Episode 15

Everything Creative

CONFERENCE CENTER PIPE ORGAN TECHNICIAN - ROBERT POLL

NARRATOR: The views and opinions expressed here are those of the guests and are not the official position of The Church of Jesus Christ of Latter-day Saints.

[BEGIN MUSIC]

PRESIDENT DIETER F. UCHTDORF: The desire to create is one of the deepest yearnings of the human soul. We each have an inherent wish to create something that did not exist before. The more you trust and rely upon the Spirit, the greater your capacity to create.

NANCY HANSON (HOST): I'm Nancy Hanson and this is Everything Creative. This program explores a wide range of creative ideas, talents and experiences through interviews and group discussions. Join me now for an interview with pipe organ technician Robert Poll.

[END MUSIC]

NANCY HANSON: Welcome back to Everything Creative. I'm Nancy Hanson. And our interview today is with Robert Poll. He is a pipe organ technician. Robert, thank you for being here.

ROBERT POLL: You are welcome.

NANCY HANSON: Will you just introduce yourself a bit and tell us about what it is that you do as a pipe organ technician?

ROBERT POLL: Well, my job is to take care of the pipe organs that are here at Church headquarters. We actually have eight instruments. Everybody always thinks of the Tabernacle and the Conference Center, which, of course, are the two main ones, but there is also an organ in the Assembly Hall of some substance; it's not as big as the others but there's another one a little smaller than that that's in the Joseph Smith Memorial Building, in the chapel. And then we have three practice organs that are tucked away in the basement of the Assembly Hall that the organists use to rehearse their pieces and stay in shape before they go out to one of the performance instruments. We also have a little—we call it a portative; it's a cabinet organ, it has only three sets of pipes in it and it's used for what's called continual work in orchestral settings. It's portable and you move it out on the stage and the organist sits as part of the orchestra and participates with the orchestra in that venue. And we move that around to different places, we take it even off-campus to different areas. Then we have two harpsichords that my assistant, Lamont Anderson and I are also trained in and we maintain those. They are used in the same way as the portative organ, in different venues, moved around, but the one stays pretty well at home in the Assembly Hall and the other one has only once or twice been used for a performance, it's usually just maintained as a practice instrument. And we have four electronic organs. We are not electronic organ technicians but we move them around as required, take care of mechanical repairs to them and see to their maintenance. We oversee anything that's necessary, contact the people who are responsible for it—usually it's the manufacturer who provided it to us and their local technician. That includes one at the Bountiful Regional Center, which we consider part of our campus. Then we have 70—that's seven zero—pianos at campus, including the Bountiful Regional Center, and even as far away as the Granite Mountain Vault, where those pianos are used in different circumstances, and some of them are performance pianos that people are accustomed to seeing at the Conference Center and Tabernacle, and we do touch-up tunings on them and we maintain some of the things, we keep them clean and see that the finishes are in good condition and we move them a lot.

NANCY HANSON: You say on campus.

ROBERT POLL: Yes.

NANCY HANSON: Explain what that means.

ROBERT POLL: That refers to Church headquarters here at Temple Square—the Conference Center, the Church Office Building, that whole block of the Administration Building, the Joseph Smith Memorial Building, it includes the Family History Library, the museum and even the Triad Center.

NANCY HANSON: Oh, okay.

ROBERT POLL: And then, of course, we add to that, the Bountiful Regional Center as the satellite buildings, and then the Granite Mountain Vault. We just call it all the campus.

NANCY HANSON: And you are an employee for the Church.

ROBERT POLL: Yes.

NANCY HANSON: And what is your official title? What do they call you?

ROBERT POLL: My official title for Human Resource purposes is "Master Keyboard Technician" and it …

NANCY HANSON: I like that (laughing)

ROBERT POLL: I feel uncomfortable with it so …

NANCY HANSON: I kind of understand that.

ROBERT POLL: I like to just refer to myself as either the Tabernacle organ technician or pipe organ technician.

NANCY HANSON: And how long have you worked for the Church?

ROBERT POLL: 27 years next month.

NANCY HANSON: And as a full-time employee doing this?

ROBERT POLL: As a full-time employee doing this.

NANCY HANSON: Wow. And all 27 years have been spent in this position?

ROBERT POLL: Yes.

NANCY HANSON: And how on earth did you ever find an interest …

ROBERT POLL: (laughing)

NANCY HANSON: in (laughing) becoming involved in this?

ROBERT POLL: Well, I think I was prepared and led here because I don't think I did anything in particular to deserve it. I grew up in a family with ten children. My father was in the sound business and my mother played the organ all her life, played for all of our wards that we lived in and sometimes the stake, and so I was familiar with that as a young boy. My brother—I'm the youngest, and one of my oldest two brothers purchased an organ from a place, an abandoned place in Idaho and he brought that down and installed it in our living room as a pipe organ and all I knew as a young boy was if I touched it, I died.

NANCY HANSON: (laughing)

ROBERT POLL: So I didn't really get much involved in it but I was familiar, I was around what those things were. Later, when he was married and moved out, he took that and put it in his home and I grew up and didn't even learn to play the keyboard. I played brass instruments all through elementary, junior high and high school. And I did start on the keyboard just a little bit and then I decided I wanted to play ball more than that and so now I'm a poster child for regret.

NANCY HANSON: (laughing)

ROBERT POLL: I sit at these famous instruments and I hear music and can't play it, so anyway, …

NANCY HANSON: So you don't play a keyboard.

ROBERT POLL: No.

NANCY HANSON: Don't play …

ROBERT POLL: No, I don't. But I did do brass. And in fact, my assistant, Lamont Anderson, has a degree in trumpet performance, a college degree in it and he taught school for three years before he decided that that wasn't his career…

NANCY HANSON: Yeah.

ROBERT POLL: … and through an interesting set of circumstances he came to be my assistant here. We've been together for 25 years.

