ASHRAE Leadership Recall (formerly Leadership Recalled)
Transcription

Video Interview of: Frank Bridgers

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Interviewed by: Randy Murray

Randy Murray
Hi, I'm Randy Murray and I'm here with Mr. Frank Bridgers who is president of ASHRAE in 1970 and 1971 and this is Leadership Recalled for the historical committee. Mr. Bridgers let's start by talking about your family. Tell me a little bit about your family.

Frank Bridgers
Well, I have a wife and four children. Two boys and two girls. I did quite a engineering job on that family. They are two years apart. I've got a red headed girl and a red headed boy, a blonde headed boy and a blonde headed girl. All two years apart so it worked out very well.

R.M.
Well that's great, that's four children and they're all doing all doing very well today.

F.B.
Yes they're doing fine.

R.M.
But none of them really followed you into engineering.

F.B.
Well my oldest son, Bill, got in engineering degree but he's not actually doing engineering work. He works for a company in Princeton, New Jersey. He uses his background but he doesn't do engineering work.

R.M.
I see that's great. Grandchildren?

F.B.
Three grandchildren. Two grandsons and a granddaughter.

R.M.
And none of them live here. You now reside in the Phoenix area.

F.B.
Right, I live in Carefree. My two grandchildren live in Princeton New Jersey and one in New Mexico.

R.M.
Let's talk a little bit about how you got started with ASHRAE in your first experience and a little bit of the history of your time and involvement with ASHRAE.

F.B.
I got started as a student member at Purdue University in 1948 and during that time I got interested in going to the society meetings. I went - several the student members with me went to the New York

winter meeting. And it was an outstanding meeting with about 35 technical papers and I thought it was an outstanding job that was being done for our industry and I got very interested in the activities of ASHRAE during that meeting. I also met the man who I later worked for, Mr. Charles Leopold who was a consulting engineer in Philadelphia.

R.M.

I see. Let's talk a little bit about Mr. Leopold. You went to work for him right out of college is that correct?

F.B.

Right out of Purdue in June 1948. He was probably the best-known mechanical engineer in the country. He did the House and Senate chambers in the capital and he also did the Pentagon building and did the first air-conditioning for Madison Square Gardens. At that time people did a lot of heavy smoking at boxing arenas and there was so much smoke that the people in the nickel seats couldn't see the fight. So he put an electrostatic air-conditioning system that filtered it out to smoke and allow the people to see the fight better.

R.M.

That's great how long did you work for Mr. Leopold and tell me a little bit about some of the things-

F.B.

Well I worked for him three years, two years were in Philadelphia. And I worked on the air-conditioning for the Sachs Fifth Avenue along with other projects with it which were newspapers. And then he got a project in Los Alamos, New Mexico. And he sent me on this project. It was laboratory building and a air filtration system. I was there for about a year and finished the project and I was scheduled to go back to Philadelphia but I really fell in love with New Mexico and the West and I decided to go to Albuquerque, move to Albuquerque from Los Alamos and start my own mechanical engineering consulting business. At that time there were no other mechanical engineering consultants in New Mexico.

R.M.

Oh, is that was that right. You got a partner about a year later?

F.B.

No about, actually about four or five months later. I met Mr. Don Paxton who was head of the mechanical engineering section at Los Alamos scientific laboratory. And he, I called him and asked him if he would consider coming down and being my partner. And I told him I have five projects that I really can't take care of by myself and I need his help. So he moved his family with five children and his wife pregnant to Albuquerque. All five of those projects fell through. But fortunately we were able to get other work with the Atomic Energy Commission both in Sandia and Los Alamos and we were able to get work with architects and other people and things went very well.

R.M.

That's great. Tell me a little bit of more about you, the company then, Bridgers and Paxton expanded and grew. How did that all happen?

F.B.

What started out as a, in my backyard, it was a backyard outfit in my garage. We only have three or four people and we got some other people and we got up to about 12 people and we were just bursting at the seams in my garage. So we decided to build an office building and we decided to make it the world's first solar heated commercial office building and that's what we did. And we built that building in 1956

and it got quite a bit of publicity. A matter of fact there was a full-page picture of it in Life magazine and in several of the architects journals showed pictures of it.

