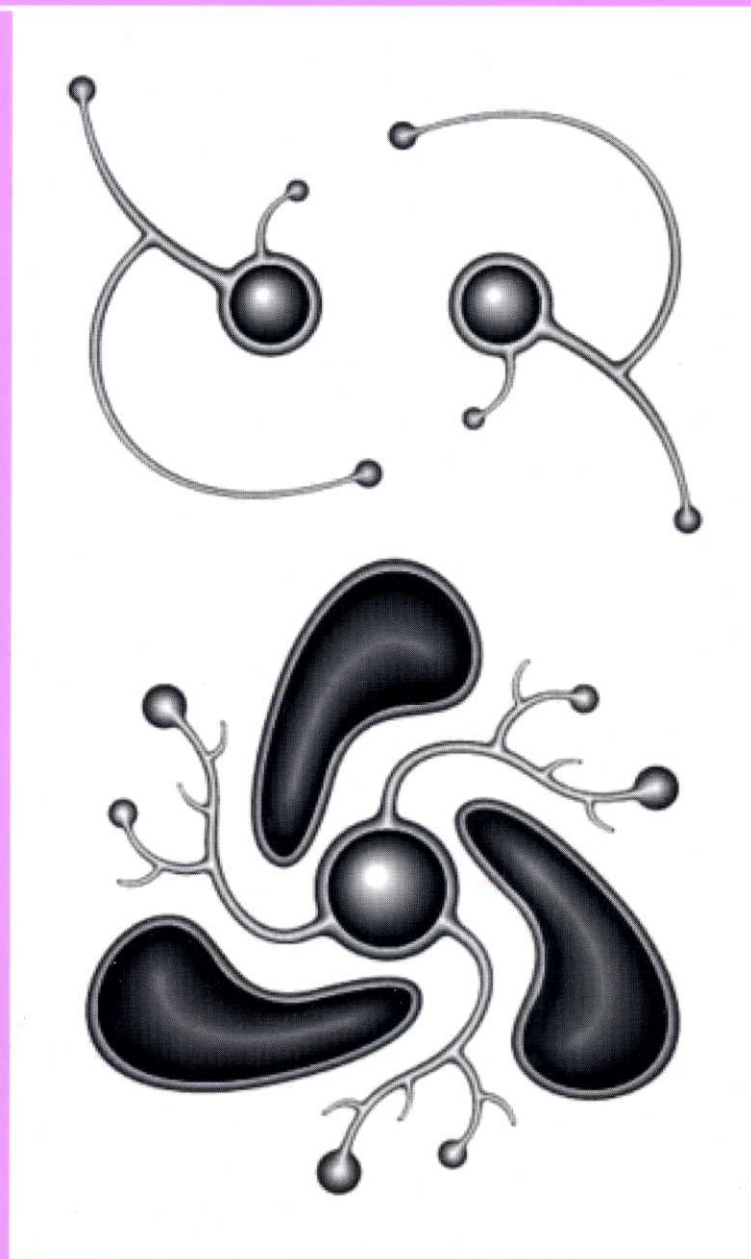


# DIGITAL CREATIVITY

*Special Issue*

Computers &  
Post-Biological  
Art



# Artistic Communication for A-Life and Robotics

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## Abstract

*A computer-generated poet, MUSE, conveys short poetic words and emotions to a person using the "Renga" format. "Renga" is generated by multiple people as a combination of short Japanese poems such as the "Waka" or "Haiku" which were created in the ancient era and have been used as a medium to express Japanese spiritual emotions. By hearing these words, the person is able to enter the world of that poem and, at the same time, he or she is able to speak to MUSE with poetic words. Through this process of exchanging poetic words, the interactive poem allows the user and computer to work together to build the world of an improvised poem filled with inspiration, feeling, and 'emotion'.*

*Keywords: emotion recognition; cross-cultural understanding; spiritual interactive art; computer poetry; sensitive communication*

## Introduction

Humans cannot live alone. A human is basically a creature who longs for communication with humans and things. By showing affection to someone or something, teasing someone, or personalising things, a human is spiritually satisfied. In the future, humans will tend to love or hate the computers that will fill our lives. In order to co-exist with computers, we are forced to change our lifestyles. In our life today, however, it is nearly impossible to avoid

communication with computers. That is why sensitive communication with computers becomes important. Although computers are essentially unfriendly, they can be made friendly by the skilful design of computer software and hardware. In this paper, we introduce an AI computer system featuring an interactive theatre in which a person can create an impromptu poem and participate in a play while communicating with AI characters capable of sensing human emotion.

## Interactive Poem

We propose a new type of speech-based interaction system called *Interactive Poem* (Fig. 1). A human and a computer agent create a poetic world by exchanging poetic phrases, thus realising emotion-based communications between computers and humans. As a first step toward emotion-based communications between computer agents and humans, we have developed several computer agents such as Neuro Baby (Tosa, 1994), MIC and MUSE (Tosa & Nakatsu, 1996). These are computer characters that are capable of recognising several emotions in speech and reacting to them by changing their facial expressions and body motions. Fortunately, these agents have been very successful and have been demonstrated at various exhibitions. As a next step toward the realisation of feeling-based communications between computer agents and humans, we selected the 'poem' as a means of communication. There are several reasons for this approach. The main