NANCY HANSON: Wow.

ROBERT POLL: (laughing) But I went on a mission to Germany, where, of course, organs are huge, a very big item, and I never even bothered to look at them (laughing).

NANCY HANSON: Really?

ROBERT POLL: I'm in these famous places where these famous organists, Buxtehude and Bach, and all these people played, and, yeah, okay, there's an organ …

NANCY HANSON: Here's an organ.

ROBERT POLL: Yeah. (laughing). I came home and I needed a job. I was in a touring musical group that went to Europe and came home in the summer and I didn't have anything to do. Well, my brothers, my two oldest brothers, had been kind of in and out of the sound business and in the organ business as well and one of them worked for the Church when they used to maintain a field operations maintenance, organ maintenance crew. They would travel around the intermountain area and maintain and even rebuild pipe organs in the wards and stakes. And they decided to get out of the business as the Church and contract that instead and so these employees who had worked in that division, they went out on their own, most of them, and started contracting the work to the Church, and when I came home from this tour, my brother and I were talking and he offered me a job and so I thought, okay, and after a week of doing it, I was hooked (laughing).

NANCY HANSON: Really?

ROBERT POLL: So he had become involved, one thing had led to another, you know, I told you he bought a pipe organ and he had it in the home and I won't go into all the details of that but he had been in the industry, kind of in and out with the sound and the pipe organs and things

NANCY HANSON: And does he play?

ROBERT POLL: He just played a couple of hymns that he learned.

NANCY HANSON: He just wanted it in his home.

ROBERT POLL: Yeah, yeah, and he—my mother actually, as a side business, an appendage to my father's sound business, for a while sold organs and pianos; she sold electronic organs and he would deliver and install them for her, they did everything from residential to institutional models, and I grew up, I was a teenager at the time, and I spent a lot of hours there at the store. But I never really worked in it.

NANCY HANSON: Yeah.

ROBERT POLL: And never really had any inkling or desire to do it.

NANCY HANSON: But you say you tried it for a week and you were hooked? What was it about it that was so attractive to you?

ROBERT POLL: Well, I always had been interested in woodworking, had some aptitude for it, and I developed an ear for music playing brass …

NANCY HANSON: Sure.

ROBERT POLL: … instruments and I've always loved choral singing. And you know, by definition, an organ is a chorus of voices so I just became enthralled with it. It kind of gets in, as they say, it gets in your blood, and I have enjoyed it. I worked with my brother for a little over two years and we were hired by the Church to come in here and install one of those practice organs I referred to in the basement of the Assembly Hall. The staff that was

here, the two organ technicians, were involved with other things and they felt like they wanted it quicker than they could accommodate them, so I came in with my brother and we installed this instrument and one of those three. It was about a week's worth of work over a two-week period of time. And at the end of that two-week period, we had been conversing with the organists occasionally, they would come in and say something while we were there, and when we finished the job, they had indicated to us that these other technicians were near retirement and they were wondering what they were going to do and I thought, "Oh, boy, I'm going to have to go find another job. They are going to hire my brother," (laughing) and as we're walking, Bob kind of stopped us in the hallway and he turned to my brother and says, "I need to talk to you about this before we make any decision to proceed." He said—Bob was the Tabernacle organist in charge and he said to him, "Well, we wanted to ask you if it's alright if we hire Robert to come and take their place here …

NANCY HANSON: (laughing) Really?

ROBERT POLL: You could have knocked me over with a feather.

NANCY HANSON: (laughing) Wow.

ROBERT POLL: I was really surprised. And, of course, he said, "I would never say no." So I came to work here. I had to finish some work I was doing with him and then I came to work here. They wanted me here at the time the Assembly Hall organ was being installed so that I would know it better than anybody else and I came and worked with, was actually assigned to the organ builder, Bob Sipe, who was installing that instrument in the fall and spring, winter and, well, he was there until April, just after General Conference of April. So he was there for about six months installing that instrument and I was assigned to do his bidding. And so I did a lot of the things for the installation of the instrument although the bulk of the framework and everything was already complete when I came here. And then I just moved on from there, went to doing other things, and it was a couple of years before my predecessor, Mel Dunn was retired and I took over and so I've been here. (laughing)

NANCY HANSON: So that keeps you busy.

ROBERT POLL: Oh yeah.

NANCY HANSON: Every day.

ROBERT POLL: Well, it depends on what's going on. We have to follow events. Procedures would be: check schedules these days on the computer—it used to be on a sheet in the office—, we check to see what's going on in the different venues, try to keep abreast of it in advance and then make allowances for the changes which are invariably inevitable. And we go and we have to move pianos in there, make sure that they are set up in the appropriate place and that things are happening correctly. Sometimes the staging crew does some of the lesser things for non-performance venues. We get those things taken care of, we make sure that the pianos are—we either touch them up a little bit, do the tuning ourselves if it's not too bad, or we have the contract piano technicians that we schedule and coordinate come in to do a major, you know, thorough tuning of it. And then we'll do work, mechanical work and/or tuning on any instruments as is required. We generally have a list of things. We have a system worked out, we have to keep track of what's going on, what's been rebuilt, what hasn't. I had to invent a computer program, it took me a long time. It wasn't until just after I had been given charge of the pianos just a couple of years ago, I was creating a way of keeping track of all those things and one day last year, I came over to the Conference Center to try to do some mapping out of the wind system, which is rather complex, and as I was doing that and trying to organize how the organ was laid out on paper in a way that I could keep records on what had happened with it, it occurred to me that I already had it, that it was in my piano records, that I had a backed-into way of keeping track of the organ. And I really, I have found over the years that I have done this that there are moments of, there are things that I have accomplished that I cannot take credit for, I've really been inspired. I believe that the Lord watches over and helps us with the things, and I don't think I'm unique in any way particularly but I think that He has perhaps a little more interest in the headquarters for the Church and what's happening here than maybe in a business somewhere. But I believe we all have the right to the inspiration for what we're doing. And I had that inspiration and as I pondered on it, it didn't take me very long at all, those thoughts came to me of, "Oh, that's how you could include this little snafu and way of trying to link it all together that made sense and it would incorporate everything that you needed to keep in your record. Since that time, I went back over all the slips; I kept a stack—it's probably this high—of all the service requests and I took it and went through it systematically and entered all of the information that I had in all the service requests that we'd had and what we'd done to

different parts of the organ. This is the Tabernacle organ at this point. I haven't yet been able to spread it to the others. I went through and I put it all in the computer, used tables and entered it all in there. And it's totally expandable, I can do it any way, just keep going forever. And as long as they don't zap the Word program (laughing), …

