01:09:57

Freese:

Yes, yeah, exactly. It's not going to give you nightmares or something. And so, and with the appreciation that they needed to be Bordeaux varietals, but they didn't need to be Cabernet. It didn't need to be a Cabernet, Merlot. And so the concept of a—I don't know if California is even using this any longer—of Meritage, or a blend or a Bordeaux-style blend, that was the general concept. And that every component of that wine needed to be strong on its own, and it needed to have its own kind of presence and personality and contribution. And that then, through a blending process, those personalities and attributes would be brought together to make the wine. Then which Zelma said, "Look, that doesn't work. It needs to be two wines, and that's more of the Cabernet, kind of stylistic wine, and more of the Malbec, Merlot style one."

And so those two wines, there was a lot of blending, a lot of exercise on her part, a lot of showing us wines and saying, "What do you think about these?"

We still taste wines from all over the world, and say, “You know, yeah, in an absolute sense, we’ve got something that’s really, really good.” So, there’s what I call in life, there’re two types of success. One’s relative, relative to where I was, relative to what somebody else is doing, and the other one’s absolute, and the absolute is, that is exactly the right thing to do. And relative sometimes gets you in a box because you make compromises or shortcuts. So we took absolute. “This is absolutely going to be the best that we can possibly produce. And if the volume is small, it’s small. If we have a case where we have to declassify wines, they’re out; we just don’t use them.” So we wouldn’t make a larger blend, because we had the resources, but they didn’t fit. So that has always been the mode, is the winemakers can say, “Can’t use that.”

07-01:12:41  
Meeker:

Have you ever had to purchase grapes?

07-01:12:44  
Freese:

We’ve never done that. So we set out, the other absolute was, we don’t purchase and we don’t sell grapes. But, purchase was an absolute. Sell, we actually did one time, because 2008, times were tough, and we had the two wines, but if you look at most, I’m going to say most-slash-all really high-tier producers, they have a second, what they call a second wine. So we have two first wines, a “Series C” and a “Series M.” We didn’t have a second wine, and we didn’t really have the resources to launch a second wine. So, one year we sold some young grapes, fruit off of a young vineyard, but that’s the last time. Broke the poor, the buyer, broke their heart, because they thought that fruit was going to be available. I think they wound up using that and making a stand-alone bottling of what we thought were unacceptable young grapes; kind of shows—and we used to have people waiting—

07-01:13:57  
Meeker:

Oh, and they thought they were going to get it year after year maybe.

07-01:13:59  
Freese:

Yeah, yeah, and we used to have people waiting in the wings when we were declassifying wines, because we didn’t have the second wine, that people would go, “Yeah, whatever you declassify,” and we said, “Well you can’t use our name, or where it comes from,” and we know in many cases, they would turn around and they’d put it in a bottle, and do it as a kind of a one-off label or something, in some cases, probably quite profitably. So then we finally came where we could actually make our own “second” wine, so we do that, yeah.

07-01:14:34  
Meeker:

Oh, I didn’t know that. What is the label?

07-01:14:36  
Freese:

So the second wine is: You’ve heard me oftentimes refer through the course of these discussions, to the fact that we have seriously old dirt. So, Mike, Mike Ratcliffe, our whiz of a business and marketing guy, said, “Well the

second wine is called Seriously Old Dirt.” [laughter] And I said, “You have to be kidding me.” He goes, “No! It’s wacky and it’s fun, and it’s descriptive, and it’s consistent.” So, we now have Seriously Old Dirt.

07-01:15:18

Meeker:

And you can just call it SOD.

07-01:15:20

Freese:

Yeah, we said, “Okay, that is a real downside. So no one’s allowed to use any acronym for it.” Sometimes, in a business meeting, if you’re looking at a spreadsheet and there’s not enough room for the entry to go “Seriously Old Dirt,” only one time did our accounting people use the abbreviation “SOD,” and of course in an English environment, that is a really, really not very good thing to be talking about. So, I think acceptable now is “Dirt,” okay, if you’re going to use something as a short note. But Seriously Old Dirt is, I even try to discipline myself, if I’m doing notes out of a meeting or something, to not use SOD. So, we don’t buy grapes, only sold grapes once; now we have a second label.

