ASHRAE Leadership Recall (formerly Leadership Recalled)

Transcription

Interview of: Leon Buehler

Date of Interview: January 28, 1989

Interviewed by: Mike Kearney

Note: There are some pauses in the recording.

Leon Buehler

Tall men on horseback and they had long trumpets. Strange I remember these things from my young childhood and I can't tell you where I put my glasses. Well at any rate the first World War almost started then but the Kaiser backed down. In Munich I saw the first dirigible. As you probably know a dirigible is a balloon with a structure, a cigar shaped structure so that it keeps its shape. An ordinary balloon is sort of like an umbrella and they build a fire under it and if they want to come down they open a vent at the top and that lets some of the hot air escape and it drops. Well I saw my first dirigible there and then after, well I visited my mother for just a few hours in Davos Switzerland, which is a resort city. And above that, on the mountain side is Schatzalp. Alp is alpine. And there they had these people laying in the sun on lounges and I don't know what was wrong with the American mountains, goodness knows we got mountains that will match them any place. But you had to go to Switzerland in order to get cured. And let's put it this way, she lived a good many years afterwards.

Mike Kearney

Let me interrupt you here just a minute so I can put some introduction on that tape so we can know what, the person who's recording it knows what they're doing. This is January the 28th, I believe. And my name is Mike Kearney and I have the honor of interviewing Mr. Leon Buehler, B-U-E-H-L-E-R.

L.B.

By the way what are you with ASHRAE?

M.K.

I'm simply on the historians committee and I'm a member down in the St. Louis chapter now. And I had been a member in the Nashville chapter.

L.B.

Doing what, a consultant?

M.K.

No sir, just a member. Oh as an engineer? I work for a company called Computer Environments and we design and build computer rooms.

L.B.

We have something in common. I'll tell you about that later.

M.K.

Okay. Mr. Buehler was past president of ASHRAE during the years of, I don't know when you were president sir. (Ed. Note: Leon Buehler was president of the American Society of Refrigerating Engineers in 1955.)

L.B.

I have it someplace but I don't know.

M.K.

Okay, we're going to look that up. But anyway we're here in Chicago, Illinois and it's my pleasure to interview Mr. Buehler tonight. We're going to let him talk and we're going to try to get into some of the things he remembers about his role in ASHRAE and the refrigeration arts as he saw it practiced.

L.B.

I came at a time when ASHRAE was simply a refrigeration society, refrigeration engineers society and on mostly the application was comfort cooling.

M.K.

Cooling as opposed to ice making?

L.B.

Well they had ice making too. It never had gone into super conductivity, matter of fact at that time it wasn't known. No atom smashers. No anything of that sort. When it came to air conditioning the only normal air conditioning that you'd think of, I installed in my own home. At the same time curing the flooding situation we had in our basement, I put in a sump tank and a pump, raised the drain pipes up above the pump. Then the pump would get rid of the -

M.K.

May I close this door?

L.B.

Yes, go ahead. The pump then pumped that over into the sewer and the village of Skokie had the sewers rusted up and that didn't cure it. About that time my wife was in the hospital with a broken, either a broken hip or a spinal fusion. She's had broken bone trouble all her life, a good part of her life. I got that pretty well fixed up at home and when we decided to move out here because of the fact that they did have health care center and independent living facilities and so forth. And my wife is still living in a big apartment here, in independent living. And she doesn't belong there. She isn't as well as I am. But that shouldn't come too much of a surprise. At any rate-

M.K.

Tell me what you did, you pumped water out of a sump and then just ran it through a cooling coil directly and then into the sewer.

L.B.

Yeah and the sewer wouldn't handle it because-

M.K.

Too much water?

L.B.

Yeah and that was the fall of the village but it was a long time before they ever got that corrected. About that time my wife was having all sorts of back trouble and so forth and my daughter saw an ad of this place. It sounded good to her and I came out with her and I think we paid 80 or 90 thousand dollars for an apartment here. Now that's on independent living side. And after one of, several of her spells my