NANCY HANSON: Right.

ROBERT POLL: … the work, because I'm using Word tables—but I've entered all that stuff and now I keep all my planners or keep a daily record. And some of these things that were never written for whatever reason are recorded in my planners so now I've started to go back through all those and enter …

NANCY HANSON: Put those in …

ROBERT POLL: …all these other things that have happened as well so that I can make it as comprehensive as possible over the past 27 years.

NANCY HANSON: Yeah, that's kind of a big responsibility in a way because this, I mean, you are solely responsible for that information at this point and that would be something that needs to be preserved to be passed on when your time is finished here.

ROBERT POLL: Yes, and in fact, when I came here, there was virtually nothing, …

NANCY HANSON: Yeah.

ROBERT POLL: … Nothing, just tales and stories. So I came in and said, "Well, I guess I have to start from nothing." (laughing)

NANCY HANSON: Right. Well, I'm talking today with Robert Poll—he is pipe organ technician—here on the Mormon Channel on Everything Creative. Tell us, how do maintain or clean, how often do you have to clean, like let's say the organ in the Tabernacle?

ROBERT POLL: Generally every six months or so. Well, we do more than that on the lower levels and sometimes the custodial staff, they have all volunteers now doing that, and they come in and we allow them to, you know, they are looking for things to dust (laughing), so they come in and they want to, we tell them, "No, you can't go above this point." (laughing) And so we go through about every six months and clean as much as we can. The top part we have a system that really we don't have any protocols yet; we tried to work them out a year ago and unfortunately, we haven't been able to get the person writing it up to finish it so that we can proceed again but we want to do the top part of the organ every year, that's what we used to do. We used to have to climb on it (laughing). Not very safe, …

NANCY HANSON: Wow.

ROBERT POLL: … so now we have a system of suspension. With the renovation of the building, we can be suspended and we can do that. It's hard to use pole dusters, and when I talk about this, I'm talking about the case what the people see, …

NANCY HANSON: Right.

ROBERT POLL: … the case work. It's hard to use pole dusters in the Tabernacle because there is so much detail. There's dental moldings and fluting and various nooks and crannies.

NANCY HANSON: So you have to get up there and get in?

ROBERT POLL: You really have to put your hand in it to make it work, and we use special dust claws and stuff to work in there. The pipes, we do very, very seldom. It's years between because you don't really know the things and we don't like to scratch or influence the gold pipes that you see. In the Tabernacle, only ten of those speak, just the ten largest, which

comprise the four main towers, the others are all just dummy pipes. They are a facade to mask the organ that's actually behind it.

NANCY HANSON: I wondered about that. Can you talk about that? I mean, so many of us don't know, we've seen it a million times, you know, at conferences in the past in the Tabernacle. But how many pipes are in that organ and where are they?

ROBERT POLL: Well, there's a total of 11,623 speaking pipes, …

NANCY HANSON: Wow.

ROBERT POLL: … ten of which are in the case. There's, oh, I don't know how many pipes there are in it. There's ten ranks or sets of pipes and that's about 61 notes a rank. 61 or 68 notes a rank. In the back of the building in the antiphonal organ, which is located in the attics base behind the balcony. So you can see these dark openings if you look to the east, the rear of the building, from the front, and that instrument can stand on its own. It's an instrument of integrity for the size that you might have in a stake center—typically that's about what you get in a stake center, nine to eleven ranks—and so musically has the tools that it needs to create the sounds required. It's used as an echo organ for the front and then the front behind the case is where everything else is. It's actually constructed in a very systematic way, laid out, it has in a U shape around the back and on sides, toward the audience it has the big, large pipes that play on the pedal keys and then in between in the front against the base of that, you have across, there are three main sections and they are two stories high so you have if you're sitting in the audience looking from right to left, you have the solo division, the swell division, which is doublewide and then the choir division. They all play on different keyboards. You have five keyboards, and then in front of the swell is where the organ case juts out in the center of the choir toward the audience, the great organ, the main part of the organ, is located, and right in front of that is where the smaller pipes of the pedal division are located. And then there is another level above it. And that level above it is pretty much the same, except on top of the solos is the bombard division, which is a different musical function than the solo, and then the rest of them are common, or just the other half of essentially the great and the choir and the swell. They're split on two levels.

NANCY HANSON: So when we sit and—oh, go ahead.

ROBERT POLL: I was just going to say that in front of the great and the upper level, there is another division that's located just there and that's the positive and it shares that bottom manual with the choir division.

NANCY HANSON: When we sit and we look at the pipes in the Tabernacle, you know, you see all these big ones, a couple small ones, but you're saying there are thousands more that are basically hidden behind that.

ROBERT POLL: Yes.

NANCY HANSON: Some of them are very small, right?

