

ASHRAE Leadership Recall (formerly Leadership Recalled)

Transcription

Interview of: Fredrick Kohloss

Date of Interview: June 1990

Interviewed by: Mike Kearney

Note: Some parts of the interview are hard to understand – these sections are marked as (unintelligible).

Mike Kearney

My name is Mike Kearney and I'm here in the Adams Mark Hotel in St. Louis, Missouri talking to Fredrick H Kohloss who was past president of ASHRAE in '86-87. And we're here at the annual meeting of ASHRAE. Fred, enjoying St. Louis I hope.

Fredrick Kohloss

You really turned on the weather for us. It's probably been the nicest June I can recall. The river front is lovely here in St. Louis.

M. K.

Thank you very much. We assure you our weather can get worse. We're hoping for a little hot weather so our Cardinals can being to win.

F.K.

Don't get too hot. I was here in August when it was 90. It can get a little too hot in St. Louis.

M.K.

I'm guessing St. Louis is what they call unforgettable. Fred, you and I have had the opportunity to chat a little bit going into this and I would like you to sort of start the interview by telling us how you got involved in the heating and ventilating, air conditioning, refrigeration sciences originally because I think it's a very interesting route.

F.K.

I kind of backed into it because I was at the University of Maryland when World War II had started, in ROTC, and I was lucky enough to finish and get my degree and they sent us to OCS. Like everybody else in my generation I spent almost four years in the army. When I got out, I had only been out a year. And I went back to Washington DC and there weren't any engineering jobs. So I decided to go to law school and see if I could get into patent work. By that time I had a wife and a daughter and needed to get a little income so I was looking for a job and found they had an instructorship over at George Washington University in mechanical engineering and they hired me. I taught drafting and descriptive geometry. And the second year they had a vacancy for teaching other sections of thermodynamics. So I got interested in refrigeration cycles. About that time ASRE, our predecessor refrigeration society, was having a meeting in Washington DC so I joined it. And I had the pleasure of meeting Art Hess who was the president of that society later. Art was a sales engineer in Los Angeles and he turned me on to some

of the interesting things that were going on. At that time I left the university and I went to work for the Army, Fort Ellsworth, as a test engineer and then moved over to the Navy as a standards engineer. And one of my friends there worked in contracting and he told me there was a vacancy. A mechanical contracting firm was looking for cheap engineers in Washington so I applied for the job and got it. I knew very little about contracting. The gentleman's name was Jack Grindberg, that was leaving, you know, that was on the mechanical contracting firm. And he broke me in to contracting with words I've never forgotten. He stayed on three months to break me in. He says his rule one, he says, all general contractors are so and so. I never forgot that statement. So some of the things we did in Washington were ? I had the pleasure of doing some very interesting refrigeration and air conditioning projects. We were distributors for one of the manufacturers and dealers for a couple of others. We used to compete directly with some of the manufacturers who were doing installation work in those days. Because in those days the consulting engineers were mostly all steam heating types in the East. And most of the retrofit type air conditioning was getting to be quite popular around 1952-53 was done by contractors. So we did a building for the American Chemical Society, air conditioning an existing building. They later sold it became the Russian Embassy. We also did a building on the town side of Connecticut Avenue called the Windsor Park Hotel. And that later was bought by the Chinese government and it's now the Chinese Embassy. So I did two embassies without even knowing it. About that time Lester Avery who was ASHVE president in Cleveland, he was the distributor for the same manufacturer that we were distributors for in Washington. They were looking for a chief engineer. And he hired me and I move to Cleveland. First thing Lester did was to say, are you a member of ASHVE? And I said not yet. And he said you better be or you won't work for me. So I then joined ASHVE and belonged to both our predecessor societies.

M.K.

You want to mention what the manufacturer was?

F.K.

Oh, it was Worthington. And we were also dealers for Airtemp and dealers for General Electric. So we had several other manufacturers involved. But then I got hired in Hawaii. I was looking for a job in a warm climate because one of my kids couldn't take the Cleveland winters. And a gentlemen from Hawaii was a mechanical contractor who also represented Ebco Water Coolers in Columbus came to Ohio and he interview me and he hired me. So we moved out to Hawaii in 1955. At that time air conditioning was in its infancy out there because it was a very mild climate. But occasionally air conditioning was being done by what were mostly plumbing contractors. They were plumbing sheet metal and then they got into air conditioning. And so about that time, after a year and a half my mechanical contractor friend, Harold Heide and I parted friends. And another gentleman named Frank Montgomery and I started a consulting mechanical engineering firm which was the first one in Hawaii which was locally financed. Frank was employed by the power company and only worked part time there at the power company so as we grew and it became apparent that they were going to keep promoting him, we parted friends about four years later and I started my present firm in 1961. And so I've been a consulting engineer based in Hawaii since then. The ASHRAE situation in those days, we didn't have a chapter. I moved out there, there were maybe three or four members. We had our chapter chartered in 1970. And by that time I had become active in ASHRAE. I presented several papers on the technical committee. And Walter Spiegel was the first ASHRAE president that appointed me to

