orchestry pit and broke his arm, so he had a little portable keyboard hitched up so as he could keep on playin with his arm in a sling. I even see a organ player oncet who finish his solo by lyin on top of the organ and playin upside down.

Mr. Crawford he was called the Poet of the Organ but the real poets was the boys who could make up there own jingles and rite parodies to popular songs. Mr. Murtagh was one of them like that there, and I still got a copy of some slides he made that started out Hello Jim and Bob and Molly, Ignatz, Patsy, Ruth and May, Hello, Mrs. Schmit, by golly, youre all lookin fine today. Well, it aint Shaksear but it made him a good livin and he wound up by managin the theayter in Buffalo where he was playin. Of course thais aint to say that the best organ players dint play straight solos too. Mr. Crawford wasnt the only one. Most of the big time boys could knock off a big overture or a concert peace just as good, and sometimes they would even rig up a arrangement where they would have the orchestry join in. And in them days it was a novelty to do demonstrations like that showed off the different stops and effects that people wasnt use to on organs.

Them was the great days for the organ players, and it was too bad when the sound pictures come in and they wasnt in demand any more. The good ones hung on because they was popular, but they was a awful lot of unemployed organists in the 30s. And we still got a lot of good ones doin concerts and comin up in the elyvators like in the good old days. I just heard Mr. Rex Koury do one and he was rite in there doin Original Novelties like My Life As A Organist with parodies on pop songs that fit in with the story. And the audience still givin him a hand when he come up in the spotlite just like the Good Old Days. So I guess the Original Organ Novelty aint dead yet by a long shot. □

THE ACOUSTICAL CONSULTANT

The Effects of Distance and Relative Humidity on Acoustics

by R. J. Weisenberger

We all know the effect distance has on the overall sound level. According to the classical rule, the sound level will fall off by 6 db every time the distance from the source is doubled, provided there are no obstructions. This is known as the Inverse Square Law.

We also know that in a reverberant environment a point will be reached (known as the critical distance) where a further increase in the distance from a sound source will have little effect on the overall sound level. In most rooms the critical distance will be found to be approximately one-third the length of the room from the sound source.

We should also know that most rooms have natural resonant frequencies, usually at the bottom end of the audible spectrum. Such resonances will be minimal in rooms with non-parallel surfaces; this is one of the reasons for good acoustics in some of the older, ornately decorated theatres.

Reverberation time is a function of the reflectivity to sound of various surfaces, and will always be greatest in rooms with hard, reflective surfaces. Plush surfaces tend to absorb sound. For every second of reverberation time, the sound has been reflected around the room approximately 1100 feet.

So far we have been assuming that the laws of acoustics which apply to sounds of low to middle frequencies would naturally also apply to high frequencies. Tests have shown that this is not the case. Air itself tends to absorb high frequencies to a greater degree than low frequencies, and this degree of absorption is a function of relative humidity. For this effect to become noticeable at the highest audible frequencies, sound need only travel a distance of forty feet or so from the source. At a frequency of 16 kHz (the highest audible harmonic of the top note of a 2' stop) and at a distance of 120 feet from a source, the sound level will be approximately 15 db less than that predicted by the inverse square law alone.

Such severe high frequency attenuation would result with a relative humidity of 20% and a temperature of 20° C (68° F). However, these are about the worst possible conditions, acoustically speaking. At the same temperature and a relative humidity of 40%, conditions are improved considerably.

Because most of the output in musical material occurs at frequencies below 2 kHz, we would sense such natural high frequency rolloff as a "mellowness," rather than a loss of fundamental tone itself.

Large rooms will tend to be less reverberant to high frequencies than to low or middle frequencies, because of the distances involved. As the ear is generally more sensitive to middle and high frequencies than to low frequencies, a sound that would appear well balanced or bright at close range will seem dull or even "mushy" at a great distance.

It is for reasons such as those mentioned above that more attention needs to be paid to the study of pipe acoustics, and to the factors relating pipe design to actual performance capability. Installations which today's organ builder would simply write off as technically or economically unfeasible may become commonplace with the understanding gained through a continued program of acoustical research.

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