ROBERT POLL: Yeah, the smallest pipe is, well the largest pipe in the organ is 32 feet, measured from the mouth of the slot in the bottom of the pipe at the top of the foot, which is the inverted cone at the bottom to the top of the pipe, which is called a resonator, and that length would be 32 feet for the lowest note in the organ. That is equivalent to 16 hertz or cycles per second as a fundamental pitch. You can't really hear that. You hear the harmonics above that at about 20 hertz and then your mind fills in the details (laughing) and you feel it.

NANCY HANSON: Yeah.

ROBERT POLL: So there are five sets of pipes that extend down to that lower note. There is basically a pipe per key, per stop, that you turn on for that particular sound or type of pipe.

NANCY HANSON: Okay.

ROBERT POLL: The shortest pipe in the organ is only about theoretically three quarters of an inch in speaking length from the mouth to the top of the pipe. But it's more like a half an inch because when you change the volume of the pipe at that high note, it radically changes the length of the pipe to tune it. So some of them are a little shorter than three quarters of an inch. But they look more like a pencil or a pen.

NANCY HANSON: Yeah.

ROBERT POLL: Because there's a foot to the bottom of the pipe, it's just situated vertically. It passes through a hole in what we call a rack board that racks them all up in a set and it goes down into a countersunk toe hole in the top of a wind chest, a box that contains the pressurized air, and it has a mechanism in there for the key to actually make that air then escape to the pipe and so the organist controls it that way, and there are different ways of doing that and, I mean between organs, not within one organ. And then when they open that valve and the air escapes, it goes up—a self-sealed gravity holds the pipe into that countersink and the air escapes up through the foot and it goes up and it strikes what's called a languet, a piece that's right at the mouth of the pipe, and it allows air only through a little slit in the front of the mouth of the opening there, that's called the flue, so we call them flue pipes, and a wind way and it blows across that, it's just a whistle, …

NANCY HANSON: Yeah.

ROBERT POLL: … it's like pursing your lips to blow across the top of a pop bottle or a water bottle, and you know, the amount of air space in the bottle determines what pitch you are going to hear, but a voice of an organ pipe makes the mouth conform just right, cuts up the upper lip, moves it in or out, or the lower lip in and out, moves the languet up and down—it's out of soft metals so you can do that—and then when it comes to speech properly so that it's playing—we say speech—, then you regulate the volume by opening and closing the toe in the bottom of the foot, and once it's set, it's set, and then you turn it by lengthening or shortening the resonator at the top by various means.

NANCY HANSON: So how often do you have to tune an organ?

ROBERT POLL: We tune them only really as needed. We used to come in every Sunday morning for the Music and the Spoken Word broadcast with the Tabernacle Choir and we would touch up principally the reed pipes, which are different from what I just explained to you; we use a brass tongue like a clarinet reed being against the tube that would be similar to the mouthpiece of the clarinet, and then resonating through this tube. Because they are mechanical devices, they tend to not like flecks of dust in them and they tend to be more temperamental when temperatures shift. We used to have fairly wide temperature swings in the Tabernacle. Temperature causes the tuning to go out. They change in temperature because it changes the density in the air, not that it does anything typically to the pipe itself and …

NANCY HANSON: That makes sense.

ROBERT POLL: … so it changes it like if you play the trumpet, for instance, and you are in a marching band and you go out and you've been sitting out in a football stadium and you're going to play in the cold weather—well, hopefully your lips won't freeze to the mouthpiece—but you have to keep blowing in your instrument and the tuning is going to be constantly changing because as you blow in it, the warmth in your breath will heat the brass or whatever it's made of in your instrument and it's going to change the pitch so that's what's happening in an organ …

NANCY HANSON: See, who knew that …

ROBERT POLL: … when that column of air …

NANCY HANSON: … your experience playing brass instruments would help you later in life to understand that whole concept. (laughing)

ROBERT POLL: Yeah, and I—so that's what happens. The temperature shifts and it goes crazy. And then, plus they introduce the mechanical aspect where it might move that you have a wire rod that holds this tongue, this brass tongue, again, a reed, against this tube, and it can move—it's spring-loaded so you can move, it can creep with temperature changes. It might not be snug enough, you know. Everything has to be just right to make it work and

if you get a little fleck of dust in it, we use actually paper currency as a quick fix to insert between the reed, the tongue and the brass tube and just pull it out quickly and it pulls with it the dust that's in there, and we use that because it doesn't leave lint behind. It actually has linen woven into the paper, it's a special paper, and it works quite well in doing that. So we do that, we have to clean those or we come in and we tune and we would come in on Sunday morning and we would say, "Okay, what reeds are you using today in the broadcast?" and the organist would tell us in advance, "You know, please pay attention to these," and so we would go, 'cause we can't tune everything. I mean, it's just impossible.

NANCY HANSON: Well, yeah, I guess, that's what I was going to ask is how, you know, how many keys are on that organ? You said there are five levels, right?

ROBERT POLL: There are five manuals, yes, five keyboards, and one pedal. Each keyboard has 61 keys and the pedal has 32 keys.

NANCY HANSON: Oh, wow.

ROBERT POLL: And so a rank is a set of pipes, one pipe per key, and a rank in a manual keyboard would be 61 notes, and a rank in a pedal keyboard would be 32 notes. There are a couple of exceptions to that.

NANCY HANSON: So you've got to almost find out what are you going to be using today so you'll know what you need to.