R.M.

And what year was that?

F.B.

1956. It was successful and proved to be a very good headquarters for company and at that time we started putting on more employees and we expanded the solar building several times. We occupy the building until about 1978 or nine and we moved to a new headquarters.

R.M.

Was it also solar heated?

F.B.

No it wasn't it was a conventional building. And it's a very nice building.

R.M.

That's great. You opened up offices in a couple other cities?

F.B.

Yes we opened a office, we had offices in Salt Lake City in Denver and in Phoenix and we now have one in El Paso. We sold out to the employees in Salt Lake City and the office in Denver we had to close because during the early 80s the bottom dropped out of the Denver economy and we had a close that office. But we did a lot of good work up there and enjoyed it very much they have a very fine group of professionals and architects that we enjoyed working with. Same things true of Salt Lake City. A lot of our work in the Utah area was with the Brigham Young University. We did the mechanical on every building that was built on the campus between about 1958 and 1975 with one or two exceptions. So we had a great relationship with the University and we enjoyed the work pretty much.

R.M.

Tell me a little bit about, let's jump back into your family a little bit you've been married for quite a while?

F.B.

For about 45 years and we had four children in about the first six years. It may not be a record but it's a good average.

R.M.

That's a handful. How did you meet your wife?

F.B.

I met my wife in China, Shanghai China. We were both in the services back in 1945 we went on an R&R leave, there were 500 men and three women, two red cross, and my wife was a member of the core. I really didn't get to know her very well until we went back on the train to Shanghai they got to sit next to were and so we got acquainted. We didn't get married until three years later in Santa Fe. We got married in Santa Fe New Mexico. So she got to love New Mexico as much as I did and the western part of the United States.

R.M.

That's neat. But talk a little bit about strive for excellence and research and when you were President. Why don't you give us a little bit of an outline of the year or the 14 months that you served as president.

F.B.

Alright. Every president has a theme that he tries to develop during his one year and my theme was to strive for excellence and is not original idea I got that from a book written by Mr. John Gardner. An excellent little book and I thought it would be a good theme for the engineering society. And as a part of that theme I proposed a presidential award of excellence for chapters at that time ASHRAE had a hundred and 25 chapters located throughout the country and Canada. Canada is a part of the ASHRAE group. And so no one had done much to encourage improvement of chapter operations, most of the emphasis was on research and headquarters improvement and staff improvement those types of things. And I thought this would be an incentive for the chapters to improve their operations and we took standard criteria such as attendance, increase in membership, donation to research promotions, simple criteria like that to determine whether a chapter would get the award of excellence which was presented at the annual meeting at the end of my term. And it worked out very well there were 25 chapters that improved their attendance and increased their membership. The overall society growth was about 4% compared to other engineering societies such as American Society of Mechanical Engineers, electrical engineers, civil engineers, etc. Due to slight recession at that time they all had a decrease in membership. I think it was helpful in maintaining the membership and I was pleased with the acceptance and result of it the best thing about it has been that it's been accepted by every president of the society who succeeded me and is still in operation. The presidential award of excellence is still given every year for 23 years and some chapters have received the award every year. One of the chapters being my own chapter, the New Mexico chapter.

R.M.

Has done well huh? That's excellent.

F.B.

Doing well.

R.M.

That's excellent.

F.B.

It made me feel good. And there was one other area that needed attention. ASHRAE has had its own research program up until 1960 they had their own research laboratory but they closed the laboratory in 1960 and they decided they would sponsor research and universities and colleges and private research facilities but in order to do that you have to have money to pay for the research. So we needed to raise the funds, research promotion fund as established by the research promotion committee. And I got the very best man that I could think of which was Mr. Bill Collins from Oklahoma City. He appointed Mr. Bill Johnson to be in charge of the Western regions and Mr. Bill ? to be in charge of Eastern regions. And they went to work by the end the year they had to increase the contributions to research by about $50,000 and they set a goal that in five years they wanted to increase it by 500,000, for 500,000 dollars a year. And it took him six years to do it but they achieved the goal and today it's still going forward and last year I think they got a contribution of maybe 200,000 and then expect this year, certainly by the time that we get our hundredth anniversary in 1994 t0 be up to a million and a half. So it's been another successful venture that I think needed attention and turned out, worked very well primarily because of the manner we selected men to be chairman of the committee.