wife landed down in this section. She finally left there and came up to the apartment and she got into the tub. She couldn't get out and goodness knows if Ida tried to, if I had lent over I'd have just tumbled on top of her. But there was, and that's one of the things that brought me out here. This is one of the causes according there on the right hand side, if I should get trouble in that bathroom I pull that cord and at least theoretically they're supposed to come running. It's an alarm. And that is one of the things that attracted me out here. I figured that was very smart. Well now I'm almost 90 years old and I have pulled that cord a number of times and they've been prompt in running it. This place is not a poor house. It's expensive but most of the healthcare places have gone broke, went belly up. And this place suddenly was really jammed full of people from there. Lots of the, they still have about 100 percent reserve which they have used for some improvements but what a lot of the people that don't know where they're next penny is coming from, want it be used in reducing rents. And the management here wouldn't listen to it and I went in to the place, the head man office here and I told him don't be an ass and split up that surplus you've got. You and like all the others. He says, well I'm glad you feel that way. That's exactly what I'm doing, so.

M.K.

Well I'm glad you're in this place. It sounds like a good one.

L.B.

It's the best in the Chicago area I can tell you that. Before I got, what went into it, my daughter say an ad about it and we went and looked at it and then I asked our doctor from Skokie, our family physician and his first reaction was, you know I've gone to any number of these nursing homes and you can, most of them, almost every one of them, you could smell two blocks away. I said well that's a good beginning now stay there and stick your nose deeper in. Go down to the healthcare center, how clean is it? How does it smell? And he finally came back that he had never, never looked into a nursing home that looked like this. And then I sent our CPA over because I'm no longer mentally able to make out a income tax return and payments. I don't have the least idea but I do know that our estate is pretty comfortably over 2 million dollars. And with the diversification and everything and lawyers fees and so forth to try to keep things straight the whole business got too much for me and I had everything put for our daughter and her husband to manage along with our legal help. People that we've been dealing with, and the bank, the First National Trust, the First National Bank in Chicago. As it is now, by gosh I don't have a nickel in my pocket.

M.K.

You're like president Kennedy.

L.B.

But most anything want, charge it to my account at friendship village and they pass it on to my daughter in Wilmette. And I let it be known that I didn't want to see another bill. I wasn't going to spend a nickel and right now I wish I had a few extra pennies that I could treat you.

M.K.

You don't need to treat me. I'm having fun at this. I enjoy this sort of thing.

L.B.

But I tell you it's work. Just close it all together.

M.K.

Well it sounds like you got yourself into a pretty good situation here. Your daughter's not all that far away. And I talked to your granddaughter also.

L.B.

Which one?

M.K.

Oh now, Sherry? Is that her name?

L.B.

Yes. Well she's the oldest.

M.K.

Okay.

L.B.

And she has a daughter by the way that's quite the athlete. And the shining star in school. And she has another daughter, they've had trouble with her since she was born and they found out it was something to do with her hearing. And the village of Skokie sent her to the best doctors and they put a tube down her ear and she's doing very well now. And that didn't cost her a nickel. Skokie is quite a progressive city, village. But one of the things I did when I was a little tot, an uncle of mine gave me an antique key wound watch. A week later or so I was on a trans-Atlantic liner home and the first thing I took care of I dropped that watch overboard.

M.K.

Oh my goodness. You must have been sick about that ever since.

L.B.

Yeah that's right. That thing would be worth a fortune today. But one of the things when I, on the last trip back, I think must have been about 1908 there weren't any trans-Atlantic planes. I had seen a dirigible in Munich. That was I think undoubtedly the first one in existence. And you know when we got to New York I saw the Statue of Liberty and it just had been rejuvenated. Of course I'd seen, I knew the Statue of Liberty and at the same time here came an airplane across. That was the maiden flight of the Wright brothers from their island in the Carolinas, I forget the name of the place.

M.K.

Kitty Hawk?

L.B.

Kitty Hawk. It was the first flight from Kitty Hawk to New York.

M.K.

What year was this you're talking about?

L.B.

What?

M.K.

What year? Are you in 1908 or something like that?

L.B.

That thing must have been around '08. Something like that.

M.K.

So you were coming into the United States from Switzerland?

L.B.

From Germany. Well let's see, yeah I think we got on the ship in Bremen but I couldn't swear to that.

M.K.

This is yourself and your dad?

L.B.