ROBERT POLL: Right, we need to know what stops they are going to use, what sets of pipes are going to be assigned—we don't need to know necessarily where they are assigned to play because you can move them around and change, shift them up and down on the keyboard and so and pitch, but we need to know what set it is and so we would go and check that because the temperature had been different even if we were to say check it on Friday and try to make it reasonable on Friday, there's no guarantee Sunday morning it's going to be right, especially in the summertime. Cause you don't know what's going to happen overnight, whether the temperature will be low enough for the building to cool off enough that it

would come back to the point where it was tuned and it would be okay and then you'd have to go back, so we would come in and we would do the touch-up for about an hour, hour and a half, depends on what time the organist showed up and said, "Excuse me," (laughing) "I want to rehearse," we would push usually, trying to get everything we could and since the renovation of the Tabernacle, which took place in 2005, 2006, and the first couple of months of 2007, there is now some cooling, some air-conditioned air in that end of the building for the choir to help them under the heat of the TV lights and such, and that—much to my surprise, I was very skeptical about it—has actually been very helpful to the organ and we have not had to make a seasonal adjustment in making the reed pipes more stable and matching the flues at a warmer pitch for the summer months and then coming back in the fall. We don't have to do that. And the nicest thing about it—it's just really made me happy—is that it comes back home pretty much over night with the air conditioning that's blowing there, even if it gets up maybe even over 80 in the worst-case scenario now where it used to be 96 even sometimes in the hot summer months in the top parts of the organ. It now drops, it maybe gets over maybe up to 82 at the most and then it drops back down to the 73 where it was tuned and we're okay.

NANCY HANSON: You're good to go.

ROBERT POLL: We're okay again. So I'm a lot happier since the renovation of the Tabernacle (laughing).

NANCY HANSON: Yeah.

ROBERT POLL: Further, we have a special system. When the Conference Center was built, we had Jack Bethards—who is the president and owner, tonal director and everything—for the Schoenstein Organ Company that built the organ in the Conference Center. He was adamant that we needed to do something to create stability in the blower room. There are six blowers that create the air pressure for the pipes that play in the Tabernacle or in the Conference Center here, six of them, and in fact, we have to turn them on one every ten seconds when the organ turns on because it's too much power if you try to power them all up at once. It would overload the system since it takes a lot of power to start it, more than it takes to maintain it. And so he was adamant that we needed to have some sort of temperature control with all the heat that's generated by compressing this air and running these motors in this one little room. And the HVAC people got busy and they created a system that draws air off of the organ space and humidifies and cools it and then puts it

into that space where the blowers are such that then it compares at a sensor and they discharge it in the win lines just to see what the temperature is there and they try to make the temperature in the win line match the ambient temperature in the organ space where the pipes are standing. And that way, you don't get blowing hot air into a cold pipe and making it sound like a calliope which is blowing steam through a brass pipe and so it drives the pitch, it gives it a unique sound by driving the pitch abruptly sharp as soon as that steam hits it. And we don't like that in church organs—in pipe organs in general—so we wanted it stable. Well, we created a system here to do that. And it's been very, very successful. Plus the ambient temperature up here is all conditioned and so the Conference Center has been really quite stable and that's what we like—stability. It's not so much the set point as long as it stays at whatever was determined as point B.

NANCY HANSON: Right.

ROBERT POLL: Then we're happy. And we don't like swings of more than one degree (laughing), and the HVAC people say, "Well, plus or minus 2 is excellent," and then we say, "No, no, one." (laughing)

NANCY HANSON: For us.

ROBERT POLL: So in the Tabernacle, when we did the renovation, they created an even more precise system than what we had. And it has helped immensely in being able to tune the instrument in the first instance and then to maintain it as well as having the space where the pipes stand conditioned better. It's not anything like over here but it's way better than it used to be so we're just really happy. (laughing)

NANCY HANSON: Well, now that you've explained it like that, I can see how you stay busy. You know?

ROBERT POLL: Yeah.

NANCY HANSON: There is a lot to do.

ROBERT POLL: But we tune—you know, your original question was, how often do we tune it?—well, since we don't need to do this every Sunday morning anymore, we really just do it on an as-needed basis. We go through and listen to it, we follow the trends of the weather and see where it's going to be and how it impacts it and decide, oh, you know, it's really sounding kind of rank, maybe we better pay a little attention to this place or that and so we go up and we check it. And occasionally, the organist will write a little, we call them love notes …

NANCY HANSON: (laughing)

ROBERT POLL: … a little note on the console and say "Hey, you better pay some, will you please go tune this note" or he'll call us—since I have a cell phone now, they call (laughing) sitting on the bench, they'll call me, "Hey, …"

NANCY HANSON: "We need you now. It's an emergency." Have you ever noticed when you're watching either on TV, like conference or something or a concert or whatever, can you hear it yourself?

ROBERT POLL: Yes.

NANCY HANSON: Yeah.

ROBERT POLL: I hear …

NANCY HANSON: Well, no one else would ever notice, but I'm sure you hear that.

ROBERT POLL: I hear more than I'd like to hear (laughing).

NANCY HANSON: Yeah. You listen to it differently than anyone else.

ROBERT POLL: Yeah, sometimes I wish I didn't know what I was listening for.

NANCY HANSON: Right. It kind of spoils it a bit.

You're listening to Everything Creative. Today I'm talking with Robert Poll. He is a pipe organ technician.

Let's talk about the organ in the Tabernacle again. I'm sure you have some stories. I mean, when was that organ built? What year was that? I mean that's the original …

ROBERT POLL: Well, that's a loaded question because it's not the same organ and it's actually been three different organs. The original instrument was constructed—the credit for constructing was given to Joseph Ridges who was an Englishman, grew up in London near large organ factories in his neighborhood and as a boy he was enthralled with it, he spent time apparently in the organ factories and there was one report that he had a friend who worked in the business and he kind of tagged along and learned a lot about the organs. He became a cabinet worker, wood worker by trade, and as a young married man with a small child, he and his wife immigrated to Australia. He wanted to seek his fortune in the gold rush there—it was a pretty rough and tumbled country then—and he on the trip there met a member of the Church—his name was Farnham, I believe—and he consequently, or subsequently, he joined the Church in Australia. And he apparently did well enough that he spent some time—he had some time and some resources, free time—that he built, just for the fun of it, a pipe organ from his knowledge that he gleaned from his boyhood, and it was apparently all wooden pipes, he didn't really know how to make a metal pipe, so they were square wooden pipes. They decided to immigrate to Salt Lake and so he decided to—the presiding elder there actually in Australia said, "You ought to take that with you" so I think it was just in his home but he—and purportedly it was the first church organ in Australia, but that's not verifiable—he took it in tin crates that he soldered it up in and by boat went to California, sailed around California and he then carried them by wagon to San Bernardino where he stayed for a while to earn some money and do some things to complete the rest of his journey. And while he was there, word got up to Brigham Young that there was this Australian immigrant that was coming that had this organ and was in San Bernardino. And he said, "Well, you make sure you bring it," he sent word back, "You make sure you bring that the rest of the way." In folklore, that became Brigham Young sent to Australia and asked him to bring it but it