So that Bordeaux pattern, that Bordeaux-style business model is now fully formed, and the only wrinkle is in that is that on occasion, we don’t have enough declassified Vilafonté series M or C wines to make the volume that we need of the Seriously Old Dirt. So the Seriously Old Dirt is one where, we don’t buy grapes, but we would look in the marketplace, and if we could find good bulk wines that we thought were really consistent with the style of that wine, then we’ll buy those then and use them. But still the core, the backbone, most of the flesh, sometimes all of the contents of that Seriously Old Dirt are Vilafonté wines.

07-01:17:10

Meeker:

What is the production of the C and M versus the Seriously Old Dirt?

07-01:17:18

Freese:

So C and M, I’m speaking under correction here, C and M are generally in the range of about 5,000 twelve-bottle cases. I always say twelve-bottle cases because the South Africans typically are more on a European style where they bottle in six-bottle cases. We do actually bottle and sell in six-bottle cases, now in wooden six-bottle cases, but we quote our production in the California style of twelve-bottle cases. And the other thing that people do and we’re not accustomed to is they quite frequently talk about bottles, bottle numbers. So the Seriously Old Dirt is probably, at this time, and it fluctuates depending on what our wine supply is, and it’s still growing, we are in the range of probably about two to three thousand twelve-bottle cases. Again, it’s a bit in flux, depending on what vintage you’re talking about.

07-01:18:46

Meeker:

You know, I kind of derailed the conversation and interrupted you when you were prepared to explain your clonal selection process. So, maybe—

07-01:18:57

Freese: Go back to clones.

07-01:18:58

Meeker: —go back to that, yeah.

07-01:18:59

Freese: Okay, so we did the varietal thing, and I was headed towards why we put things in various places really being driven by the wines, and the wines we wanted to produce. And that is a big gap where the spark has to jump across, because looking at soil, and having an absolute working definition that we would like to call a fairly absolute of what success was like for the final wines, and then choosing the varieties and the placement on the vineyard, is not a trivial task. So, what I set about, and Zelma said, “Okay,” to me, “just go do it.” So, I said, “Okay,” and then we of course talked about it a lot, and talked about kind of jiggering things a little bit.

So one of the first things that one undertakes is, you say, “Okay, we’re going to do blended wines,” and I know, in that point, I said, “We know what that wine’s going to be, so we want these components that are going to bring aromatic. And we’re only working with four varieties here,” and at that point we had twelve blocks to work with, “and we want to get all these building blocks.” So you could say, jumping forward and looking backwards, you could say, “I really missed it, because it turned out we couldn’t do one wine,” or you could say, “We were quite successful in reading that the wines that we were producing from these individual blocks were so definitive in their characteristics that they actually gave us an extra flexibility which we couldn’t probably have forced into one wine anyway.” Anyway, that’s rationalization, or it’s something.

So then I set about saying, “Okay, how are we going to get some of these aromatic characters? We’re going to get the Merlot.” I have, at that point, tentatively laid out the blocks, and the size, the row orientation, and everything, and so we have some rows that are running kind of down slope that are kind of more north-west, south-east, we have some that are running almost north-south, and that’s our basic configuration. What I was trying to do is take advantage of what topography differences, the elevation change that we had, to help with the drainage, and also to respect the nature of the soils that I saw in the different areas. And then we scattered varieties out, and only then did we come to the plant material issue. And so the number one issue on the very top of the list, and there are pages you go down that are blank until you get to number two, is, for me, it was finding the cleanest plant material that we could possible get. Freedom from disease was number one, because I had seen so many horror stories of the impact on virus in vineyards in South Africa.

