

**ACOUSTICS2008/91**  
**Generous opera house acoustics for lyric and symphonic performances**

Daniel Commins

Commins Acoustics Workshop, 15 rue Laurence Savart, 75020 Paris, France

It is believed that a short acoustic response is needed in an opera house to guarantee good intelligibility of lyrics. Some of the best opera houses have a relatively long reverberation time associated to good clarity. They are more suitable to symphonic concerts than "damped" rooms. The recently opened 1350-seat Grand Théâtre de Provence in Aix-en-Provence, France, is an example of an opera house with a long response and good clarity. An adequate orchestra shell and proper permanent acoustical treatment of the stage tower lead to suitable acoustical parameters in the symphony configuration. The measurements show that in an opera house of this capacity, it is possible to create conditions compatible with opera, symphony, chamber music and recitals. The rich opera configuration sound generates mostly positive reactions. Most concert goers consider that this room is now the reference for the region. One must note however that this approach is risky since the values that are considered ideal for opera must be stretched far. It may lead to excessive reverberation and even to unwanted reflections. This target requires genuine investigations, from early concept to final design, using the most advanced prediction and modeling techniques. The design of larger rooms under the same principle requires even more care.