was (laughing) really in Southern California. And he brought the organ up and Brigham Young had him install it in what was called the Tabernacle at the time, it was an adobe structure with a pitched roof that was situated—it was a rectangular shaped building and it was situated, oriented north and south—in the south west corner of Temple Square where the Assembly Hall roughly now is, at least in part, and he installed the organ in the south end of that building. And that was used as the instrument for that building until that was torn down. After the construction of the new Tabernacle, and when the new Tabernacle was announced, there were some movers and shakers so to speak in the musical community who approached Brigham Young—and whether he had already intended or not we don't know, but he wanted to have a nice instrument in the building. And so the only person in the territory who really knew anything about organ building was Joseph Ridges, so he called Joseph Ridges into his office and said, "Hey, can you build an organ for this building that will seat, you know, we hope, 10,000 people." And I imagine that Joseph Ridges passed out. (laughing)

NANCY HANSON: I'm sure.

ROBERT POLL: That's pretty intimidating. But he set to work with a design. He says, "If you think I can do it, I'll do it." He set to work and came up with a preliminary design for what it was to look like and then he told Brigham Young he had to have parts for this instrument and so Brigham Young, I guess, gave him some money. He had money that he got from the Church and went back east and wound up in Boston, which could be considered the center of organ building. Let's just say there was a lot of, there was as many organ builders there in a concentrated area as any other place in the country and he went and visited their shops and he found one that he liked and one that had time available in his schedule and such that could build, construct these parts that he needed. And, of course, he had to wait for them to be constructed. The guy's name was William Simmons. And at that time then Joseph Ridges did what any reasonable person in his situation I think would do and that was to go around and look at every instrument that he could gain admission to and he apparently went to, well obviously went to an organ that was being installed that was all the furor at the time at the age; it was called the great organ and it was being installed in the Boston Music Hall and it was an instrument built by a German firm, by the Walcker Organ Company, much to the dismay of many of the notable firms in the Boston area, but they wanted the best, you know, they had to go prophet in his own country thing. So they had this Walcker organ that was being put in and the woodwork on the case was actually done by a very famous mill firm in New York, and it's very beautiful, made of walnut, a very beautiful case, and Joseph Ridges apparently took a real liking to that because if you looked at a picture of that organ, which is still in existence

although it was saved from the wrecking ball and put in a building constructed just to house it by organ lovers back there in a place called Methuen, just outside of Boston. That instrument was—I mean if you saw a picture of it, side by side with the original narrower case, just the four main towers of the Tabernacle, they are sisters.

NANCY HANSON: Yeah.

ROBERT POLL: It's almost, I mean, not identical, but the proportions are a little different; there is some gingerbread here and there, ours is made of pine and painted to look like its hardwood, some places look like oak but its faux painting and was difficult in those days. And it doesn't have all the carvings and the fancy things. The other one's made of walnut and it's really—I've been there, stood there, looked at it—it's a very beautiful case.

NANCY HANSON: Wow.

ROBERT POLL: So he came back with the parts that he got from this William Simmons.

NANCY HANSON: And we talk about that like, you know, he flew to Boston and checked out, just to think about, really what time that took and then to wait …

ROBERT POLL: That's right.

NANCY HANSON: … for them to be made. That must have been ...

ROBERT POLL: This was in 1862, 1863, and he'd crossed the plains in a wagon …

NANCY HANSON: Sure.

ROBERT POLL: … and came back with all the stuff, …

NANCY HANSON: Hauling stuff.

ROBERT POLL: … hauling it. Well, he couldn't at the time—you know, Barbara Owen, who's an organ historian, did a definitive sort of book on the Tabernacle, the history of the Tabernacle organ, and she did a lot of research, she's an expert. Nobody knows more than her about the New England builders and New England organs and things. And she came and I spoke with her, we went through the instrument and she researched things here and there and she found, she said, "Well, you know, the story was that Joseph Ridges built these wooden pipes, that he bought all the metal pipes from this William Simmons and that he built the wood pipes here" and she looked at the wood pipes that we still have. We have two ranks of the originals that are all, in the organ today and she said, "Those look just like William Simmons' pipes."

NANCY HANSON: Really?

ROBERT POLL: Yeah. So she didn't assert it in her book but personally, she told me that those are probably William Simmons' pipes. But we believe that Joseph Ridges did build the bigger base pipes and he built the bellows. We know—and, of course, he mechanically built the thing. He erected it and built the case work, had a crew of men working with him and he drew it all out, designed it and then they built the case work and so it's a masterful creation what he did. He couldn't haul large pipes—the big 32-foot open pipes—across the plains, the metal pipes, and so they had to search—they conducted a search here in the territory and they found wood suitable for making small or narrow strips of pine that would be lighter, the lightest they could make them, down in Pine Valley by St. George. And they hauled the wood up there, from there by wagon, and milled it up here and made the speaking pipes in the case and probably, we don't know for sure, the dummy pipes and everything else. But the speaking pipes in the case are constructed a little differently, they are narrow strips of wood that are pie-shaped wedges roughly and they are put together in a circle and nailed and glued together and then plastered over the top to smooth them. The insides have been smoothed with—it looks like the inside of a dugout canoe—with chisels across the joints and I believe that, my personal belief is, after looking at them, I think what they used is a keystone principle where they kept a section of it loose after they had wrapped rawhide straps and things

around it to let the glue set and everything and they kept one section unglued but it helped to keep it shaped and took it out and then just hollowed it out and everything and then put this back in and I base that on my discovery of one section where I saw rust on lumber on the backside in that one section big enough to put your hand through and I thought that they forgot to smooth the backside there, it just came to me that that's probably what happened.