No my mother and I. And you know on that last trip, I think it was the last trip, of course, especially in the steerage, that's the lower decks, they had a lot of immigrants that had never seen the US before. And they had to go to Elis Island. And I wasn't so dumb at the time because I spoke up. I said I'm a native born American citizen, born in the Bronx and there's no reason why I have to go to Elis Island. You can take us to customs. And they did. On that second trip back, no quite a few years later when we first moved out here. It was the last census taken. They had a big table set up with the examining board or whatever, census takers and I thought I'd have some fun with them and I walked up and I talked an ear off of him in German. Not a one could understand me. It's a wonder because around Schaumburg there's an awful lot of people. Get involved in a certain thing, ASHRAE certainly wasn't the place for engineers practicing what I practiced.

M.K.

Were you a consulting engineer? I don't know your background.

L.B.

I had all sorts of jobs. I was with the Frick Company in Waynesboro, and that was my wife's, that's Pennsylvania, was my wife's home town. And during the Depression of '21 I almost left there but a great aunt of my wife's left her the most comfortable house I ever lived in. It was a log cabin. That house was built, as I recall, 14 by 14 cross section logs. You could see the adze marks in them. The reason I found out was I wanted an extra window someplace. Well the wife and I did. And I had that cut through and you see the adze marks, that's how they squared it up. But my gosh you know it took practically all night for evening temperature to get through. You never did get the extremes and that was just wonderful.

M.K.

Was that in Waynesboro?

L.B.

That was in Waynesboro.

M.K.

Ok, there's a Frick plant there in that town.

L.B.

I understand that burnt down the other day.

M.K.

The Frick plant did sure enough?

L.B.

Well that's what I got through, my daughter got the news.

M.K.

Who were some of the people that you remember at the Frick place?

L.B.

Benedict was one. And of course a number of others. I got onto that when I finished my course at Cornell and they were people in interviewing prospects. I hadn't made up my mind what I was going to

do. I had, I went through Cornell, I had four different scholarships. And then I got myself a job at the gymnasium. I had belonged to the Turnverein,that was a gymnastic society in my home town of Mount Vernon, New York, just a suburb off New York.

M.K.

I know where it is. It's near the finger lakes isn't it?

L.B.

No, no, suburb of New York City. I'm going to sort of stretch out a little bit. At any rate they had a very, very competent instructor. He was a very good on the apparatus work. He was a fairly old man but he was good enough that we performed on the stage of the New York hippodrome. And that was something. They, see my memory stretches way back. And I know thing pretty well from then.

M.K.

Those kinds of athletic clubs, I was in one such club in St. Louis where they had, it was like a clubhouse and they evidently had instructors in gymnastics and there was competition in this.

L.B.

Yeah, well that's right and this one, of course they had a bar and it was unquestionably the foremost club in the town. During the primaries and so forth, gosh the candidates just flocked in there. They had a bar, they had the best beer and wines, they had good food. The gymnasium could be easily, you could easily get a band in there. And have a bazaar or have a dance and so forth.

M.K.

That was when you were in Mount Vernon. Now you were telling me about the Frick Company. What did you do at the Frick Company? Was this a beginning level engineering that you were doing? And what kind of projects were you working on?

L.B.

Yes, I'm just a little bit confused now. At any rate I didn’t sign up when they were picking up, I hadn't made up my mind. I had just finished a semester of public speaking and the professor there wanted me to take an extra term. I'll really make an orator out of you. But no I wanted to see what the real world was like. I had no intention of becoming a professor myself. And I just struck out and the Frick Company somehow or another I got into Waynesboro, I don’t remember how but I got some assignments from them to look after trouble jobs that their own trouble shooters couldn't find. It's a strange thing. I never got my hands dirty. I can think of one case. Here was a good size ice tank, ice makers. In those days they had these tall ice cans and they had bought the materials from the Frick Company and they put the whole thing together and one day I was on a job down in Virginia some place and I got on the phone to call them, I said that's fixed now what do you want me to do? They said well on the way back stop in at this place. Now don’t do anything yourself. They just bought so much material from us and built it themselves so I went there and somehow or other I had developed before that and I had a peculiar knack for taking one look at something and generally come up with what was wrong. So they had called them and said that they were sending me and when I got there I was welcomed with open arms. They took me into a private office and after a while the general manager of the plant showed up. And he said I'll show you around so he headed for the ice tank. And that's where the trouble was. I said I'm not interested in that. He said, well that's where the trouble is. Okay, if you know better go and fix it. So they took me to the engine room and they had a steam driven engine there, a vertical machine that didn't have a crank case. It was like you had an automobile engine with no crank case. And you

had to have someone ask what oil on the stuffing boxes and so forth. And when I walked into the engine room I knew damn well what was wrong. Here was about this three story monstrosity of a compressor, engine driven and I saw some fluid running, trickling down the connecting rod and yet you smelled nothing. Have you ever smelled, seen ammonia running down a connecting rod and not smell it? So I walked over, I put my finger on the rod. I tasted it. It was salty. I said you might as well shut that down. You might as well throw all of our brine away and all of your ammonia.

