

# "Augmented Body and Virtual Body"

## Music Theater for Robots, BodySuit, Sound and Images

Suguru Goto

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### Credit

*Suguru Goto: Initiator of the project, Media artist,  
Composer, Conception of BodySuit and RoboticMusic  
Yann Bertrand: 3D Image  
Ipppei Hosaka: BodySuit Performance  
Michèle Trotta: Coordinator*

*Texts: "A Thousand Plateaus" by Gilles Deleuze & Felix  
Guattari, and "To Have Done With The Judgment Of God"  
by Antonin Artaud  
Voice: Francois Leonarte and Antonin Artaud*

*Fuminori Yamasaki (iXs Research Corporation): Robot  
Technique  
Patrice Pierrot: Electronic Engineer  
Alain Terrier (IRCAM): Mechanic Engineer  
Rio Yehlin Lee: Technical Assistant*

*Carine Le Malet (ART 3000 / Le Cube): Organization  
Michael Limousin (ART 3000 / Le Cube): Technical  
Director  
Rémy Hoche (ART 3000 / Le Cube): Press Relations*

*Friday, April 14, 2006 at 20:30*

*At Le CUBE  
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20, Cours Saint Vincent  
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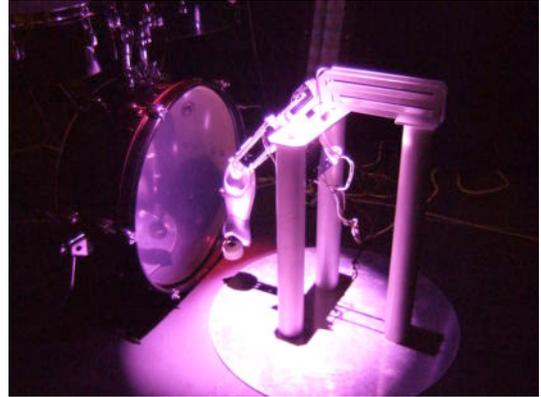


### 1. "Augmented Body and Virtual Body" Music Theater for Robots, BodySuit, Sound and Images

The aim of this group, which consists of Suguru Goto, Yann Bertrand, and Ipppei Hosaka, is to create a new form of dance, theatre, music and new media in the context of the performing arts. Our work contains applications of systems with sensors of movement (BodySuit) and robots (RoboticMusic).



We raise a question about the coexistence between robots and human being: how could the differences between the play of human and the performance of a robot be? We explore the differences of gesture of human and the actions of a robot in the music: a robot can play indefinitely in a perfect way and faster, whereas that appears to be difficult for the man. Human being however, plays with a "supplement of heart" that the machine does not have. When a robot simultaneously plays with human, we can observe that they have their own particular musical expression.



## 2 Program Note

What interests us in the context of this project is to produce a form, which is at the same time iridescent and enigmatic where the elements interpenetrate, combine, and operate like flows, intensities and vectors. The topic itself, "Augmented Body and Virtual Body", evokes the idea of opposition and resemblance in the duality simultaneously. It is not a question to show that one is superior or inferior to the other. However, one and the other coexist, and are equivalent and different, when they play.



For this project, Suguru Goto developed his own robots with his original design, with collaboration with Fuminori Yamasaki, iXs Research Corporation (<http://www.ixs.co.jp>). Each robot, which is controlled by a computer in real time, represents a part of the human body and imitates the gesture of the human player.



"Augmented Body and Virtual Body" is conceived as a music theater piece, that the elements cross and hybridize themselves in continual links/ratios of exchanges and flow without fixing itself towards any directions. The idea would be that what is real, which is artificial, what is virtual, on the verge of themselves, and to create relations of pure intensities, which degrees zero of expression without its value of positive or negative.



All the elements of "Augmented Body and Virtual Body" thus exploit these concepts of equivalences and ambiguous displacements between what is real, artificial and virtual. What the performer plays BodySuit as an instrument is reality, and what he controls robots is reality, as well. However, these robots turn out to be their imitation to the human body, which refers to virtuality. Moreover, the images of body on the screens, which is the illusion of reality, do not have any materialistic reality, whereas the robots and the performer are quite real in terms of their existence on this scene.



BodySuit can control the robots, the images and the sounds in real time. The reactions of its gestures can be either direct or indirect. For example, the case of direct is that a rapid arm gesture from a higher position to lower could trigger that the percussion robot hits an instrument. The one of indirect is for example that a gesture triggers to start an algorithm of particular behavior that sends signals with various values of delay to each robot. The only robots, which are controlled by the computer, play in certain sections of the composition. While the passages, which are controlled by BodySuit, make it possible to create a more complex musical material, this robot solo with the computer

allows realizing the complex and faster performance, which is impossible for human instrumentalists.



The texts are used to reinforce the topic, "Augmented Body and Virtual Body". They are treated like visual materials on the screens and are heard by real or synthetic voices at the same time. Each text can be altered by logical rules – as if solving a puzzle - and slowly transformed one to another like a morphing to give a different meaning from the original one. The texts are extracted from "To Have Done With The Judgment Of God" by Antonin Artaud and "A Thousand Plateaus" by Gilles Deleuze & Felix Guattari, in particular the chapter of Corps sans Organs (CsO = Body without Organs), which the both of literature share the same theme.



## Link

General Information

<http://suguru.goto.free.fr>

<http://abrb.freefronthost.com/>

Augmented Body and Virtual Body

<http://0141712186.free.fr/Contents2/LeCube/LeCube-e.html>

<http://0141712186.free.fr/Contents2/ABVB-E/AugmentedBodyAndVirtualBody-e.html>

RoboticMusic

<http://0141712186.free.fr/Contents2/AVFestival/AVFestival-e.html>

<http://suguru.goto.free.fr/Contents/Works/RoboticMusic/RoboticMusic-e.html>

BodySuit

<http://suguru.goto.free.fr/Contents/Works/BodySuit/BodySuit-e.html>