NANCY HANSON: Interesting.

ROBERT POLL: So these pipes are made of wood and they are round, you know, it's very unusual. We thought they are the only round pipes in the world until a few years ago, when we discovered that there are still a handful of instruments in, perhaps in Germany, that are built by the Walcker Organ Company, correct, interesting, but you build pipes in a similar fashion out of wood. Not exactly the same but a similar way and we concluded from that that it seems to be fairly obvious that he discussed it with them while they were installing the organ there and learned that he had this option of a way to do that. He made reference in a subsequent trip back east to get some other parts to gaining admission, he wrote a letter back to Brigham Young and he wrote this letter saying that he had gained admission to the organ mentioned and it was beautiful in its construction workmanship but it was not nearly so grand. And as Barbara and I discussed that, she concluded that that probably meant, and I think she mentioned it in the book, that the lowest pipe, the biggest pipe in that instrument is only low E and we go down to low C.

NANCY HANSON: Oh.

ROBERT POLL: So it was probably bigger …

NANCY HANSON: Yeah.

ROBERT POLL: … and he was saying wow, you know, we're better

NANCY HANSON: Yeah.

ROBERT POLL: Than this…

NANCY HANSON: Yeah.

ROBERT POLL: But …

NANCY HANSON: Did he keep any sort of a journal or record?

ROBERT POLL: We have not found anything really detailed. There are bits and snatches here and there of various things, never really found anything with great detail, and I have tried to research and find family members and there were tales in the family, you know, stories and the folklore things but …

NANCY HANSON: Yeah.

ROBERT POLL: … you just don't know.

NANCY HANSON: So how long was that organ there?

ROBERT POLL: It was there, he kept working on it, they first used it in 67 for October conference, the case wasn't even erected, and it was poorly voiced and tuned. But they—not all of it was playing, and then they finished the case work in 69—I think, May of 69—and then the balcony was added in 70—completed in 70—and he kept working on it and they actually added another keyboard; it started out as two, wound up as three manuals and it was kind of a work-in-progress. And apparently, he abandoned work on it, just kind of gave up in 1878.

NANCY HANSON: Wow.

ROBERT POLL: I think, personally, this is only my personal opinion, based on the sequence of events and the letter that he wrote to the First Presidency and the response to an inquiry on the condition of the organ, the status of the organ, in the early, I think it was in 74—73/74—that they finally determined that the organ was done enough and they dedicated the building in 1875. Because that's when it was dedicated and everything else was done. It may have had something to do with paying for it, too; they had a thing about paying everything off …

NANCY HANSON: Right.

ROBERT POLL: … before they would dedicate things in those days, but later in the 80s, the Church contracted with a man by the name of Niels Johnson, who was a Swedish immigrant, had worked with Joseph Ridges and learned what he knew about organs from working on the Tabernacle organ. He was hired by the Church to renovate the instrument. He added a fourth keyboard, he did away with the need for men pumping the bellows in the back of the organ and he relocated the feeder bellows that pumped the air in underneath the organ in the basement—what they called the basement at the time—right underneath the organ and put in two hydraulic motors that pumped the bellows in place of men; they had reciprocating pistons, they were a machine, several different manufacturers and …

NANCY HANSON: So before that time, there were actual men that had to pump those?

ROBERT POLL: Yes, yeah, and there's a story about that, too, I'll tell you that, Joseph Daynes, who was the organist, announced to VIPs—they didn't have daily recitals and he announced to the VIPs, "I will now play" and the people in the back who were pumping, these men—however many there were, we don't know, probably two or three—took exception to his boasting attitude and said, You know, you are going to announce that we are doing this, too." And so they, when he gave a signal to them—he had a little cord or something to pull with a bell signaling them when to go—And they didn't pump. He tried to play and it

didn't work, so he apologized to the people, went back and they said, "Hey, you announce us and we'll pump." So …

NANCY HANSON: That's funny.

ROBERT POLL: "We're just as important as you are." So he came out—and this is not a tale, near as I have been able to ascertain, this one is really true, it's not just a faith-promoting rumor as we say, …

NANCY HANSON: (laughing)

ROBERT POLL: … but, he did that and they played. So they didn't need the pumpers anymore. They used these hydraulic motors. There were two of them, detailed in an article in a newspaper. At the completion of it in 1885, he also disconnected the pipes and the case—the ten pipes there were round wooden pipes—and put some square ones in the back to play in place of them and those pipes in the case were silent for the next 41 years. He purchased these other pipes again from a different builder in Boston, had them shipped to him by train this time and he added some other pipes to the instrument, too, so it was considered a renovation, just improving what was there. Ten years later, 1895—don't know who did the work cause Niels Johnson passed away the following year after he completed it—there was an article in the newspaper, the Deseret News, that detailed, there were some things that had been done in the Tabernacle, retiring the last gas jets that were lighting the building, in favor of electricity and things like that, and among the things noted in there, it said that a trip down into the basement reveals that the old water motors have been retired and in their stead are two electric motors, one of two horsepower, one of three. So they were using DC motors that were pumping through some means of a crankshaft, apparently, these bellows continuously, so those water motors were only used for ten years. They used water under pressure from water mains, you know, it wasn't like flowing water in a shoot, it was from a pipe, water pipe. And then, in 1900, the end of the year, John J. McClellan was appointed Tabernacle organist and he decided the instrument needed to be changed. And by the end of the year, he had a contract signed and—in hand and signed—by the Kimball organ company of Chicago and they came after a concert in February honoring Joseph Ridges and what he had done, they commenced moving the instrument and installing a new instrument, a whole new mechanism, chests, new console was detached from the case where it was originally, and down in front of the director and

they used little lead tubes, it was called tubular pneumatics, a big thing that they'd invented and it was all the rage and they put that in there and they used about half maybe of the old pipes that were existing both from the renovation and the original one and they added more pipes to it and created a new organ with a ten horsepower blower to wind it. It lasted only 15 years …

NANCY HANSON: Really?