So, getting rootstock supply, and getting scion, and then, so we worked through the variety list and within the variety list, clones, since they’re kept

separately, and they each have their pedigree or history, so I would look at the preferred clone that I wanted to find, and then I would ask the question: How clean is it? And so if we found a preferred clone, and it was as clean as we thought we could get, then bingo, that's what I would nail down. In the Cabernet arena, we have a very, very narrow profile, because as much Cabernet was grown in South Africa, just couldn't find the clones that I liked that were clean. So we had one that I had some experience with, from working with other producers, and so that was our target. So we basically have a single clone of Cabernet.

07-01:23:44

Meeker:

Are the clonal varieties available in South Africa, the same, internationally?  
No.

07-01:23:49

Freese:

No. No, they're not, because every country has their own kind of idea of what's preferred, what they have access to, and they have, every country has their own sort of screen for diseases and so forth. And so, once you work through all those filters, then yeah, you get a different combination, kind of, basically, everywhere you go. Oftentimes there's an overlap, where you may find a particular clone, or if you get a country that has a relationship with a clean plant source somewhere around the world, then you'll see that area there represented pretty well.

But South Africa in that time was, again, I think it comes back to their apartheid association, and people going, "You're a pariah; I don't want to have anything to do with you," particularly at a governmental level, which the clean plant materials often are. They're at university or government level, and they go, "Not going to happen." So at that point, there were also a lot of what I call Samsonite selections. So, people would go overseas and they would bring back cuttings in their suitcase, so they would start to use those.

07-01:25:16

Meeker:

You mentioned, you've referred to the political context of apartheid a few times. Has the legacy of that impacted your work in the country much at all?

07-01:25:34

Freese:

No, I don't think so, I would say neither from the Vilafonté standpoint or from the WineGrow standpoint. We're pretty agnostic when it comes to other people's politics unless it's so egregious that you just can't deal with it. Basically, when Nelson Mandela came out of prison, he said, "Look, let's get on with it. Let's get out of this situation that we've been working with, and let's get on with it, and let's don't do it by riots, and assassinations, and violence, and stuff like that. Let's do it through a constructive dialogue." And he, probably the only guy I've ever heard of in the face of the earth who could adequately do something like the Truth and Reconciliation process, and actually make it work. And we really owe our success to him, because

otherwise, if it'd gone into total chaos, we probably wouldn't have survived there—survived as a business.

So, I don't think it has. We went with probably our basic, absolute human values of saying, “We're not here to change the country. We're here to change the environment in which we work, so the way we hire people, the way we support them, educate them, provide health and benefits, treat them on a human basis, human interactions.” They're individuals. They're people. They're valued members, and a lot of that still is not really universal in South Africa. I think it's a residue that'll probably, generation-wise, that'll have to work itself out. But, and because the general education level is so poor, and that's been a real downfall, I think, of the ANC, as they—Nelson, if it worked and Nelson Mandela, the first thing he would've done is made all the teachers the highest paid professionals, and instead, the ANC went the other direction. And I don't want to go off too far on that, but other than the fact that they're just losing, they probably lost a generation if not two generations, because they really haven't respected. I hope they're going to get the education back on track.

The wine industry in general, in the Cape, thanks in very large part to Mike, Mike Ratcliffe, our partner who started the Cape Wine Auction specifically to generate funds to support this younger generation, starting at pre-kindergarten and preschool through primary grades of all kinds of attributes of educational programs, health and wellness programs, making sure all the kids have meals, so at least when they're at school they have good meals. It goes on and on and on, in a process that most people in the wine industry said, “That'll never work. We can't do that here. It'll never work.” And I think this most recent was the fourth or fifth, maybe, I think it was the fifth one, and—

07-01:29:18

Meeker:

Was this modeled on the Napa Valley Vintners Auction?

07-01:29:20

Freese:

Without a doubt, without a doubt. Mike is unabashed going somewhere, seeing something that works, and going, “Yeah! Looks like something we could do,” and he's swam upstream. It wasn't upstream; he swam up waterfalls, and people telling him that “we won't participate because it'll be a failure,” and on and on and on. And he said, “Okay, we'll find somebody else who does believe,” and now, everybody's clamoring to be part of it. And they're generating lots of money.