the Standards Committee. He put me on the International Activities Committee and several years later I became the chairman of the committee and got more active in ASHRAE matters. So some of the people that help you along the way you don't forget. Walter of course is a fine man. I worked for Bill Holladay and Dave Rickleton. I was fortunate enough to be stuck on the ASHRAE Board of Directors and I remember that was a tough duty because that was before we had our no smoking rules at ASHRAE meetings. The gentleman in the next director's seat was Loren Andratti, I'm sorry Loren Appleby. Loren Andratti is a friend of mine in Hawaii.

M.K.

Loren Appleby out of Syracuse?

F.K.

He's out of northern New York state, around there.

M.K.

Middle of New York state.

F.K.

(unintelligible) And he had a summer place on Lake George. Loren had a pipe stuck in his mouth during the whole directors meeting. I was usually down wind. That was tough duty. But then after I was nominated to be treasurer of the Society I got very much interested in my work in Society and enjoying life just fine. A year after a good friend of mine was nominated treasurer, David Levine. You might remember him. He was a very fine man and good engineer. David became ill and died in his year as treasurer, moved in Barney Burroughs to take his place. Then later on when I was president John Brown was the treasurer and he also died suddenly in office so I had the unfortunate circumstance of knowing two fine ASHRAE leaders pass away during the time I was involved. We've been luckier. And now that they survive we've got some good people that come through the ranks. ASHRAE's lucky that way that the big thing about it that I have found that when you have emphasis on chapter participation in Society, which ASHRAE has always had, they you find that the people participate and they become friends and they get things done better than you can do in a purely technically oriented society. I belong to several other engineering societies that are fine technically but they don't get the same input from their members that ASHRAE gets.

M.K.

And they don't have the grassroots development. I think you're right. I think what comes up from the grassroots is a remarkable result of a selective filter. And here at this meeting I think we can see that as you walk around these halls.

F.K.

When I was president I tried to emphasize that because I felt that was our strength. I'm not particularly good as a diplomat. People will tell you that I'm not diplomatic at all and they're right. But you know, I'm not a big front man so I figured the best thing that I could do for ASHRAE when I was president was to strongly support chapter development. So I tried to visit as many chapters as I could that year. And actually visited 60 of them. And I think that was quite a trick. A good year. Only trouble with being a president of ASHRAE if you're a small consulting engineer you lose business so after I got out of the job of being president of ASHRAE I tried to put the company back together. First two years were a little rough but now I'm back and rolling fairly well. We've had a different kind of consulting engineering company from any other, we've never been big. We've always been far flung. As early as 1962 we were

working in Australia. We opened an affiliated firm there in 1963 which would maintain its own until 1982. So I guess I made about 60 trips to Australia during those two decades. I still got a lot of friends in Australia. I also have branches in Tucson and San Francisco, briefly in Cleveland and we still have a branch in Denver. So I'm still doing a lot of traveling. One of the rules in being in small business is put branch offices where you have relatives.

M.K.

Relatives, is that right?

F.K.

Tucson was where I had two of my daughters going to University of Arizona. And I have two grandchildren there now. Denver is where the other daughter went. Well she went to (unintelligible).

M.K.

Well that worked out right. You're a global family then.

F.K.

That and a Bronco fan. But I think the biggest thing that I'd like to convey to you Mike is in my recollections and experience with ASHRAE you find every time you come to a meeting that people are willing to help and do any task they are assigned. They do it happily. And you have a feeling of accomplishment when you get through one of our meetings. I've just finished being chairman of the Long Range Planning Committee and I found even in our last hour of our last meeting of the year a major decision was made relative to how we're going to operate next year. So we thought some progress had occurred. When I was president we had assembled progress. We had found the Executive Committee was overworked with just the treasurer, two vice presidents, president elect, and president. So that year the society agreed to rearrange it so that we would have four vice presidents. Treasurer moving up to a senior officer status and the president elect to president. This appears to have worked very well because it enables a member of the society's Executive Committee to chair each of our Councils. We now have five Councils set up that are reporting to the directors. So by being able to have the Executive Committee riding herd on the councils you get a good interplay between the various aspects of the society's efforts. And I think this is the most efficient way we could operate our society. By comparison many of the engineering societies have 30, 40, 50 men on the board of directors. They don't have an equivalent efficient means of operating so it is largely staff driven. ASHRAE has an excellent staff. The policy is strictly volunteer work.