R.M.

Tell me a little bit about the first meetings during your term, there were the summer and the winter meetings.

F.B.

Well in my term I was inaugurated in Kansas City ?. It was kind of an interesting meeting because I have an identical twin brother John Bridgers who had been in athletics most of his life. He coached 10 years as head football coach and athletic director at Baylor University and he also was a coach for, line coach for the Baltimore Colts when they won the sudden death world championship. And even though through the time we've continue to look almost exactly like and many times when I go to games and sit with his wife and people wanted to say "Coach, you sure play it cool sitting up there in the stands with your wife." So we had a lot of fun and I said now I've been to a lot of your events and I'd like you to come to this convention and see me inaugurated as president of the society, which he did. I had a white coat on and someone gave him a white coat so it became kind of mass confusion. People really couldn't tell who was who but we had a lot of fun out of it.

R.M.

Well that's neat. Then the summer meeting.

F.B.

The summer meeting was in Washington DC and it was postponed two months. Normally our meeting is in June but they postponed it to coincide with the International Congress of Refrigeration which only meets every 20 years and only once about every 30 years in the United States. So they decided they would postpone our meeting two months which made me serves 14 months instead of the normal 12 months. And like Bill Collins said you're the only guy I know who took 14 months to do a 12 months job. The meeting did come off in August in Washington. It was a good meeting and I was glad to turn it over to the incoming president which was Mr. Stan Gilman who which at that time worked in the research department of Carrier.

R.M.

And he then only served only 10 months?

F.B.

The only had 10 months to do his job but he got it done very well.

R.M.

That's great. What which you consider your greatest personal accomplishments as president of ASHRAE?

F.B.

What I really think there were twofold in establishing the presidential award for excellence for the chapters and having them except it so well by all the chapters in a competition they had in competing with each other to get their award of excellence I think that's certainly one of them. In the fact that it has continued since that time. The second one was to promote I mean to select Bill Collins to be the chairman of the new research promotion group and the success that has had over the years and up to the day. I think those were the two highlights of my presidential term. There were a lot of other things that I enjoyed of course the president visits most of the regional meetings and I went to Canada. One of the highlights was the regional meeting in Ottawa Canada. I'm sorry it was Québec Canada and they like to speak anything except French I was going to have a greeting to the group and I got one of the Canadians to write out in phonetic English my French reading and I rehearsed the presentation a few

times so I opened the meeting by giving them that greeting in French and one of the ladies who attended from Western Canada came up and said you know since I've been here that's the only French I've understood. I spoke very slowly.

R.M.

I see. After serving as president of ASHRAE we talked a little bit about you giving some other people more time to participate in your firm why don't you talk about some of the activities that you were involved with after the presidency and some of the activities that your members of your company were involved with?

F.B.

What the time I was president it was the time of, we were in conflict with Vietnam and it was a very unpopular war. There was a lot of strife among young people particularly in the families had disputes. Actually we stayed as a very close-knit family but during that time my one son and one daughter were touring Europe on their own you know I didn't have enough money to support that is so they were, but they were learning and they had great experiences. After my presidential year our firm has expanded and we were doing work started doing work in Utah and Denver and places away from New Mexico, so I started most of my time traveling and when the annual meetings came around I wanted some of my other people, our young engineers to have the opportunity to go to the meetings and get acquainted and get active in the society. So I didn't attend a whole lot of meetings except those special occasions and some people thought well since he was president he's lost interest. Not true at all, it simply was that I wanted to give our younger people an opportunity to participate and have the same good experience that I had with ASHRAE. And that's the way it's worked out. We had Dick Supple who was vice president of the society and really possibly could've gone and become president but at that time he was president of our company and it would have been very difficult for him to do it. I think what I showed people on my board that I could do a good job as president and I had a board of directors of 22 people and eight of them became subsequent presidents of ASHRAE. You didn't really have to go on sabbatical leave and do away with your career in order to accomplish that job and I believe that's why they were, stayed in and accomplished it and they all did a good job. I was extremely proud of all the people that were on my board and we had a really good time together. One thing that I did that was unusual at the time, I had rather short board meetings. And before that they had board meetings that lasted till midnight. I didn't think that you accomplished anything from sitting there for six hours. Besides that I had an incentive to get out on the golf course. I probably worked it where that could happen.

