

Those without experience of specialised areas were asked to omit comment on these areas, but everyone has ears and so acoustic definitions were provided. As someone with critical ears but lacking in acoustical jargon, I found these particularly helpful and therefore worthy of sharing with fellow Cue readers.

Intimacy

A Concert hall has acoustical intimacy if music played in it sounds as played in a smaller hall. The listeners impression is formed by the sound which arrives directly to his ears and the sound reflected from the walls and ceilings. The delay gap between direct and indirect sound should be short in order to avoid echos. The direct sound must not be too faint relative to the reflected sound. Intimacy is considered to be the most important factor in the subjective evaluation of a music hall.

Liveness

A hall with a good reverberation is called lively. Liveness in a hall imparts fullness of tone to the music. Liveness primarily relies on the reverberation time for middle and high frequencies above 500 cycles per second.

Warmth

Warmth in music is defined as fullness of bass tone relative to that of mid-frequency tone. The difference of the reverberation time for different frequencies must be small to avoid uneven effects.

Loudness of Direct Sound

The direct sound created by an orchestra must reach all listeners even in the back rows with adequate loudness. A good music hall is of limited length and the stage enclosures are designed to direct the sound evenly to all seats, with adequate loudness.

Loudness of Reverberant Sound

The indirect or reverberation sound reflected by walls and ceilings should arrive at the listeners ears with necessary intensity and should blend with direct sound comfortably.

Balance and Blend

Good balance entails the balance between sections of the orchestra and the balance between orchestra and vocal or instrumental soloists. Good balance requires a well designed stage enclosure with irregularities on its inner surface to provide the orchestra with early reflections – an immediacy of response. Blend is defined as a mixing of sounds from the various instruments of an orchestra to sound as a harmonious whole to the listeners.

Ensemble

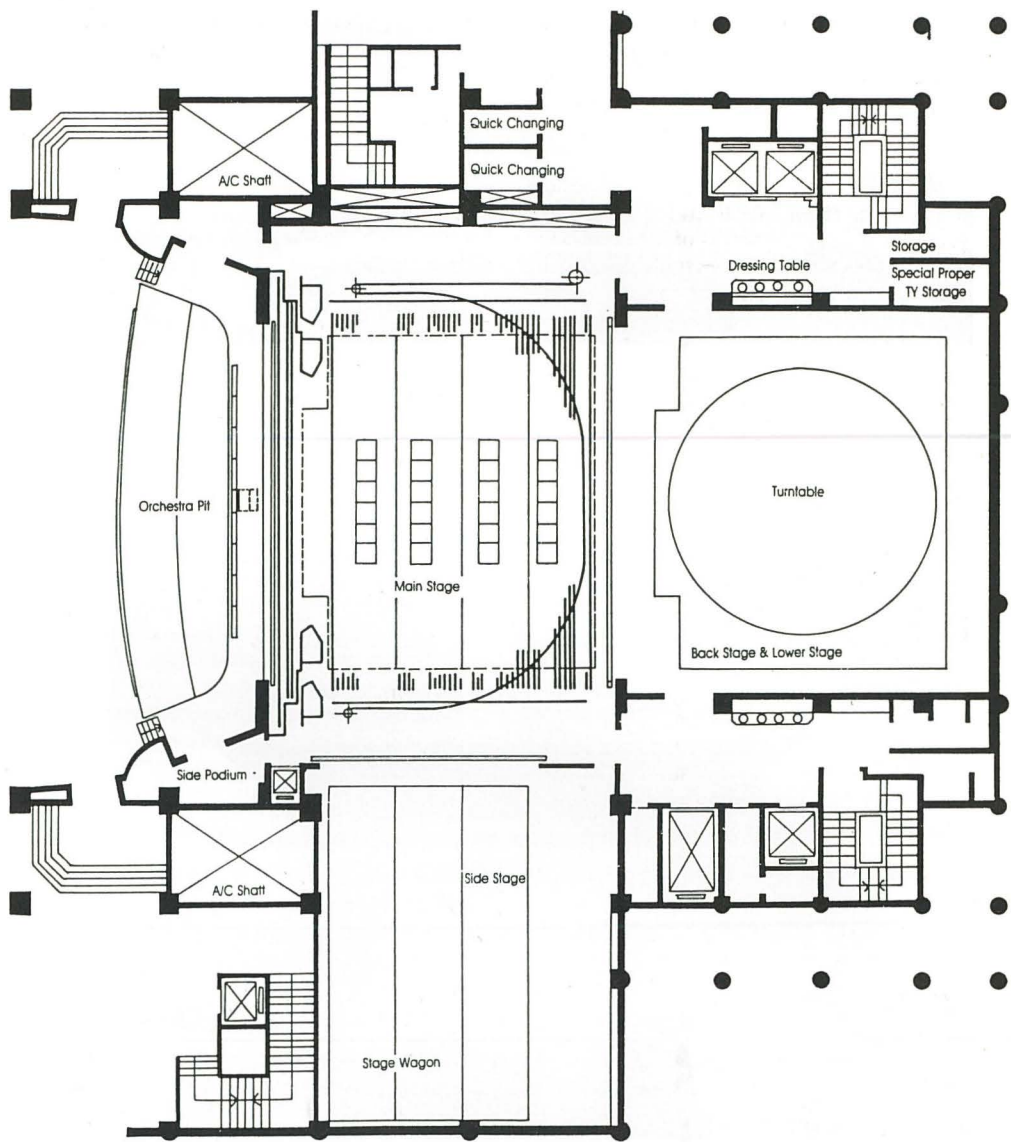
Ensemble is the ease of hearing among performers in order to enable them to perform in unison so that many voices sound as one.