07-01:29:53

Meeker:

Probably, apropos of Ratcliffe's role in Vilafonté, clearly you and Zelma work together to produce a wine that's high quality and that could sell, but how do you go from zero to sixty? How do you go from idea, from planting, to bringing a premium product to market and having it be successful?

07-01:30:24

Freese:

Well that's the magic of the three partners that we have, because Zelma's like, off-the-scale, world-class good at blending and making wine and being resourceful, that. I think I'm pretty good at growing wine, and Mike is off-the-scale expert at marketing and selling wine, and honestly, without the three pieces, it's just another winery. And not to say that we're unique in that. Other people have been able to create that, but in the South African context, we came in from a bare piece of ground, and sure, it's taken us twenty years, but that's how long it takes to develop vineyards, and be consistent, and be able to show people ten-, twelve-, fifteen-year verticals of wines, and they go, "Oh my God, the 2003 is so good!" And the concept that we actually still have some of that wine. So it can be purchased. You can still purchase a bottle. It's helpful to have a credit card without a limit, but it can still be purchased, and we can still put it in a tasting, and people can still go, "It's still developing." So, you know, fifteen years on.

07-01:32:00

Meeker:

How were you guys received when you first went to market, in South Africa, at least?

07-01:32:08

Freese:

South Africans, I think this probably comes from their English heritage, which, and I'm seeing a trait that I see in former English colonies, and it's a little bit of what I would say, and I'm not meaning to be nasty or anything, but it's a little bit of "cut down the tall poppy" kind of theory, as if, it's the field of poppies and it's the one that sticks their head up is going to get cut, you know. Come back; you don't want to get too far out of the pack here. And so we just basically came in and said, "We're just going to do what we're going to do. We're going to do it with integrity, honesty, a clear mission, and we're going to be the best if not one of the best South African blended red wines, and frankly, our target is the world, and South Africa's our workbench. And along that course, we'll be glad to talk with, share, kind of the Mondavi model."

We get winemakers come visit. We educate the interns and we turn them back into the market, and it's sort of what we do. We don't know any better. I'm of the model of Bob Mondavi who told me in my early days, when I asked him, I said, "What should I share with other growers who aren't our growers, or winemakers, or people who work for other wineries and their vineyards?" And he goes, essentially, to paraphrase him, he said, "Just don't tell them anything that's a family secret, that's so dear." But, I said back to him, I said, "Well you know, we're moving so fast in developing new ideas, that even if I tell people what we're doing, they can't catch up, because we have the momentum. We have the forward vision." And he goes, "That's perfect."

07-01:34:17

Meeker:

Did Mondavi have family secrets, in terms of making wine?

07-01:34:21

Freese:

I don't think it was family secrets per se. I don't think he said it specifically that way, but they were probably anything that was proprietary in the business sense, or pricing, or marketing things, stuff that somebody else could probably pick up on and use. But from the winegrowing and wine production side, we were screaming. If it sounded like a good idea, and it wasn't going to put a hole in the boat below the waterline, that was our responsibility to do it.

07-01:35:01

Meeker:

It sounds to me like, just from learning a bit of the longer history of winemaking in California, that that really was a contribution brought about by Mondavi. If you look at the oral history that André Tchelistcheff did in 1979, he's looking back to the 1930s, forties, and fifties, and he tells the story of Maynard Amerine coming to Beaulieu, and Georges de Latour getting really upset and throwing him off the property because he didn't want anyone there seeing what they were doing. It was secretive. It was deeply secretive, and there were trade secrets that each vineyard at that point was doing and there wasn't much sharing of ideas.

07-01:35:59

Freese:

It's interesting you say that. I'm not sure I knew that, but I'm kind of prone to reflecting on a little bit of maybe the European model. In Bordeaux, it's a mature industry, right? Even at that time, it was a fairly mature industry, and there's this: maybe the things that bend the curve there are actually fairly small and easily attained, or copied. But in the era that I was in at Mondavi, I mean, it was literally, it was an open field, and we just said, "Let's just give it a try." My mantra was, if you're not doing something where you're making a mistake, then you're probably not thinking aggressively enough, and if you make the same mistake over and over again, you ought to be gone. So, bang, so that was what we did.

