ASHRAE Leadership Recall (formerly Leadership Recalled)

Transcription

Audio Interview of: Walter Spiegel

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Interviewed by: Ann Boutwell

Note: The audio tape of this interview was lost sometime after the original transcription.

Ann Boutwell

At the 1985 ASHRAE Winter Meeting in Chicago, you stated that you knew Albert Einstein. Would you tell us something about that, how you met him?

Walter Spiegel

Well, he was always an inspiration. When I was going to high school, I was president of the Honor Society and we always took a trip every year. So that one year I wrote to Dr. Einstein and asked him whether he would like to meet an average high school group. He responded that he would welcome our visit, so Saturday afternoon we went to visit Dr. Einstein.

A.B.

Do you remember any conversations you had or any stories about Dr. Einstein?

W.S.

Well, no stories. I remember the impression he was very interested in us. He asked us what we did. One of the girls was a musician and he was very much interested in that. We all remembered him as a very kindly and extremely simple man. He worked in his small study upstairs solving the secrets of the universe in a tiny, tiny house.

A.B.

Where was this?

W.S.

This was in Princeton.

A.B.

Your first engineering position after graduating from the University of Pennsylvania was with Charles Leopold. Can you describe your position in the company at that time and some of the projects that you worked on?

W.S.

I started off as a apprentice engineer and kind of went up through the ranks including drafting, design, and troubleshooting. Many of the projects that I worked on were ones that were later to become landmarks. The first Madison Square Garden, the Philadelphia Convention Hall, a number of large office buildings, Saks Fifth Avenue, and quite a number of buildings. In those days the big challenges was to air condition existing buildings. It was only during the 50s that the industry started building new buildings air conditioned from the start.

A.B.

How difficult was it to take the old structures and to design and air-conditioning system.

W.S.

Well, probably not as difficult as some people thing, but it did require a lot of work and a lot of survey and a lot of ingenuity to try to fit the new system into the old buildings.

A.B.

Do you have any stories that you would like to relay about Charles Leopold? Or tell us something since he was also a presidential member and he was also a recipient of the F. Paul Anderson Award with the Society.

W.S.

Those of us who worked with him marveled at his insight and his ability to get right to the root of a problem, the kind of a thing that would make a project work or not work. He didn't spare any engineering analysis and I think that was the hallmark of engineering that he proposed, that people really thoroughly analyze a problem and try to find an appropriate solution rather than an off-the-shelf drawing. That was what Leopold impressed those around him with most of all. He did find specific solutions to specific problems.

A.B.

Of all the projects that you worked on when you worked with Charles Leopold, which do you think is the most outstanding.

W.S.

I didn't work on it, but his most outstanding achievement, I think, was the air conditioning of the Pentagon. Many of the features that were developed in that project were used in later applications. I think the Madison Square Garden project was a very unusual one, a very pioneer project, but almost every project he did had some new twist or something different. I believe it was the collection of those that really contributed to the industry and to ASHRAE. He did some of his own research with his own funding in his own shop. He reduced rather complex heat transfer mechanisms to some rather simple analogies. In that way demonstrated some principles that have become part of the industry since then.

A.B.

Do you recall him working on a smoke problem in the Madison Square Garden? I believe he had written a technical paper on that problem and I just thought how much foresight he had then about smoking in buildings.

W.S.

That's right. Madison Square Garden was the place where all the fights were held and the atmosphere became so bad you couldn’t see across the arena. That was before the days of television, but it was still a problem. Many arenas solve the problem today by putting up no smoking signs, but Leopold did develop a procedure and a methodology for clearing the air, so to speak.

A.B.

What about your work in the 1960s? You were ASHRAE's representative and you worked with the Office of Civil Defense. I believe, you attended a seminar and that developed into a task force. Would you relate some of those incidents?

W.S.

In those days the significance of fall-out shelters was first emphasized. ASHRAE participated primarily in the environmental aspect of it. President Everett at that time appointed me to start a test group to develop procedures that engineers might use in providing mechanical electrical services for shelters. We did start out with the rather pressing problem at the time with some research and ended up with a guide and data book chapter about two years later. The Defense Department organized a kind of a summer seminar institute and asked a number of instructors and ASHRAE representative to attend a meeting with the objective of developing a course format. It was developed and a number of the people who attended that seminar became course instructors and conducted 13 week course presentations for engineers and architects throughout the country. I was one of those instructors, ultimately.