M.K.

Yeah and we get an awful lot of volunteers. Describe a little bit about the activities of ASHRAE that you have witnessed in your experience with them and you're kind of proud of.

F.K.

Well I'm proud of ASHRAE as a group. As I mentioned there's the many people that help you, work with you that it's sort of hard in a brief interview if I can pick them all out. But I think that the positive aspects is that we kept emphasizing our research. We kept serving our members by improving our publications over the years. If you would compare the content of the Handbooks for example the equivalent publications of any other society we're preeminent in service to members.

M.K.

I agree. In fact I've got someone coming from (unintelligible) this afternoon just to show them the nature of this as a technical society. I think it's without precedent as far as technical societies.

F.K.

There have been over the years many efforts, and I've been on the Board of Directors, where people suggest, well a lot of your members don't really want the Handbooks. They don't really need them. And I hope they never change that because there's no real saving in society to print a lesser number of volumes. The fact that this is available makes it sort of a bible for the industry.

M.K.

Actually a bible for more industries than just ours. It really is. I once had to do a paper on the lobster industry and there were two sources that I could go on. One was the National Geographic and the other was the ASHRAE Journal. It had quite a chapter on shellfish preservation.

F.K.

Well the first publication I ever had with ASHRAE or its predecessors was in the old Refrigerating Engineering in 1950. I published a chart on properties on aqua ammonia which was from data which we had not developed but we took data and made a chart out of it. And I was kind of proud of that because that stayed in the Handbooks for another 20 years.

M.K.

You had a piece of the Handbook.

F.K.

Piece of the Handbook yes. It was non academic. I was kind of proud of.

M.K.

So if somebody argues with you, you can say you're an engineer, you have a piece of the Handbook.

F.K.

But you can still find, and I guess a lot of engineers do, maintaining their own copy of the articles and papers they find useful and I should say there's a tremendous backlog of data and a wide range of applications of refrigeration and air conditioning.

M.K.

What kind of changes have you noted in the practice of air conditioning and refrigeration?

F.K.

I think we're all in the middle of the solid state - electronics revolution so in the last five years going to micro electronic control in the equipment is probably the biggest change and that's still interesting. But I think the biggest change prior to that was the change from field fabrication of piping to factory packaged chillers basically. Hardly anyone today, I just gave a refrigeration seminar in a CRC a couple of weeks ago. Hardly any of the younger fellows have ever sized refrigerant piping or done refrigerant piping in the field, unless they would be industrial refrigeration contractor. Consulting engineers, people don't understand refrigerant piping.

M.K.

And I think that's a risk because they all get into it once in a while. And we're actually expecting the contractor to do a lot of sizing and kind of not taking the design responsibility and taking it seriously.

F.K.

I think that it's something the consulting engineers better watch because some of the other countries, I don't want to mention any of the other countries by name, but there are countries where there are consulting engineers who are more or less referees for what is really a design build contractor. And

there's nothing wrong with that as far as if they have good design builder contractors but the consulting engineer is not really doing his job in that case.

M.K.

The definition of the role of consultant and the role of the contractor changes. Now you've been in both. You've been a contractor and you've been a consultant.

F.K.

We were retained by contractors sometimes to design work for them and to design the project. We have also done work for the owners where you set the parameters for design build contractor to quote. I have no quarrel with the design build process when it's properly applied. And I think that traditional plans and specifications have problems too because of the cost of money and the fact that in the commercial speculating construction the interest is just eating the developer up to get that project back to where he's earning money so you get into fast track with all of the change problems that result from that. We get involved in a lot of things in Hawaii.

M.K.

I bet you do.

F.K.

It's not always a happy situation.

M.K.

It's the cost of money, or why is it?

F.K.

The cost of money isn't too bad. It's the cost of construction.

M.K.

I'm looking at my notes for us and seeing what we have talked and what we haven't talked about. Can you describe the coming together of the societies. You mentioned ASHVE which is American Society of Heating and Ventilating Engineer and ASRE, American Society of Refrigerating Engineers. And they came together to become ASHRAE.

F.K.

