

Michael GENDREAU

COMMENTS

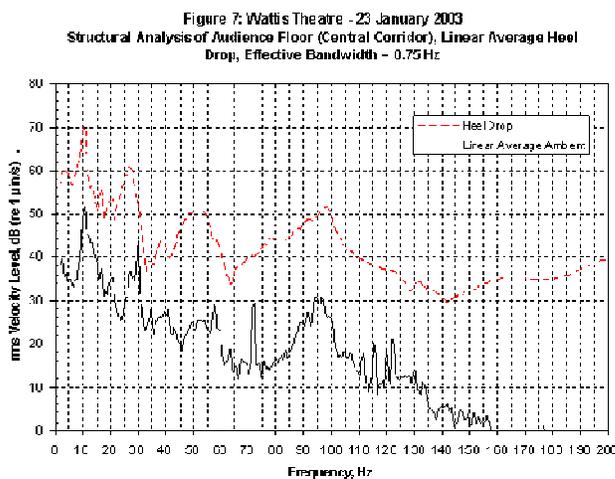
All structures on the earth's surface vibrate, nothing is at rest: each place and every building vibrates differently, as a function of the materials and dimensions of its constituent components, and the surrounding sources that energize them. Each building voices a unique language.

The best buildings and the best rooms are flawed; this is their character built of unchanging physical properties. As composers and performers, we choose to work with or against the building. Working with the building, we use its flaws, highlight them, and thereby make them invisible.

My concert consists of several phases carried out in the days or hours preceding the actual performance: formal conception, structural analysis, material composition, and performance.

Formal conception and material composition involve the composer's inexpressible ideas of form and composition; any attempt at a quick summary will not convey their importance. The physical processes of structural analysis are easier to discuss, and in fact their explanation is a significant practical matter.

Analysis. Typical vibration spectra will be measured at various points on the surfaces constituting the performance space. By this means, the natural responses of the structure to ambient vibrations and transients from the surrounding area (traffic, rail systems, activities of people, mechanical equipment, etc.) are identified. These measurements are made with sensitive accelerometers, which measure vibrations 100s of times smaller than



we can perceive. The analysis and recording process greatly amplifies these signals, which will be translated into audible sound in the performance. By reciprocity, playback of these signals into the performance space efficiently excites the structural elements of the space.

Review, editing, and composition make up the next stage, realized over a few hours using deliberate formal concepts.

SOUND SYSTEM

Successful presentation of the electronic music concert will require a high quality, low noise sound system. The necessary radiated power requirements of the system will depend on the size of the concert space and other details. The system should be able to produce sound levels of 120 dB in the occupied space, without distortion, throughout the audible frequency range. In my performance, I will use transducers (accelerometers) capable of producing signals down to 1 Hz, and for this reason it would be preferable that the system have a subwoofer and adequate power to drive it. (It is understood that this system will not reproduce flat signal down to 1 Hz! As low as possible is preferred.) The system must have at least two channels for stereophonic production.

Since my instruments utilize acoustic feedback, I will wish to have adequate time in advance of the performance (a day or part of a day at least) to “tune” the sound system. This may involve equalization, particular speaker placements, etc.

OTHER RESOURCES

Depending on the building situation and local environment, use of real-time data from local vibration sources may be possible.

In this case, I will request that two coaxial cables, as long as practical up to 300m, preferably terminated with BNC connectors, be provided that I can run from the performance area to interesting sources of vibration in or near the space. We should discuss these potential sources of vibration in advance of the concert.

CONTACT INFORMATION

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