R.M.

That's great. You're pretty avid golfer I guess.

F.B.

I've been all my life, an avid golfer. Which is one of the main reasons I'm living in Carefree at this time because I was interested in golf when I bought a house in Carefree in 1977 we kept the house as a second home and a vacation home until 1985 until I moved into a full-time in at that time opened a full office in Phoenix for our firm. So I retired in December 1991 but I still go in and do a week and one day a week and do some consulting with the local office.

R.M.

Well that's nice. Your participation in ASHRAE did not begin as president why don't we start at, you know at the first time you volunteered and I believe that was right after you came to work in our industry.

F.B.

Right - I went to the chapter meetings in Philadelphia and then my open my business in Albuquerque 1951, we started a new chapter there. We had a nucleus of people that worked in Los Alamos, in Santa Fe and Albuquerque and we started the chapter, I would say probably in 1955, 54 maybe. So I served in all offices there and I was president of the New Mexico chapter in 1958 59 and I think that I've had at least 10 employees who have subsequently become president of the New Mexico chapter. And I thought that I should take the lead and show that I thought this was important and we paid their annual dues and let them have time off from work to do that ASHRAE work and I think most of them have appreciated it. It's been good for our company and good for the society.

R.M.

Were you involved in the technical committees or other committees while you served?

F.B.

Yes, I served. One the first important committee assignments that I got was the research and technical committee. At that time Dick Jordan who was afterwards the presidential member was chairman of committee that I was extremely impressed by the work that the R&T committee was doing and deciding on which research projects they would undertake. It was given extremely careful consideration by a lot of very capable people. The people on the ASHRAE committees were extremely conscientious and hard-working. Then later I served on a large building design committee, served on a couple other technical committees. By that time I began to get active in the chairs of the society and served as director at large for several years. I was elected to be vice president and finally president-elect and then president. But it was an outstanding experience that I thoroughly enjoyed and I do it again if I had the opportunity.

R.M.

That's great, that’s great. Tell me a little bit about the people you encounter on the way, both in ASHRAE and professionally and personally and how they've influenced you.

F.B.

I had to say that my first employer Mr. Charles Leopold was an outstanding influence in my technical appreciation of the business. Mr. Leopold was extremely interested in the society and went to all the meetings. The procedure in presenting a technical papers, a man will make this presentation and then they'll ask for comments from the floor and there was hardly ever a paper presented that Mr. Leopold didn’t have some kind of comment to make about it and usually they were very pertinent. He was a very bright man and very good on his feet and good speaker. So he had a great influence on me. His leadership in the industry and designing outstanding facilities, I think helped our entire industry to be accepted. And air-conditioning became accepted as a necessity. For a long time it was a luxury and certainly Phoenix is a tribute to the air-conditioning industry. With the temperatures we have here who would expect two million people to live in this valley when it gets to be a hundred and ten degrees. They do it because of the air-conditioning industry.

R.M.

That's right, that's right. Let's talk briefly about what was going on in the world. We talked a little bit about the war but in 1970 and 1971 those were volatile years. A lot was happening.

F.B.