They did. Of course I had little to do with that because I was out in the boondocks in Hawaii where we didn't even have a chapter in either one. But as you know the American Society of Heating, Ventilating Engineers changes to American Society Heating Air conditioning Engineers shortly before the merger. And it came about because both were moving in the same direction. The greatest application of refrigeration, dollar wise had become air conditioning and the old heating and ventilating guys found that the greatest dollar volume of their business was becoming air conditioning. So the old refrigerating data book of ASRE and the guide of the ASHVE had tremendous overlap. It was a natural merger. I think a beneficial one with one exception. The exception that I have is that somehow or another we seem to have dropped some of the interest in two fields we should have been stronger in and I hope we get back into. One of course is refrigeration. The Society has made a strong effort to get more effective refrigeration components. The other's industrial ventilation. We're not as strong in industrial ventilation that I think that we should be. But I think that we can't be all things tall.

M.K.

When you say industrial ventilation is that because we had gone to somehow cooling spaces that we otherwise or in other countries maybe they just ventilate?

F.K.

This may be true. I worked for some years on the technical committee on industrial air conditioning and I think that that's quite true. We have a lot more air conditioned facilities. Other countries, many other countries have a more typically colder weather average than we have in places in the United States. Europe for example, Germany doesn't need as much cooling as we would need in the United States. Japan is probably similar to the United States in climate but their workers haven't yet got accustomed to the environment we call for. But when I say industrial ventilation, the necessity of keeping contaminants out of the people that are working in a process that is generating contaminants is something that ASHRAE has not directly been involved in to the extent that I believe it should be. We don't have enough research yet on how a test means of getting rid of gases and chemicals for example.

M.K.

It's a real issue these days in particular with the processes we have now.

F.K.

Of course the effect of some of the other things that are worrying us as people generally the chlorofluorocarbon problem with the ozone layer and the prospective global warming and as you mentioned already the greater perception of people that indoor environments should be better coupled with the fact that we're using exotic plastics and materials we don't know what they do to the air after they start deteriorating. All these things are problems. We've got to worry about interfacing with people who do understand these things without getting a Chicken Little syndrome with everything that happens is going to be a desperate, everything's a carcinogen, everything's going to kill us. We've seemed to have gotten a little bit too much into the swing of that in the United States.

M.K.

And that certainly is what gets the publicity. As you look, not back at ASHRAE now but forward with ASHRAE in our aligned professions, what kind of things do you anticipate, let's take the technology. What technological advances are you kind of looking forward to?

F.K.

Well again this is beyond the sane thing that I have the ability to do but I see the greater use of screw compressors, the new scroll compressors, the (unintelligible) compressors, a greater advance in compressor technology, development of new refrigerants if necessary. We've gotten too many regulations in this country. The building codes restrict some of the common sense uses of ammonia that we could use. That's one of the things I would love to see happen. Just to be able to common sense, put ammonia chilled water plants on roofs of tall buildings where if you had a leak it's not going to bother anybody. And of course it's not going to be degrading the atmosphere. It's light so it's going to rise if it leaks and if it's on the top of a tall building it's going to dissipate before it bothers anybody but still building codes won't permit that kind of commercial applications. I think that as far as other developments as a society, you can take a leaf out of the book from our British friends at Chartered Institution of Building Services Engineers who have merged their lighting society to them. They cover all aspects of mechanical building services including electrical power distribution, lighting, plumbing, sanitary disposal, along with air conditioning. I'd like to see us at least get an association with some of those societies in the United States.

M.K.

Picture that for a moment. Here we have a IEEE that-

F.K.

It's becoming a computer society. I'm a senior member of IEEE. I belong to industry applications society which is good bunch but 98 percent of their funding now is in the computer side which is nice but it doesn't help me a bit. Now IEEE-

M.K.

In the computer side as opposed to power.

F.K.

As opposed to power. There are no power engineers coming out of the electrical curricula, hardly in the United States. You try to hire an electrical engineer today, his whole experience in college has been applications of solid states physics. He hasn't a clue what power engineering is all about. Of course back when I went to school, they hadn't even invented the transistor so I'm kind of a dinosaur.

M.K.

Back when I went to school Fred they asked us whether we wanted to be a power or they wanted to be an electrical engineer and my answer was huh.

F.K.

Well you sort of do what you're told. We had a dean at the University of Maryland who said you will belong to the student society in your major discipline. I was in mechanical engineering so I was a student member of ASME, not particularly by choice but because the dean said so. I think discipline has gone down a little bit.

M.K.

Yeah, maybe it's the hearing problem. Well that's interesting. I want to get back to that concept of bringing the electrical disciplines and the mechanical disciplines together. Knowing what you know about the two societies, ASHRAE and IEEE, I look at it, what ASHRAE does in way of publications and stuff and I just think it's enormous. Does the other society have anything like that sort of tradition. I know that-

F.K.

