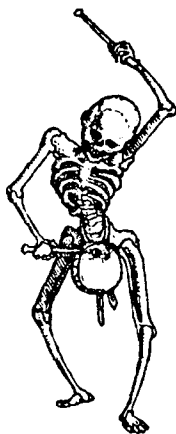


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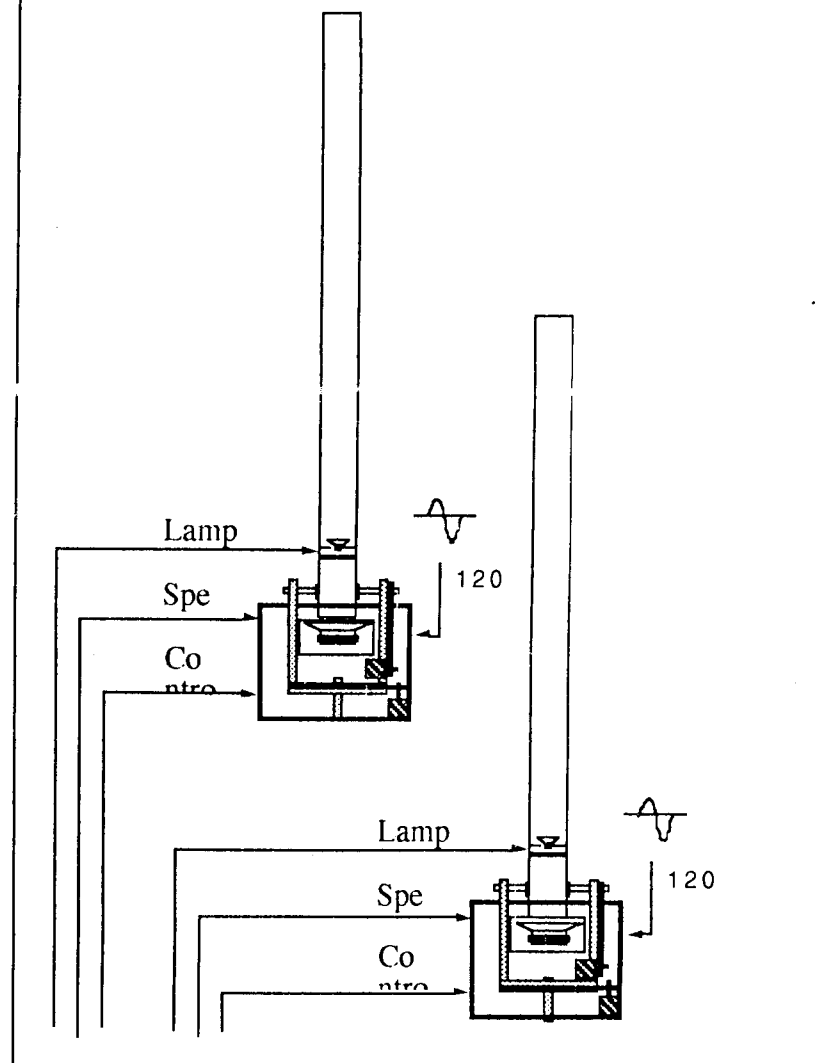
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ESPACE VECTORIEL

INTERACTIVE ROBOTIC INSTALLATION



ESPACE VECTORIEL

Interactive Robotic Installation

Created by
Louis-Philippe Demers
Bill Vorn

Robotics built by
Form Dynamics (Toronto)
Andrew Galbreath
Kevin Hutchings
Alex Solomon

Sonar sensors & midi interface built by
Alain Martel (Montréal)

ESPACE VECTORIEL is produced with the help of the Ministère des Affaires Culturelles du Québec (Recherche-Innovation program) and the Canada Council for the Arts.

Combining an artistic and technological background, Louis-Philippe Demers designs, controls and performs lighting with computers. His research on novel computer lighting control have been applied in various contexts, from robotic installations to modern dance passing by acient music. He has been a computer media intern and twice artist in residence at the Media Arts Section of the Banff Centre. Before joining Banff, he completed one year of doctoral studies in robotics at McGill University and obtained an M.Sc. in C.A.D. Demers works have been presented at TISEA, CyberArts, New Music America and at the Canadian Pavillon in Sevilla.

Born in Montréal in 1959, Bill Vorn is presently doing a Ph.D. in Communication at the University of Québec in Montréal. He works professionally as a music composer and sound designer since more than 10 years. At first he was a founding member of the electro-beat group Rational Youth. He then worked closer to the film industry scene as a composer and sound effect editor. He is now working on various projects ranging from ambient to techno-transe music, and also on different interactive audio-visual installation projects.

Movement, sound and light from objects are inevitable. Interaction with machines is centuries old. We implant life in machines so they can return life to our own environments. This installation is about the displacement of existing artefacts. It imposes our own perception of behavior upon a society of mechanical, audio and visual elements.

ESPACE VECTORIEL paraphrases the mathematical term *vector space* in which information or behavior is expressed in terms of vectors: entities represented graphically by lines or arrows. We often see computer graphics images made of vertices and vectors: a raw representation of a more complex object.

ESPACE VECTORIEL is an interactive sculpture consisting of motorized tubes with a speaker and a light source within. By building a society of these elements, a group of eight, a simple scheme becomes complex and intriguing.

The motorized tube is approximatively 1.25 meter long and has two degrees of freedom: full 360° rotation and 170° tilt. The sampled sound, light level and position of each tube are controlled independently and, equipped with custom built synchronized control of all these medias, interesting patterns and variations are created. For example: complementing tube movement can be complemented by light fading in while the tube and sound are rising.

Through this society of tubes, relationships between physical movements and their sound or light counterparts are explored. The concept of *replication* is fundamental to this work. Rituals, hierarchy, artificial life, chaos, the collective versus the individual, are among the explored by using multiple modules. Organic compositions are also envisioned, for example simulating the effect of wind on a field by a coordinated panning of movement, sound and light, among all the tubes.

A serie of eight sonar sensors makes the "society" react to the viewers. For example, on specific "windows", a tube can withdraw from its common path and bend over, spilling sound on the viewer standing in a perticular spot; a direct statement about individuality. The interactive behavior of this work evokes the sensory organ of a natural organism. Combined with the interaction, a dark and hazy space recreates a hypothetical natural environment.