ROBERT POLL: … because the tubular pneumatics mechanism failed with the rubber cloth in it failed in the desert climate; it got brittle and leaked. So the Church scrambled to in time for conference to get something to make it work and then they signed a contract with the Austin Organ Company from Hartford, Connecticut—they are still in business—and brought them in and they rebuilt the organ, all new mechanism, kept about half of the existing pipes, added pipes, a new tunnel scheme, and they were the ones who expanded the organ case 15 feet on each side. The work was actually performed by Fetzer's Millwork and Cabinet Shop here. They had been in business for about five years at the time. They are the same company that did the Conference Center millwork, the entire roster and then the organ case. Interesting ties to Fetzer's over the decades. And they put those wings in because the mechanism had everything all in one level and they were adding so many pipes that had these big air-log chests. You could actually walk into the chest and watch them work under while they were winding. That organ was maintained and kept until 1946. Alexander Schreiner had had some subsequent changes made to that when he came and—I think it was 38/39 and he'd been the tabernacle organist for years but he had been away studying in France and playing and teaching at UCLA and studying down there and when the other organist that was in charge here, died, I don't remember which one it was, Tracy Cannon or Ed Kimball, and so Schreiner came and he was permanently here. He wasn't happy with the organ. He wanted something different. The tastes in organs are kind of like fashions and sound and they'd shifted. So he talked the Brethren into allowing a rebuild of the instrument and it turned into a full-blown new organ. They took basically after October conference in 48, or excuse me, April conference in 48, they installed what's now the antiphonal organ in a box with shutters on the front for volume control behind a grill cloth up behind the fire seats on the north side, attached it to the existing console and then ripped out everything behind the case, the organ case, and they took it down to BYU and it was downsized there and I believe Schoenstein Company did this probably and installed it in the Joseph Smith Building auditorium …

NANCY HANSON: Oh!

ROBERT POLL: … and then they worked on installing the new organ all summer long. In September, the new console was delivered and they wired feverishly to get enough of it working, playing, and pipes tuned well enough to use for conference. Then, between October conference and Christmas, they finished all the tonal work voicing completion of the instrument and took the antiphonal organ down and put it in storage. And then they had the dedication in January. So we have a 1948 Aeolian-Skinner—interesting, I think this is really interesting, the original organ was built by an Englishman who basically purchased much of the instrument from a builder in Boston and the organ that we now have was designed by the present tonal director of Aeolian-Skinner Company which is located in Boston and it was the president and tonal director of it, G. Donald Harrison, who was an Englishman who had come to, immigrated to the United States.

NANCY HANSON: Interesting.

ROBERT POLL: So we kind of came full circle (laughing) after all that stuff.

NANCY HANSON: Wow!

ROBERT POLL: Since then we've added some and we've improved and replaced mechanisms that have been worn out but it's basically that instrument that we have. We have no desire to change it.

NANCY HANSON: Right.

ROBERT POLL: So that's the history of the organ.

NANCY HANSON: Wow. And what a great history. That's something that so many of us would never know, so thank you for sharing that with us. Can I just ask you one question as we close that

I've always thought about? Is there a place in the Tabernacle where you get the best sound? Where is the best place? Where is it all pretty even?

ROBERT POLL: No, it's not even, not at all. If you—it depends on what you want to hear from the organ. The place G. Donald Harrison, when he was voicing the instrument, which he considered his finest achievement—he's built a lot of notable instruments, large, some larger than ours, in different venues around the country, and he considers this his finest achievement, but he called this place his private place. And he used to go on the balcony. There is no longer a clock there but its right; they used to hang the clock right on the edge of the balcony in the rear, dead center. And he liked to go and sit right just above that clock and that was where he listened to everything to make it sound the way he wanted it. So if you want to hear more the way that he wanted it to sound, …

NANCY HANSON: Right, that's the spot.

ROBERT POLL: … you can sit there. If you want to hear it more like we think that the organ is more balanced in today's understanding of the instruments and balance sounds, it's best to sit on the main floor behind the crossing aisle and out from underneath the balcony more toward the center. The sweet spot would be about where the house mix board is, the audio board, in that vicinity around there. If you want more weight to the sound, you like to hear the lower frequencies and feel more of it, then you sit up in his spot there on the balcony in that wedge there in the very back and try to stay away from the sides because then the organ gets unbalanced. You get more one-sided raises down the side and it reflects off the surface of the ceiling and you don't hear the other side balanced. So it's best to sit more in the center and in those areas.

NANCY HANSON: Interesting. Well, I've definitely learned a lot today. This hour has flown by. Thanks for sharing that with us. Thank you for being here.

ROBERT POLL: You are welcome.

NANCY HANSON: Robert Poll, who is a technician that works on the pipe organs. Thanks for what you do. And we will listen differently now.

ROBERT POLL: (laughing) Okay.

NANCY HANSON: Appreciate it.

ROBERT POLL: You're welcome.

NANCY HANSON: You have been listening to an interview with pipe organ technician Robert Poll. To see pictures of the organs on Temple Square, visit our website at www.radio.lds.org. To learn more about this episode, visit our website at www.radio.lds.org.