They do. There are two branches of IEEE that would impact probably heavily on a typical practicing engineer in ASHRAE and that would be the Power Engineering Society which is most of the utility people, power transmission distribution problems is what they'd take up. And the industry applications people that is primary concern motors, drives, use of electricity, lighting, industrial plants etc. That's very necessary that those things be learned. The people that are in these groups actually do a good job. I'd just like to see them transferred into our group a little bit. Similarly and closer we worked very closely with the Illuminating Engineers Society and jointly published standards with them as you are aware.

M.K.

How did that happen during your administration? I always use it as an example, the kind of thing that ASHRAE did in their research. But here I looked at all the research grants that we had and we had a research grant to define the amount of heat in a regular fluorescent fixture put in the ceiling. Did that occur during your tenure?

F.K.

I hope not. I used to shoot down ones I felt were kind of ill considered. You have to keep in mind that those of us that are not research minded sometimes are a little bit stupid about research. Because

research starts with the assumption that you don't know something you are trying to learn. So something that sounds a little stupid to a non research type like me may not necessarily be a good thing. I had shot down several research projects when I was chairman of the Technology Council and a member on the Board of Directors but I thought we didn't really need to know that much about this particular thing. It didn't have much future value to the society. I won't mention any because that would be dirty Poole. There are some that I don't think were necessarily in the right alley but you can't be 100 percent right. It's like the batting average, Ted Williams hit 406. That's two out of five hits that's nobody's matched since 1941 in the major leagues. If we do that in research contracts, two out of five would give us a real benefit, that would be fine.

M.K.

I always liked Al McGuire's suggestion about going to his coaching clinics. He says don't try to learn everything about basketball, but if you can take home one thing that you can use in your program then it's been worth it. I think we ought to perhaps wrap it up a little bit here Fred. Is there anything you'd like to add in closing to this interview that we hadn't covered.

F.K.

I'd like to thank you first for including me in the group that you are interviewing because I have valued greatly my association with this Society and will continue to as long as they let me stay around. I think we have so many people that I have met that have been great contributors to the society. Being able to gather all of their wisdom before they pass on is a great thing and I'm glad they started doing that.

M.K.

Thank you for that. It's an opportunity, it's a fun thing to do. I told you earlier that this is the funnest thing I've ever had to do in ASHRAE. It's a rewarding thing. You get to meet new people. And I think you're right about the people in ASHRAE. Things you'd like to see the society do?

F.K.

Well one of the things is history. We have a fascinating history. We are a preeminent industry in the world in this country. I gave a seminar on refrigeration that I mentioned, a CRC recently. I spent the first ten minutes with woodcuts and pictures and what have you of early refrigeration machinery because most of us don't get this in school. We learn all about politicians. But the people who made our technological civilization possible are almost forgotten. And these people you never hear about. John Gorrie who invented the air cycle refrigeration machine. Jacob Perkins who got the first patent on a compression refrigeration machine. These are Americans, great renowned yet no one's ever heard of them. I'd like to see us get that history and put it out there.

M.K.

Put it out there. Well I agree with you. I think, well the privilege of being on the Historical Committee is to be associated with folks who truly are, collecting and trying to put together materials that would be teaching materials.

F.K.

Let me give you one thought that I found out. I was reading a book called Refrigeration America by a gentleman name Anderson who was a history professor at University of Cincinnati. I bought this book many years ago. It's out of print. I think it was published in 1953. In rereading it when I was preparing for this CRC seminar I found that had there been an ASHRAE in 1785, George Washington would have

been a member. George developed a insulated cavity in the ground at Mount Vernon where he could cut ice on the Potomac and put it in there and keep it over the summer.

M.K.

That's interesting because in the work with the Historical Committee I have been corresponding with folks in different countries and one of the common kinds of structures I found in different lands has been this ice house to take ice when it is winter time when you have it and harvest it and put it in some sort of structure. And that structure becomes your refrigerator for the year.

F.K.

It's amazing how the ice cutting industry came to the United States. In the Hudson River and the lakes of New England they were shipping stuff to Florida and the Bahamas by clipper ship. And in the 19th century there was tremendous volume, 100s of thousands of people involved in this whole ice business in the warm weather. Then they had a thaw one year and that's how people like the Delavergne Company, the Frick Company, and the York Company started getting bigger sales.

M.K.

Well let's just put a cap on our little talk here right now. Fred I thank you for taking the time from your meeting schedule. I know whenever you're, there's no such thing as a past president .

F.K.

Oh yeah if you're a has been you can relax a little bit.

M.K.

Well you're never out of work. And I thank you for taking time this morning to join us and to give your thoughts to the Historical Committee and those that will get to view and listen to this tape. Thank you very much.