07-01:36:58

Meeker:

Do you think that, in the time that you've been in South Africa, that it's become more like that, that there's more openness, that there's more sharing now?

07-01:37:08

Freese:

I think so. I don't think it's anything like we had in that era. Americans are unique people. They're just unique. You can say pluses and minuses, but, this sense of throw it against the wall and see if it works, and if it doesn't work, then just stop doing that and do the next thing, or the next thing. And people start businesses and they fail, they go, "Whatever, okay, start another one." It's just a rich and entrepreneurial kind of spirit. I don't know if that's still the case in the current environment, but I think we, being Americans, we kind of under appreciate that, and I think we probably, in South Africa, were considered the crazy Americans. But we didn't have a line of people that formed that said, "I want to be next; I want to figure out how to do this." So, we said, "Well look, we'll come, we'll do what we do with strict focus,



integrity, treat people really well, kind of the way we'd run a business anywhere else, and we're going to make wines that can be used as benchmarks."

07-01:38:37

Meeker:

Looking back in the, now, about twenty years since you've been working with the vines there, do you see high highs and low lows, or has your work been pretty consistent, do you think?

07-01:38:56

Freese:

Mean with respect to the industry? Or—

07-01:38:59

Meeker:

Well, I think no, I'm thinking more about vintages, and all the different ingredients that go into what makes a good vintage and a less-good vintage. But, like, for instance, you look at Burgundy, or champagne, and they can be more susceptible to like a bad hailstorm, or something like that, than you would find in Napa where there's more consistency.

07-01:39:28

Freese:

So climatic, yes, it's a good question. So I would say first of all, I think Zelma, my kind of general concept is, in the good vintages, we're going to be amongst the best. In the difficult vintages, we're going to be the best, because we've got this storehouse of knowledge. We've seen it. We've done it. I really have an empathy for young winemakers who come in, and they haven't seen four years of drought. They haven't seen wet vintages, or they haven't seen really hot vintages and how you respond, or they haven't seen when the vines are kind of out of control vegetatively, or they're overstressed because of something else. They haven't seen or they haven't worked with some of the conditions. So I've a lot of empathy for them, and that's one of the things that I try to bring to my clients wherever I'm working, is, "Don't worry, I've seen this, okay? Here's what we do."

We had a vintage in South Africa, working with one of my clients there, and I would see them every week, and every week, they would say, "I've never seen anything like this," for various other reasons that were going. I said, "Look, don't worry about it. If you trust me, just do this." And then the following week, they'd go, "That worked, but I've never seen anything like this!" [laughter] And we just did it, and I said, "Look, we're just going to take it bite by bite, okay? And we're going to work through this." And they came through, and they're sitting on probably, I mean, fabulous wines, and their yields—even though we've had a drought, they had some water, so I said, basically, "Stop watering there. Save that water; put it here; this needs it more than that does. Just do it." And their yields are down a little bit.

The wines that I tasted before I left were just, they're fabulous, and it may be one of their best vintages, with a very, very small ding on volume, and in the world, in today's world, in South Africa, that's golden, because there's a real

serious shortfall in production in South Africa this year. And I said, “In the past you guys have produced and sold off some bulk wine. Be cautious about doing that this year, because first of all, you’re going to sell bulk wine, the prices are going to go up, and secondly, you might want to think about increasing the volume, if you can,” of one of the wines that they had limited because they didn’t have a sales channel for all of the bottles.

So, yeah, so you know, we kind of have seen it, so, that’s one of the things that I—I don’t worry about the highs and lows so much, climatically, and the other part of it is our climate variance. We don’t have hail. I’ve seen it rain for days before harvest, and for us, we’re set up where it doesn’t make an impact on us.

07-01:43:06

Meeker:

In terms of rotting?

