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Subject: Re: Ceiling in concert hall

Posted by [Wayne Parham](#) on Mon, 26 Mar 2018 21:30:09 GMT

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You will notice the expansion from the stage, which helps project the sound, sort of like a horn or megaphone. It does more than provide a direction to the sound, and actually even helps the transfer be more efficient by impedance-matching. This is a moderately complex topic, but essentially what it does is make a small vibrating source (like instruments and mouths) interface better with a large environment. Also, the expansion shape tends to reduce reflections from being directed towards the listeners and the occasional breaks in the surface provide some diffraction that further softens reflections.

The best halls are made this way. I can't stand it when I see a new venue made that's excellent in architecture but terrible in acoustics, which seems to be the way so many modern performing arts venues are made these days. Even though amplification is relatively cheap, there is still a huge benefit in making the venue acoustically better because anomalies caused by reflections can't be cured with electronics. Intelligibility and sound quality suffer no matter what kinds of sound gear you have if the concert hall is poorly designed, with surfaces at the sides and rear that reflect sounds back towards the listeners.