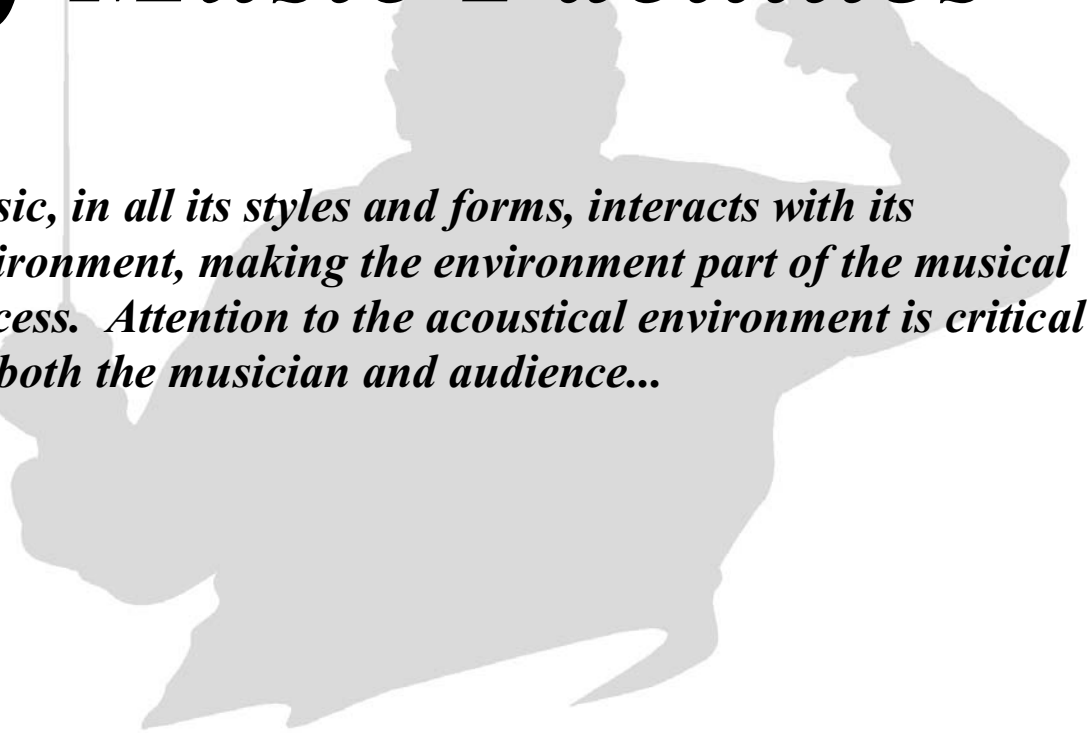
Acoustical Environment of Music Facilities



Music, in all its styles and forms, interacts with its environment, making the environment part of the musical process. Attention to the acoustical environment is critical for both the musician and audience...

BKL Consultants Ltd. #308 - 1200 Lynn Valley Road, North Vancouver, BC V7J 2A2
Ph 604-988-2508 / Fax 604-988-7457 e-mail: sound@bkl.ca website: www.bkl.ca

Concert hall or rehearsal room, they're both an extension of the instrument!

Music, no matter what the instrument involved, is formed in the air. Any instrument played in an environment where there is no contribution from the environment sounds very strange, and is difficult to play. Anechoic (totally absorptive, no echo) chambers have been used to make special application recordings, and the musicians involved in the recordings have had great difficulty in playing. Where more than one instrument is involved, the contribution from the environment is even more critical.

Ensemble, Blend, Clarity and other esoteric musician words.

Whether performing with a solo instrument or in a full symphony orchestra, the musicians must hear what they are playing, and how it relates to the environment they are in. If there is an audience, the audience must hear the music as an appropriate balance between instruments. It is vital that the musicians know that when they hear their own instrument in relation to others, the audience will also hear the same balance. This is ensemble. The musicians have an optimum preference for distance to nearby reflecting surfaces, and the magnitude of levels that they hear returned from those surfaces. This is clarity. This is a small and simplified part of the vocabulary of the acousticians who design musical facilities.

The audience....what do they get?

The audience has different requirements to those of the musicians. Where individual musicians need to be able to hear themselves in relation to the overall ensemble, the audience only wants to hear solo instruments standing out. The acoustician must provide the audience with a blend of all instruments so that individual instruments only stand out during solos, and yet the position of all instruments can be made out on the stage using the ears alone. In addition, to provide a strong impression of musical image, the audience must have additional support from reflecting surfaces above and to the left and right of the musicians. These reflections must arrive at just the right time and at just the right level in relation to the sound from the instruments, for every seat in the audience.

The goal of equally excellent sound in every seat can be met (or at least approached) by suitable deign of audience placement relative to the stage, and careful positioning, shaping and material selection for the boundaries of the audience chamber.