

eppin:

Before we go on with that, you mentioned that you were involved with IEEE because it was concerned with sound power or was it electronics?

Lang:

Well no, actually I became involved because this was prior to the establishment of the IEEE. We were part of the IRE, the Institute of Radio Engineers, and IBM was very interested in having its people who were specialists involved with IRE because at that time IRE had a standards committee which was very active in standardizing various aspects of electronics and they wanted to make sure that IBM's opinions and views on various electronics matters were considered. So I remember having been sent in 1959, a year after I joined IBM to an IRE meeting in New York where I was able to overview all of the things that the IRE at that time was doing. I told my management at IBM that there was one area that I thought was particularly of interest, and this was the audio and electroacoustics committee of the IRE. So they said, "Do it," and so I participated from, 1960 perhaps to roughly 1972 when I was elected to the IEEE Board, by then the IEEE was formed. During the twelve years I spent a lot of time with the audio and electroacoustics group. We had a committee, originally an IRE committee with about twelve to fifteen members. Then in 1964 the IEEE was formed by an amalgamation of the IRE and the American Institute of Electrical engineers that came together and formed the IEEE. Then they took the old IRE committee structure and put it into the IEEE and I became the chairman of the IEEE audio and electroacoustics group. It was just coincidental that at that time John Tukey and Jim Cooley rediscovered the Fast Fourier Transform.

Peppin:

Wow.

Lang:

We had a lot of people not only from IBM on our committee but Bell Labs, and they said this is the hottest thing that we have seen, and the question was, "What's it got to do with audio and electroacoustics?" Well, there was nobody else in the IEEE interested in it, so we grabbed a hold of it; and Jim Cooley became a very important member of the committee. So the audio and electroacoustics committee, using the FFT as a stepping stone; became in 1970 the Acoustics Speech and Signal Processing committee of the IRE.

Peppin:

Yes.



Lang:

Then fifteen years later they threw out the acoustics and so it's now the Signal Processing Society of the IEEE and, with more than 20,000 members, it's one of the most rapidly growing IEEE Societies. That all sprang from audio and electroacoustics.

Peppin:

Right.

Lang:

And the audio and electroacoustics group itself had come from the Acoustical Society in the early >50s.

Peppin:

Because you were involved with international standards, did you get involved somehow with international INCE? Did you help form that?

Lang:

Yes, I was involved with that, but they were totally separate because I had, through my work in the IEEE and IRE, become involved with the International Electrotechnical Commission.

Peppin:

Oh.

Lang:

So it was actually the IEEE work that led to the IEC, and I became active in the IEC and was chairman of IEC-29, the Electroacoustics Committee, from about 1973 to 1985. I served twelve years, which is the maximum, as the chairman of the IEC Electroacoustics Committee which was, as you know, a counterpart to ISO. ISO, the International Organization for Standardization, has taken care of measurement methodology; IEC-29 has taken care of instrumentation that is used for acoustical measurements. So IEC-29 was an important factor in the measurement of sound.

Peppin:

And so we had this beginning of INCE USA.

Lang:



Yes.

Peppin:

After Arden House. International INCE was not even in anybody's mind yet?

Lang:

No.

Peppin:

Okay.

Lang:

The first InterNoise Congress was in 1972 in October, and the history is very well covered in here. (Attachment)

Peppin:

Okay. Okay.

Lang:

At that Congress we invited people from Europe, Japan and the rest of the world, and Fritz Ingerslev came from Denmark.

Peppin:

And probably you knew him because of IEC?

Lang:

Well, I had been involved with the ICA, the International Congress on Acoustics, and so I had know him for a long time.

Peppin:

Yes.

Lang:



So Fritz came over, and was the European presence at the birth of INCE USA because InterNoise '72 in October was a year after INCE USA had been incorporated in June of '71. This was our first major congress.

Peppin:

Yes, it was a little more than a year.

Lang:

A little more than a year, but it took us a little more than a year to get to the point where we could have an International Congress. And the first International Congress was at the Shorham (Washington, DC). It was about three weeks before the Noise Control Act of '72 was passed by the Congress, so there was a fantastic amount of lobbying and effort being made at that time to get the noise bill through the Congress. There were actually two noise bills one in the House and one in the Senate and it was the Senate bill that was ultimately passed and the House bill was consolidated with it.

Peppin:

Okay.

Lang:

Fritz Ingerslev invited INCE USA to hold InterNoise '73 in Europe. So we thought this was a golden opportunity to internationalize the organization. So the second InterNoise Congress was held in Copenhagen in July of 1973, and it was from there came the idea, "Well, gee, we really ought to have an international organization. The Americans have formed INCE USA. Wouldn't it be great if we had an organization of societies around the world that are concerned with noise as INCE USA is? And so in '74 in London International INCE was formed. It was a very much easier birth than was INCE USA because there was a lot of agreement in Europe that there was a need for some international organization.

Peppin:

Right.

Lang:

It's rather difficult to form a Section 501 organization in the United States because you are required here in the United States to comply with certain regulations according to the IRS, and the Internal Revenue Code. You have to report to the IRS, etc. But in Switzerland you don't have to. Basically, we decided in London, the people who were involved in getting an international INCE off the ground



There were only about five people that all one needed to do to form International INCE was to take the bylaws and register them in a local jurisdiction in Switzerland, which we did. All you had to do was take them down to the City Hall and say, "I want to register this" and the clerk put the stamp on it and that was it. That was the incorporation under Swiss law. They don't use the word incorporation registered under Swiss Civil Law. We had the whole thing reviewed by Swiss attorneys about four years ago and they said it's fine, no problem.

Peppin:

Wow. That's amazing.

Lang:

So that's the background for International INCE. Fritz was the president for twelve years until 1988 when I became the president of International INCE. Fritz had built it up so that we had about twenty-five member societies by that time, and I kept pushing and pushing and the number of societies is in the forties now..