Freedom from Echo

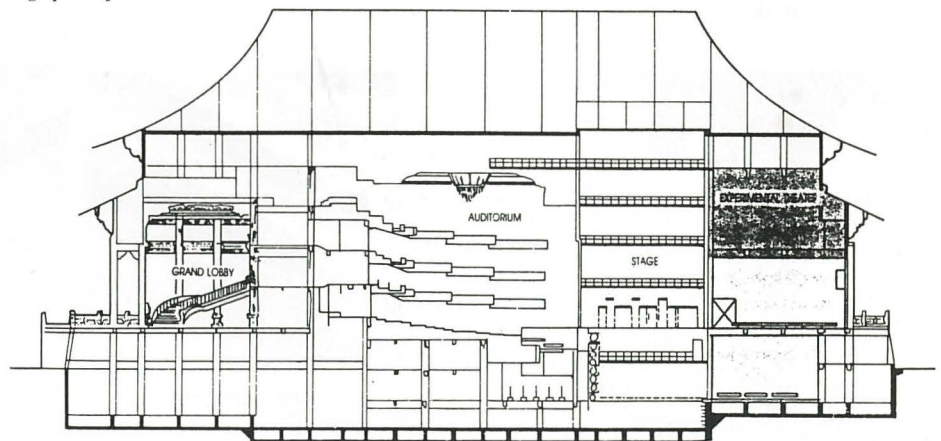
Echos should not occur in a good hall since they are disturbing to the listeners.

Freedom from Noise

A concert hall must be free from noise from traffic, adjoining halls or practice rooms,



Stage plan of Theatre



Section through Theatre

from subways, airplanes, airconditioning system and footfall noise of latecomers. The music hall should be isolated from any external noise source.

Tonal Quality

Tonal quality is the beauty of tone. A fine instrument has a fine tone quality and similarly a concert hall can have a fine tonal quality. If there is:

- * No loss of a band of frequency by abnormal sound absorption
- * No rattling or ringing of surfaces or claddings
- * No rasping sound
- * No flutter echos
- * No peculiar buzz

Then the tonal quality of the hall should be favourable.