07-01:43:08

Freese:

Yeah. Yeah, because I build vineyards to not rot. They’re small canopies; they’re open; you get air flow through them, just the right amount of sun but not too much. The one that’s a killer: if it rains two or three inches and then it stays really humid for a long period of time afterwards, and we generally don’t get that in the Cape. We oftentimes don’t get it here. The ’82, ’83 vintages I referred to were conditions we had in Napa Valley that were that way. So highs and lows don’t bother us that much.

07-01:43:44

Meeker:

How have the four years of drought impacted your work?

07-01:43:49

Freese:

Well, it’s sobering, and this particular vintage was really the most extreme, because first of January, we were just cut off of water entirely. I had expected it would be phased down, which would be the normal thing to do, but people in the cities weren’t cutting back on their usage, and so the water authorities were going with days like what they call “day zero,” like, this day of this month, we’re just not going to have any water, and any water you get is going to come through a few distribution points, and these lines of, other places in the world, people standing in line with a jug to get some water so they’d have something to drink and cook with. And then all of a sudden, the people in cities kind of got the message, but that happened after the water authorities just said, “Well okay, this is going to be so dire” that they just cut agriculture off, since we share the reservoirs. So, that was made an impact on us. Yields were down, and—

07-01:45:03

Meeker:

What, 10, 20 percent, or more?

07-01:45:05

Freese:

Yeah, we’re at least 20 percent. It’s a noticeable amount. The other thing is though that we’ve seen droughts. We’ve seen what happens, and usually what

happens is the berries are really small which we got this year. It's a real temptation to say, "Oh my goodness, I have these small berries; I'm going to get these really big, extractive wines." So, the real discipline comes to saying, "Okay, how am I going to make the best wine I can out of what I have?" And in a case like this, it wasn't necessarily get everything out of that grape you can. Get out the right things, like when do you do cold soak, and what's your peak temperature during fermentation, the kind of things that people who haven't been through these situations, they don't know.

I don't think the South Africans are very good about using consultants, either, advisors. The clients I work with, I work on all sides of what they're doing, but I don't think they really take advantage of some of the resources they have, some of the wisdom that's out there, maybe people who've retired out of a wine position, winemaking position. You'd think, hey, I'm going to gobble these guys up; I want them to come taste and work with me on this.

07-01:46:37  
Meeker:

Looking back at your vintages—

[side conversation deleted: break]

07-01:46:47  
Meeker:

Okay. So, one of the last questions I wanted to ask you is, looking back on the vintages that have been released, I guess since 2003—was that the first vintage?

07-01:47:02  
Freese:

That was our first vintage, yeah, well the first one we released. We made 2002, but decided we weren't going to release it.

07-01:47:09  
Meeker:

Okay. Do you have any favorites, and why?

07-01:47:14  
Freese:

Well, let me just say, serendipity. One has to always appreciate, even if it's dumb luck, when you're in the right place at the right time. The 2003 vintage in South Africa is a stellar vintage, so we were new with a really, really good vintage. I empathize with people who have a project and they're new in a mediocre, or challenging vintage.

So do I have favorites? Mm. Well, right now, the 2015, C and M both, are a pinnacle. I think they're a real high point for us. It's a great vintage. Every vintage, I think we probably make—I don't want to say probably. I think we make real material advances and improvements every season. Some of those improvements are how we work with a vineyard, new techniques, different approaches to things. Some of them are in the winery, a new piece of equipment, new capability, trying new barrels, things like that. But the 2015 was a really nice vintage, and I've spent quite a bit of time trying to figure out why it was so good, and I look at numbers and charts and temperatures and

duration of—I don't know. I don't know. It just was really good. It's like all the things just happened to line up perfectly.

It's been well received since we've released the wines as well. In fact, it's so well received we had to, Mike stopped the sales, because we were selling the wines too fast. So, I think it's a really interesting comment about the vintage, but also our whole strategy of producing all this integrity and focus and clarity about the wines, and building the reputation, such that when we decided to release the wines, Mike pushed through price hikes as well. And it may be that he raised the price, it may be because it was a great vintage, but the wines went out the door, literally, like just, it was going to be a total sellout way too quickly. So he, as they say, pulled up the handbrake.

