

IMPULSE / RESPONSE

London Edition

**A Sound Installation by Gerhard Eckel
Commissioned by the School of Sound
Foyer of Queen Elisabeth Hall
South Bank Centre, London, UK**

"IMPULSE / RESPONSE – London Edition" is a generative sound environment based on recorded sound material, a composition defined by a computer program which generates an infinite and ever-changing flow of slowly evolving sonic patterns.

Both the characteristics of the impulses creating these patterns and their temporal evolutions have been adjusted in situ, so as to fit the acoustic signature of the space. This is referred to as a process of inscription. Eight loudspeakers project the sound textures onto the foyer's ceiling's reflective surfaces, producing a diffuse sound projection. As the spectral energy of the sounds is concentrated in the highest registers, they lend themselves best to reflection and occupy only a small niche in the acoustic ecology of the foyer. The soft, thin sonic textures interfere little with the sounds that naturally inhabit this space of social exchange amongst the participants of the School of Sound.

The aural atmosphere created by the installation remains on a subconscious level of perception for most of the time. Should a series of impulses enter our consciousness, it is probably because it provokes our auditory sense into producing a hypothesis for reading the ever-changing abstract sound patterns. Situated between synthetic and concrete sound qualities, the trains of impulses evoke a broad spectrum of associations, of rich responses. The sounds and their evolutions are composed so they may be listened to intently – and the attentive ear will not be disappointed. At the same time, they may be taken as an unspecific auditory decoration, an aural ornament that does not demand attention. This is achieved through a refined sonic evolution on the local time scale in combination with a well-balanced stasis on the global time scale – two of the main characteristics of ornamentation. All temporal structures of the sound environment are based on repetition and variation at changing rates. The rates range from one cycle per ten seconds up to a hundred cycles per second, covering the transition from rhythmical to tonal perception of periodic sonic events – passing through various degrees of sonic roughness, and lending a particularly tactile quality to the sound. The repetition of similar impulses also helps create a stable localization of the phantom sound sources typical of the indirect, diffuse sound projection employed in the installation. But there is yet another particularity in the choice of the repetition rates: the upper range, from about a tenth to a hundredth of a second (corresponding to about a hundred to ten feet of sound propagation), coincides with the time delays typical of the early echoes forming a room's acoustic signature, known as its impulse response.

This installation is based on "IMPULSE / RESPONSE" created for the exhibition "Visions of America" at the Essl Collection in Klosterneuburg / Austria in 2004.

G.E. London 29 March 2005