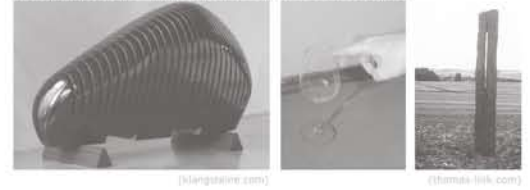


SC794 Singing Concrete

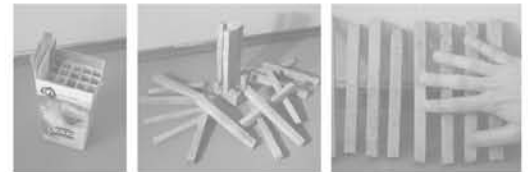
Concrete in general is known for its robustness, its capacity to bear heavy loads, its mass. But how would it be if concrete had a voice, if it could sing with the wind or even be played as an instrument by human touch?

This project tries to reveal the sonic properties of concrete. By slicing stones into parallel slabs or pins it is possible to get soundstones. Rubbing gently with wet fingers over these stones can initiate a vibration of the slabs resulting in a soundcluster. The quality of sound can be compared with the sound of several wineglasses rubbed with wet fingers simultaneously. Some soundstones produces their sound even when the wind strikes their sharp edges.



Experiments proved shortcoming of normal concrete for the project of Singing Concrete. Almost all pins broke due to the limitation of the material. The concrete absorbed the water which was meant to play. It was possible to produce sharp edges but these were of a poor durability. Although the experiment failed in terms of sound, what was really impressive were the smooth and silky-like surfaces of the concrete resulting from the plastic sheets in the formwork. The concrete was tactile, inviting to touch and stroke the surface.

With the special formula of Ultra High Performance Concrete these shortcomings can be passed. Besides its excellent constructive properties it is impermeable and has a very homogenous structure. It is possible to produce strong sharp edges and plastic formwork can result in smooth and even reflecting surfaces.



The proposed design shows a possible use of singing concrete as a sculpture. The location for the intervention is a downtown, pedestrian area where commuters hurry from their offices to the nearby train-station and vice-versa. Often strong winds blow from different directions due to the surrounding high-rise buildings.

Four concrete sculptures are positioned facing each other. Each sculpture has a rough back with marks of the formwork. The rest of the sculpture is cut straight and has smooth surfaces that reflect the glass and steel architecture of the surrounding. Horizontal cuts divide the body into slabs similar to the soundstones. The lower slabs have trimmed edges facilitating the stroke of human hands. Up to the top the profile of the slabs becomes sharp so that wind results in vibration of these slabs.

With the new formula of UHPC it is possible to surpass the original performance of concrete. Besides the right mixture of the concrete and the right formwork no additional high-tech is needed to let concrete reflect and sing with the wind.