07-01:50:29

Meeker: Interesting.

07-01:50:30

Freese: Yeah, because we can't have a major amount of accounts without wine.

07-01:50:38

Meeker: How long between harvest and release, typically, for you?

07-01:50:48

Freese: It's two years, approximately, two, two and a half years. It depends, again. So there's a sales and marketing cycle that, not my area of expertise, that people would like to be in relative to—well, if it's Christmastime, or sometimes when historically people tended to be buying more wines to lay in and lay a stock, if you're talking about through the distribution systems. So there are times when, if you miss that release cycle, you just missed it. It's gone. We're getting to the point where so much of our wines, a significantly larger amount of our wines, are going into direct to sales, like Wine Club, and even still we sell wines directly to people such as, we have one of the largest most expensive game parks, private game park, in South Africa that is a real strong buyer of our wines, but they buy them, take possession of them, and they sit in a warehouse in Cape Town for a couple of years before they ever put them on their wine list. Because they know that they're just going to get better and better. But they always want to make sure they have the stock, so they just buy them.

07-01:52:31

Meeker: For this 2015 vintage, how would you characterize it? What is it about the wine that you think is so good?

07-01:52:45

Freese: If you describe the wine that you really like, and it usually has a narrative that I would, in my words, I would put something like this, and this is true for both the M and the C: The M's probably a little bit more approachable now. Back in this description of it, so it'd always be good to drink, fun to drink, but the C shows its breeding as well. So, the general concept is, somebody pours the

wine in a glass. You look at it. You go, “It’s a really nice color,” and then you go through this whole thing about, what are the characters in the nose, the attributes of it—simple, complex, full, rich, whatever—entry into the mouth, the mid-palate and the finish, and those, the 2015 vintage as an example, for me, check all those boxes.

We have other vintages that check, and they check all the—I’m not even going to finish this thought. The 2015s check all the boxes, and the one that says, “This is going to age really well; make sure you have some of this put away.” We have other vintages that check all the boxes, but you’d say, “This is really, it’s okay. It’s good now. It’s good; we can drink it. I can really appreciate it, but it really, really needs three, five more years,” or something like that. So the ’15 has all these attributes of ageability, and all the attributes of, [laughs] I just want to drink it right now.

07-01:54:34

Meeker:

What tells you that a wine needs to be aged? What is it about the color, or the flavor, or the smell?

07-01:54:45

Freese:

Well, I can give my opinion. I think a winemaker’s probably a better, I mean, can give you a more robust, probably, answer to that, but for me, one of the overarching things that I look for myself in a wine: Is it a complete work, in the sense that, where it sits right now, does it have any attributes that are kind of dominant, and a little bit like if you threw a sheet over it, is it a smooth kind of profile, or does it kind of like have little things that are saying, “Yeah, I love everything except it’s just a little short in the finish, or the dark fruit characters haven’t really evolved enough”? I know those will come because I know the wine, and they’re not quite there yet. And you get something that’s, to me, a mental image of, you get something that’s like, it hasn’t fully integrated yet, is the word I would use for it, hasn’t integrated and become a seamless whole, but you know it’s going to get there.

And then, I pick up the 2015 and I go, “Whew, this is really integrated right now, both the M and the C, to me.” The C perhaps maybe not quite as much because it’s just still a little—it’s got some of that youthful exuberance there. But things can be a whole now, and they can be smooth and uniform, and they can still get better, but they’re going to do that together as opposed to waiting for the mouth to come together with the aromatics and so forth. Does that make any sense?

07-01:56:35

Meeker:

Yes.

07-01:56:36

Freese:

Yeah. So, the completeness and the uniformity and the wholeness, I would say, just simplistic description of the—this smoothness of that profile doesn’t

mean that it's done. It just means that right now it's probably more complete and more integrated than some other wines.

