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Symbiosis of Human and Artifact

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Y. Anzai, K. Ogawa and H. Mori (Editors)
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Network Neuro-Baby with robotics hand

(An automatic facial expression synthesizer that responds to expressions of feeling in the human voice and handshake)

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Abstract

Neuro-Baby (NB) is a totally new type of interactive performance system which responds to the human voice with a computer-generated baby face and sound effects. Emotion space model is employed to categorize the feelings of the speaker. To recognize the human voice we used a neural network which has been taught the relationship between a set of digitized wave patterns and the location of several emotion types in the emotion space. The facial expression is synthesized continuously according to the location which the neural network generates. The flexible design of NB is possible by changing the facial design, the layout in the emotion space, sensitivity to the transition of the feelings or the teaching pattern for the neural network.

By networking NB's, we can enjoy a non-verbal communication with each other. Such a Networked NB's will help the mutual understanding, absorption of cultural gap as well as international cultural exchange very much. The first result will be demonstrated in 1995, by connecting two NB's between Japan and USA. The networking issues concerning such a system is also addressed.

1.Introduction

A new creature has been born!! This creature can live and meaningfully communicate with modern, urban people like ourselves, people who are overwhelmed, if not tortured by the relentless flow of information, and whose peace of mind can only be found in momentary