M.K.

The brine and ammonia had mixed?

L.B.

And when the brine was all out of the tank here was header with a lot of coils connected to it. Everything looked normal enough. And I said go down there and examine, I'm not getting my good clothes dirty, get down there and take a look. Are all of your tongue and groove flanges entered? That was it. Here was one that hadn't gotten in to the joint and it was a wide open hole. And I told them just throw it all away.

M.K.

That must have been a pretty impressive call when you walked in and found the problem.

L.B.

I don't think I spent more than an hour there. Then I had already gotten into dairy stuff. And I remembered my mother being so upset when she got a bottle of milk, she always used to take the cream off and sour the skim and then put it in a cheese cloth and I think it what the whey that would drip and the curd stayed in the bag. Not with that milk. It just so happened she was having trouble with her milk. It wouldn't sour. Why wouldn't it sour? It was pasteurized. (pause) Provide cream, would go to the creamery and they turned it into ordinary grade butter. But years later after they built the Lincoln Highway, got good roads, built roads into the farmer's barnyard so that he could get his stuff in and out and I developed a sanitary milk house for the farmer. Concrete floor and all the works. A stainless steel milk cooling tank. His milk would be picked up about, maybe twice a week. That's when you began seeing these stainless steel trucks on the road. And by the way those trucks are not refrigerated. Because they get to, ordinarily can get to the dairy in time. And then we had to-

M.K.

Are they insulated Leon?

L.B.

No.

M.K.

It's just straight, the skin of the milk is on the skin of the truck?

L.B.

That's right.

M.K.

I didn't know that.

L.B.

The quality of milk really went up then.

M.K.

Let me interrupt you here just a moment. We've been chatting for about an hour and a half.

L.B.

For heaven sakes. That's me, talkative.

M.K.

You learned how to do it from your Cornell professor. I don't think we should do much more of this. I sense you're getting a little tired and fatigued. I think you are. Would you just briefly think of the people that you remember well or the events of refrigeration that you remember well. What could you pass on to people about refrigeration in your time?

L.B.

Well you know it wasn't far from this time when I got spread out into other fields that weren't related at all. I got into atom smashers. These tunnels where you have two loops and then bring them together to get them to collide and break up the atoms into smaller particles.

M.K.

Now those are big magnets aren't they, in those tunnels? Do they have to be cooled?

L.B.

Yes, yes. Definitely. For them to be practical you have to get into ultra conductivity. And at that time that was practically down to a couple of degrees of absolute zero. And then we found ways to bring that point up to higher temperatures. In the process we got carbon dioxide snow. And then I decided to build a press to make dry ice chunks. By that time I was getting pretty nearly sick of that one. But then ultra conductivity, by golly, you know today they're got that up very much higher by having the wires made of something else. And you know what that something else is? It's ceramic. The same stuff that has those sort of little towers on-

M.K.

The high wire towers?

L.B.

Yes, on the high wires.

M.K.

Isolators?

L.B.

Yes, isolators. And they found that ceramics brought the temperature up by several hundred degrees to make the wire of that.

M.K.

What kind of refrigeration process were you using to get down to absolute zero? What do you get into there? What refrigerants?

L.B.

I don't know whether that was a nitrogen or what that was. It's left me.

M.K.

Okay but it's the same Carnot cycle where you have a compressor and a condenser and evaporator type cycle?

L.B.

Yeah. With this thing, you know these atom smashers, by golly they put, they make the coils on the magnets that are needed there and they get down in the super conductive range very quickly and for

instance for an atom smasher, by golly, they don't have to energize their magnets. They get it going and as long as they don't lose that temperature why that thing runs forever without anything more.

M.K.

Where was the atom smasher that you worked on? Do you recall where it was? What town it was in?

L.B.

No I don't know. I was really on an atom smasher myself. But I quickly recognized that this was a wonderful thing for instance for Commonwealth Edison. Generate you electricity at night when the things are cooler, when you're off peak. For heaven sakes don't run it during the dinner hour. And you're got the equivalent of a big dam.