A.B.

Whatever happened to that project and does it have any significance today?

W.S.

Well, what happened to that project. Our own engineering office was asked to produce a professional manual which we did. The entire part of it was greatly de-emphasized for two reasons; the American public did to support the necessity of having the shelters and our adversaries took different means and we took different means to protect the public. I think that is a policy question and it still hasn't been ultimately decided. It depends a lot on what kind of weapons each side brings to bear on the other.

A.B.

Do you think survival shelters of the 60s and some of the principles and research would have any bearing on a nuclear attack today?

W.S.

I think if there was a period of heightened tension much of the work that was done in that year would be very quickly retrieved and people would probably demand, why haven't we done anything in all this time to protect the public? I think much of the work that was done at that time would again become very relevant.

A.B.

During the year that you were ASHRAE president, 1972-73, your presidential theme was "meeting new challenges." Do you recall some of the challenges that were going on in the world and then what were some of the challenges that ASHRAE had to face that year?

W.S.

We kind of foresaw the energy dilemma coming on the scene, but too many of us that were active in the industry there was more than just that. We saw many demands, housing, full employment, health and safety, the environment. All of those were demanding attention. The one world item that kind of brought the thing to view was the Club of Rome report which suggested that we couldn't go on spending all kinds of money for the good life with the resources that were present of this earth, that kind of come into focus and came to be that people have to learn to make choice, that we couldn't buy everything. Those choices eventually had to be made. The energy crisis materialized quicker than even those who were working in it had predicted. Certainly that spring of 1974, the economic factor as we had feared and the energy crisis came together. Particularly in our industry there was a panic in the market place. Prices skyrocketed for mechanical installations. The oil crisis was in full swings. At least two of those elements that we feared come together at that time. During that period gave a presentation at the Arkansas Engineer Celebration, Engineers Week. I call that paper "Collision Course." I think we are

gradually, some ten years later, beginning to understand that you just can't have everything and I don't think that perception is fully realized by the average citizen at this point.

A.B.

While you were president of the society you also represented ASHRAE at the National Council of States for Building Codes and Standards. Would you relate the importance of that and ASHRAE's involvement?

W.S.

Yes, that was at a time when the energy crisis was looming and the various states wanted to pass legislation for energy conservation, but feared that they might end up with 50 different codes. There was an emergency meeting of the National Conference of Building Codes and Standards with the National Bureau of Standards had organized that meeting and had invited a number of resource persons. I represented ASHRAE at that point. When it became clear that the Council of States, primarily the Building Code officials were asking for some entity to take this thing in hand and develop a consensus type of standard that could be accepted by the industry, I volunteered ASHRAE's assistance. The NCSBCS started out asking the National Bureau of Standards to provide the framework which they did and it was basically that framework that later was to become ASHRAE 90 standard. Although the Bureau produced a paper of great worth they couldn't achieve the consensus and they turned to ASHRAE for a full review and full refinement of the standard, and that stated out as ASHRAE 90.75.

A.B.

During your term of office I believe you also pioneered the development of the first ASHRAE Composite Index of technical articles. When was this publication initiated?

W.S.

A number of people had asked me about doing something of that nature. ASHRAE is unique among technical society's in that it not only does basic research, but has a number of volunteer committees to take the next step and develop a practical application data from the research. In the process of its meetings and its deliberations it issues a myriad of publications and it is quite difficult for an average practitioner to find what he needs among the ASHRAE documents. With the growth of the society as rapid as it was during that era it occurred to us that we had to somehow, even for just use by the staff, but particularly for use by people in the field, to create some kind of an index document where it would be possible to quickly retrieve an article or book or paper on a particular subject. At the same time the computer industry was developing means of producing such an instrument at reasonable cost. The need and ability came together at that time.

A.B.

How did you come about establishing your own firm going out on your own?

W.S.

Well, it has probably crossed the minds of most engineers in the building services field who have any kind of an entrepreneurial spark that they would someday like to have their own office. I thought that I had quite some adequate training with the Leopold organization and a reasonable education with a master's degree and I was anxious to try it. So when I thought I was ready to do it, why I did start. I had asked a number of people, parenthetically ASHRAE members who were friends, what it took to start a consulting office, and the answer was universally enough money to feed your family for two years.