That's right. We were active in Vietnam and as you recall it was a very unpopular conflict. But a little later about 1974 the oil embargo came into existence and we no longer imported oil from the Saudi Arabia and those countries and we had to do the best we could with our own production. And it became a real energy shortage in particularly in petroleum products. There became a great emphasis on alternate energy sources and energy conservation. And I think that that's one of the things that helped our company to get to the forefront. Solar energy has been kind of an up-and-down thing through the years but during those years 1973 through 1980 there was a great increase and emphasis on solar energy but we had already it designed a building in 1956 and we maybe had a jumpstart on most people in that field and so one of the projects that we were proud of is the Denver Community College building - it was over 300,000 square feet of area. It was the largest solar heated building I think in the world at that time. I'm not positive of that that but that's based on information that I've received. It has been a very successful project and one that I'm proud of. So that period use of alternate energy sources and energy conservation that had a tremendous impact on our profession and also on ASHRAE. ASHRAE came up with a lot of standards in energy conservation and a lot of their standards were adopted as part of city codes that made it compulsory to use energy conservation measure. Some of those, most of those standards and codes are still in effect and people are using them. And we are now getting back into an area where solar energy and alternate energy sources are going to become more important and it's been a cycle, different times during the different periods of emphasis in de-emphasis on it but if it's sound is going be used in the future and those are the things that I've enjoyed and also appreciated the contributions of ASHRAE and energy conservation and developing standards to encourage it.

R.M.

That's great. Any other major events in the industry that took place that stands out in your mind over the years?

F.B.

Well to me one of the biggest impact on our own engineering practice has been the development of the computer and the computer software for doing engineering calculations. We bought a IBM 1124 computer in 1968 - nobody knew how to use it but we thought it would be good to have it there and give us an incentive to get some software and make it work and we did. We have some bright young guys just out of college and had learned a lot about it so we developed a lot of programs we joined the APEC which is an organization known as Automated Procedures for Engineering Consultants and they specialized in development, cooperative development of software. We were charter members of that group Mr. Bob Hopper who was at this time president of ASHRAE, I mean Bridgers and Paxton, served as president of APEC, back in about 1976. At that time he was only maybe not even 40 years old he was a very young man to have a to be a president of the national engineering society. He's done very well and I can say that in his hands our company is just as well off are better off at any time that I was the leader. I'm proud of him and I'm proud of the job he's done as president. And he's getting real active in ASHRAE. He was awarded, he was selected as a fellow, which is an honor, this last year. He's done an outstanding job as president of the New Mexico chapter and getting involved in ASHRAE activities.

R.M.

Tell me what would you tell somebody who's just entering the industry. How would you prepare them for today's industry what would you tell them that what would you think is important for them to know?

F.B.

Well you got get an education, you got to get a college education. You got to know the fundamentals - the fundamentals of heat transfer the fundamentals of thermodynamics and you got to know how to use a computer. That's just exactly what I tell them. There's no shortcuts to becoming a real contributing member to this industry. You got to learn the basic principles you got and learn the newest techniques and how to handle a computer and how to use it and be confident with it. We also tell them to be active in ASHRAE and go to the annual meetings and listen to the programs and write papers yourself. Because everyone's got to write the first one and it may not be very good and the more practice you get the more your paper's accepted and more confidence you have. I think that like I said if I had to do over again I don't know anything that I would change. Proceed in the manner that I did and it can be very enjoyable and something that you always look back and remember with great fondness. And the friends you make, really have made a number of outstanding friends I've known for 30 years. We get in touch and play golf together and get together at annual meetings and it's something that's been extremely good part of my life.

R.M.

That's great. Where do you see the industry going and where do you see ASHRAE going?

F.B

What I think is the industry has a future and so I think ASHRAE has a future. As I say people demand comfort and there are industries that can't operate without the technical help of ASHRAE. Cleaning the air and getting good air filtration in buildings and providing for industrial processes where humidity control is important. It's not becoming less important is becoming more important and I think that it's certainly a good field and has a good future. I don't paint a bleak picture at all as far as the future of the industry and the future of ASHRAE as an engineering society.

R.M.

Any specialty areas that you think are going to grow more than others?

F.B.