M.K.

Let me ask you where did you go to from the Frick Company?

L.B.

Well the Frick Company, I was, I guess the chief engineer of something or other. Oh the Frick Company also had a built dairy machine, or built farm machinery. Reapers, or plows and I wasn't in that at all but what happened there, the Depression came along. I remember I had gone up to Penn State. I had organized a class in at Frick Company at first against their wishes. But at any rate I would give some of the fellows that were doing the drafting, the assisting the engineering. And I had a number of times asked them a question, so and so what would you do and so forth. And I'd never get the answer then when I asked them, well they didn't get it. Would you explain it to us? And I soon got over that. I said you forget this explanation, you take it out for yourself. I'm willing to run a school for you and make you a little more smarter on this business. Well that was alright and then I told them, I said well that's going to cost you $10 a week. That didn't go down, so I took them for a while in the YMCA. They had a room there that was just fine but the housekeeping was no good. We'd go up there, also the blackboards hadn't been cleaned. The erasers, what do you call them that you wipe the board with? And you pound them later to clean them. They hadn't been cleaned. And I gave them a couple of warnings and then I remembered that the Parochial school - indecently, Waynesboro was a town that had more different religious sects, the Holy Rollers, the Mennonites, the Amish, a couple of Jews, Catholics. The Catholics were the only ones you could hate. There weren't enough of the others. I'm not kidding you.

M.K.

Let me ask you, I'm going to cut this off in a little bit, but I want you to think a little bit about your time with ASHRAE as the president and the people there that you worked with through ASHRAE and if you think of names and things you might have done in ASHRAE.

L.B.

Maybe I'll wake up during the night remembering a name but I had been the head of the Standards Committee for quite a while. And indecently a lot of the standards that are still functioning today have my introduction. And then of course there's been progress and changes. That's what addenda are for. I'm kind of proud that I did get the Standards Committee moving and make the standards very quickly after that became international.

M.K.

That's probably one of the toughest committees in ASHRAE to head, the Standards Committee. That's a very volatile committee these days.

L.B.

Yes.

M.K.

I'm sure it was in your day.

L.B.

You know the strange part of it is while that kind of business with ASHRAE I wasn't practicing that kind of engineering at all. Now I'm not kidding you there. As I say for instance I got to be quite important in the dairy industry. I developed sanitary milk houses and they had to wait for their day to come when roads were fixed well enough that you could get in and out of the place with big trucks and so forth. For instance that brought on some problems in the first place how do you, what happens if you get a bad milk, a bad tank of milk and it all gets mixed. I'll tell you what happens. We worked that out pretty quick and pretty slick. Before one of these sanitary stainless tank in the farmer's milk house got emptied there was a sample drawn. Each tank had a sample drawn. And that sample provided that there wasn't anything found wrong with it at the farm went a long with it with the shipment and the main dairy wouldn't empty tanks until they had checked these samples. And you wonder now what, supposing there was one of those samples shows this is it. Well alright they had a record of which tanks, which farms each one of them came from but how about each cow? Okay so the cows had to be examined. The veterinarians, you'd hope that they would come up with the solution of what was wrong and that cow would be out of the herd.

M.K.

That's interesting. Let's close here Leon. I think we've done enough. Aren't you tired?

L.B.

No but-

M.K.

Yeah you are.

L.B.

I'll tell you one that you'll laugh over. This last census I walked up, I guess that must have been five, ten years ago, I walked up to the census table and I spoke German to them. I really gave them an earful of German and I can speak German without and accent. Or I could. I'm getting rusty at it. And they finally said well we can't get an interpreter. And I said you've got an interpreter right here. I'll interpret it for you. And they did and then they didn't want to believe that I was a native born American citizen.

M.K.

Oh because your German was so good?

L.B.

I was born in New York in 1899 and-

M.K.

What day in 1899?

L.B.

June 8th.

M.K.

June 8th, 1899.

L.B.

No, 18-…yeah because I'll be 90 my next birthday.

M.K.

Okay you'll be 90 in June.

L.B.

Yeah that's right. And for some reason or other, oh on account of the travel to Europe and I finally showed them this birth certificate.

M.K.

I'm going to cut it off there. I think we've done enough of this for tonight. Let me just kick it. But it's been good talking with you. And I'm going to pack this.