A.B.

When did you start your own business?

W.S.

I started it in 1963.

A.B.

What type of projects did you work on?

W.S.

You mean what kind of projects has our office done? Well, we have done quite a broad spectrum; we are a fairly high technology office. We have done a lot of laboratories, a lot of institutional work. We had done some retrofit work and not only energy conservation studies but energy conservation retrofits__. Major municipal buildings in the City of Philadelphia, quite a number of institutions, pharmaceutical plants, industrial plants, large office buildings. We really have a broad spectrum of service that we have been fortunate enough to implement.

A.B.

Many of your projects have been hospitals and universities right in your hometown, right in Philadelphia.

W.S.

Well, let's say in the Delaware Valley area. We have done work as far down as Puerto Rico and as far west as California, but the majority of our work is in the Delaware Valley area. Fortunately, we found enough work in that area to keep us busy. It has been very heavy on institutional work.

A.B.

Is there anything else you would like to make a statement on or something you would feel like if this were a slideshow.

W.S.

Well, I think that one thing that I attempted while I was present was to start a closer relationship with those government activities which were very close to the area of interest at ASHRAE and where we could not "go it alone" because the challenged required such tremendous resources. There were many people in the society who were very reluctant to have any kind of cooperative effort with the government and there obviously were justified concerns. On the other hand, the way the world was going there were many challenges that faced civilization that ASHRAE could be instrumental in the meeting but not alone. I think it worked out to everybody's benefit. ASHRAE kept its independence and we did strike some very meaningful relationships with just a few of the government agencies that did result in very productive research which ASHRAE administered. In retrospect, I feel it was a proper decision. ASHRAE has come to the forefront in energy conservation in the environment, but it has been with the initiative and the knowledge and experience of ASHRAE members. I think that cooperative situation have permitted ASHRAE to really gain outreach and come to the forefront in the problems that are confronting the United States today and confronting the world.

A.B.

If you had to give a message to chapters, or chapter work, what would you say to them?

W.S.

To the chapters, probably that activity in ASHRAE is a very rewarding experience. Going around the country while I was president I looked at some of the chapters, and in many cases what the chapter officers told me was that this town was a terrible town to do business in, to do an air conditioning business in, before we had an ASHRAE chapter. I think ASHRAE has an effect on the industry that is kind

of difficult to valuate unless it is not there. People who work in areas where there are no ASHRAE chapters, they see the difference. When a group of people from our industry get together in fellowship and try to have a common goal of education so I think many people feel that they are giving valuable time to ASHRAE. I think most of us who have been active have found out that we are the ones who benefit.

A.B.

In your opinion, what are the most important qualities a person needs to face new challenges both personally and professionally?

W.S.

Well, of course, I don't know if it takes an air conditioning engineer to answer that one. Hard work is part of it. I think in many cases the knowledge and education is perhaps discredited a little bit, and I found in my own life that it stood me in good stead to go back to basics and try and find out what the real operative mechanisms are. So, my advice is to try and get the best education that is possible and to work reasonably diligently and keep a constructive attitude. One of the privileges I have had in being active in ASHRAE is to meet successful people who look forward and work constructively.

A.B.

Is there anything else you would like to say?

W.S.

One of the more interesting projects that our office has done is the chilled water centralization of a large urban university, the University of Pennsylvania. This was the type of project the previously had not thought to be economically feasible. We were able to combine it with automation systems which themselves may not have shown a very good economically attractive payback, but with an overall approach we were able to achieve a 1.3 million savings with a little over 5 million dollars construction project, and even with the worse of interest rates the university considered that an attractive investment and went out and borrowed the money. We did the project and construction management. It came in on time and in budget and was considered by the university to be one of their most successful energy conservation undertakings.

A.B.

Why don't we say something about your receiving the F. Paul Anderson Award because that is the most outstanding award in the Society.

W.S.

I was pleased with that particular award because it was initiated by my peers, other consulting engineers within the Philadelphia Chapter of ASHRAE. They reviewed some of the work that I had done around the Delaware Valley area and felt that it was deserving of the award. It included the recognition of the University of Pennsylvania project and many other innovations that have been evident in some of our designs.

End of Interview