07-01:56:58

Meeker:

So, looking back on your many years growing and tasting wine, do you have a couple of bottles that you consider to be like your desert island wine?

07-01:57:12

Freese:

Yeah. We sold them. [laughter] Yeah, no. My favorite one is: I had talked some time ago, I don't remember which session, but about one of my idols was this fellow Burgundy producer, Henri Mayer, and having had the great fortune to taste—two great fortunes: one is to taste the 1978 of a particular vintage out of barrel with him, and then to subsequently have it become available; we could actually buy some. Both of those are rare, kind of once-in-a-lifetime events. And we did, and we bought the '78 when it was bottled, and we kept trying it, and we decided that it still, even at—I don't know, it was [whispers] seven, eighty-eight—[resumes normal voice] it was probably fifteen years later, it still had more to go, and we said, “Okay, we're just not going to drink it until”—

And then we saw the woman from whom we bought the wine [Martine Saunier], very well-known wine merchant, and she was busy selling her business, and she was busy selling some of her personal collection. So I happened to ask the question, “Well, the 1978 Henri Mayer Cros Parantoux, what's that selling for these days?” She said, “Well, on the Hong Kong market, it's fifteen to eighteen thousand.”

07-01:58:56

Meeker:

Per bottle.

07-01:58:57

Freese:

Per bottle. Line in the sand, okay. Yeah. And we decided that it was probably a better, higher and better use to sell the wine, and we were busy doing some other projects at that time, and we deployed that capital.

07-01:59:17

Meeker:

I've actually had a couple of interesting conversations with Bill Harlan and he has this sort of vision for creating his estate as like a 200-year project. Clearly, he's not going to be around to see that 200-year timeline. What do you want Vilafonté to become over the years?

07-01:59:44

Freese:

Well you know, it's a really good question. So, what I'm sitting here today saying is that, in twenty years, I think we had a good timeline; I think we've done what we came there, went there to do; and, the legacy, if we're talking about legacy kinds of things, is that—and legacies are hard to do because people forget history really very quickly. So I'm not particularly hung up on that, but I think our legacy is people, that we've trained, and that's probably the thing. We've made great wines. I think we've inspired people. We've had

wonderful interns. We have great employees, down to the people in the field who, they really—I mean, I think we’ve improved their lives. We’ve given them consistency of income throughout the year, honor their work, respect them, all the way through our employees in the winery, kind of what I call our middle management people and so forth. We have a seriously, seriously good team, and they’re all people who understand what we came to do. They don’t understand it in the same terms; they wouldn’t say it in the same terms, but I think in every case, I hope, we’ve contributed significantly to their development, personal and professional development. To me, that’s what it’s all about, basically.

Making wine is a vehicle. Growing grapes, making wine, it’s what I call a vehicle. When my son was really young, he was having some issues adjusting, and so we spent some time working with a child psychologist, I did, and I learned a new technique, and it’s for young kids. What they do is, you walk into this room and there’s basically a sandbox up on legs, and there are some toys and stuff in there, and the kids aren’t like, “Oh, how do you feel about something?” They don’t really get that. So, what the psychologist said is, “This is what we call play therapy.” So, the kids start playing, and so we talk about, “Well why did you, you know, this truck crash into that one?” or “What’s this guy doing when he’s helping this guy out of the sand?” or something. And so, I’m of the mode of, running a business, whatever the business is, is a little bit of play therapy, play therapy for us. We work really hard, but it’s fun, and it’s still fun, and we get these people who come out the other end. And, by the way, we have wines in the cellar that we made that are going to be really great to drink for a long period of time.

07-02:03:04

Meeker:

I think I’m done with my questions. Is there anything else you’d like to add? Anything I didn’t ask?

07-02:03:14

Freese:

I’m sure there are things, but I think we’ve gone pretty deep in a lot of areas.

07-02:03:18

Meeker:

Yeah, and I think you just summed things up very nicely, so why don’t we end there?

07-02:03:24

Freese:

Yeah. Good.

07-02:03:25

Meeker:

Thank you, Phil.

[End of Interview]