The Kineto-Auditory Communication Research Group - KACOR

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In 1990, July 1, the Kineto-Auditory Communication Group joined the Dept. of Speech Communication & Music Acoustics. The Group works on improvement of the conditions for a fruitful exchange between choreography and musical composition and to create a description of choreographic movements in terms of a notation system. The choreographic data are used to control sound parameters in musical compositions. Data on sound characteristics are intended for descriptions of choreographic movements. An important part of the work is to adapt the computer systems used for a reciprocal describing of movement and music.
The KACOR Group is now developing a computer system for intermedial communication and for the study of motion. The computer-aided intermedial communication is intended to be used between the composer and the choreographer. Both the hardware and the software are developed and integrated to allow autonomous work with a computer-music and computer-choreographic system as well as the exchange of information between the systems. Current research is primarily concerned with direct communication at the parametric level. However, this is merely the first condition for a complete interactive communication. The ultimate goal of the research is to develop two "artistic interfaces", capable not only of data transmission but also of an autonomous evaluation and utilization of that data.

We continue our work on a computer-aided representation of human motion. Both the Symbolic and the Function-Notation programs have been improved. We also have started to develop a new animation program, ANIMA II, which is modular and easy to implement on different microcomputers. The current version runs both on Macintosh and on an IBM PC compatible with WINDOWS. The program will be implemented on UNIX systems and on the ATARI ST/TT computers in a near future. In connection with this work, we have studied the possibilities to describe human motion by text. As a first result, we have developed a program language, MOVE_0, which is integrated with the ANIMA II graphic animation program. The logical text format, MOVE, will serve as a common description format to all the programs within the whole human motion description system, MOTOGRAPHICON. Two courses have also been given at the State College of Dance in Stockholm in order to test the system and to gain interest among professionals.

The project, which aims to implement a sonogram program on the Macintosh computer family with special display and output features, is almost ready. We have been able to demonstrate it on different occasions.

The Sentograph, the three-dimensional touch-sensitive input device, has been incorporated into our workstation and also combined with MUSSE-DIG. It has also been necessary to develop program modules and to modify a hard-ware midimixer. We have also purchased a Radio Baton from Max Matthews, Stanford University which we will use in our motion and gesture studies.

The new implementation of CPL in Common Lisp has started. A few basic functions are running and the work will be continued.

Since the KACOR Group joined the Dept. of Speech Communication and Music Acoustics, we have given many lectures, seminars, and workshops all over Sweden and abroad, and papers have been published in different Congress Proceedings.

The members of the KACOR group have been active as composers with several premiers of compositions based on the software and hardware realized by us. A new method of composition and notation has also been developed with success.

This new notation may be characterized by its working steps:

1. the creation of an electro-acoustic music material in digitized form
2. spectral analysis and production of a sonogram
3. filtering and other graphical treatments of the sonogram
4. transformation into Postscript format
5. output.

The members of the Group are: Tamas Ungvary, project leader and composer, Peter Rajka, choreographer, Peter Lundén, System responsible and composer, Magnus Lundin, mathematician and dance pedagogue.