Well I think that the, certainly the environmental issues such as cleaning of flue gas and pollution control and things like that are certainly going to grow and be in the forefront. And the ability to remove the harmful substances in the supply air for buildings and to make sure that people occupy a healthful, have a healthful environment. These are going to continue to be important. It seems like to me that the environmental field will be the part that will expand the most in maintaining. I think energy conservation will become important. There be different ways that this can be done and innovative ideas that can be developed by ASHRAE. I think that that's important. Then let me just say one thing about research and ASHRAE research. Some people say why is ASHRAE in the research business. Every company has a research department and that's true but their major effort is to develop products and to get a competitive edge on their competition. ASHRAE's research is for the overall good of the industry. And it's a type of research that companies would not do or cannot afford to do. These research projects go out to universities such as University of New Mexico and Arizona State University, University of Arizona. And they work on these research projects and they get interested in the society and the work they're doing and they become part of the industry. And so it not only helps that we get good results

from these institutions that do our research programs but it develops new people in the industry, your bright young people they'll be interested in the business. So I think it's still extremely important part of the ASHRAE program.

R.M.

And you've seen that grow, the research, tremendous it not only your personal involvement and commitment to the project. Tell me a little bit about what you've seen happen in the research area over the years that ASHRAE has been involved in. And the commitment from Corporations.

F.B.

For example in my winter meeting in 1971 in January, which incidentally was in Philadelphia and that was the city that I had my first job in the industry with Mr. Charles Leopold. It was nice to come back to Philadelphia and I just started this research promotion committee there is a vice president of a control manufacturer. He said "I'd just like a spot on the program to make a presentation of a special ASHRAE research, he said gift or grant. We want to give this $4000, which is above our normal contribution because we really believe that ASHRAE research is needed for the overall good of the industry. He made that contribution and of course that delighted me. He set a good example for a lot of other corporations. And a lot of them followed suit and that's why we went from a $70,000 per year to a million and a half dollars a year because of those types of gifts in recognition of the importance of ASHRAE research.

R.M.

What would you say would be some of the most significant results of ASHRAE research?

F.B.

Well I think the research is giving the standardss of comfort, developed the standards of comfort, the standards of energy conservation, the standards for how much energy is required to do a good air-conditioning job, and how the energy can be conserved. I think that there's been a lot of research on the industrial ventilation and standards for good industrial ventilation that make it safe to work for companies that handle toxic materials. I have a nephew who's an industrial hygienist for Sandia corporation. Of course they work with plutonium and nuclear fission and it's very important to have good standards and to know what, how to handle those materials and how to make people work in a safe environment with that kind of material. And I think it's all part of ASHRAE research that made a great contribution to our country and to the world. And incidentally ASHRAE has a lot of foreign associates over the last 10 years -there have been chapters in China, Japan, Russia, Formosa, India, all of the world. They're using the technology that we developed, our guide, data book technical information, they have active chapter meetings. It's really become quite an international society. One of the things I did that I was President and I was appointed to be part of the international Congress of solar energy in Perth, Australia in 1983. So I made a trip to Perth, Australia with my wife. And it was one of the greatest trips I ever had in my life. Spent a little time in New Zealand and later will golf in New Zealand and Australia, attended that Congress and spoke, said a few words about ASHRAE being a representative of the society. Outstanding worldwide conference!

R.M.

That's great. That's great. Closing remarks? Anything you'd like to say, you know, have on the record, your experience with ASHRAE, your experience with the industry, and your experience as a professional.

F.B.

Well I think that the young people that are coming up in this industry should certainly be members of ASHRAE and be active and I think they should figure out some way to contribute. Not just work in the industry and make a living by it but some way to give something back and contribute that would help others come along. And that's the way you get a good engineering society of people were ther're generous with their time and able to make a contribution. This is what inspires young people to certainly, the things that inspired me, Dick Jordan is chairman of the R and T committee, Charles Leopold my boss in Philadelphia and other people similar to him they gave me an inspiration to make a contribution. And I shouldn't forget my major professor at Purdue University, Frank Hutchinson who died in the last two or three years but was an outstanding man was a prolific writer in air-conditioning refrigeration contributed many outstanding papers and was I think one of the great graduate teachers. He would not have been particularly great undergraduate teacher, he always talked about one or two levels above you which made you stretch and study and work hard to achieve but he was an outstanding graduate school professor. And there are many like him, I just happened to mention him but there are many just like him that do a great job.

R.M.

Well thank you for your time, thank you for your involvement and thank you for all you've done for ASHRAE.

F.B.

Thank you, enjoyed it.

End of interview.