

**Hans Tutschku**  
(hans@tutschku.com)

## **ON THE INTERPRETATION OF MULTI-CHANNEL ELECTROACOUSTIC WORKS ON LOUDSPEAKER-ORCHESTRAS: SOME THOUGHTS ON THE GRM- ACOUSMONIUM AND BEAST**

The Inventionen Festival once again invited a loudspeaker orchestra to the Berlin Parochialkirche in the year 2000. In 1996 the GRM Acousmonium came from Paris; this time it was BEAST from Birmingham, directed by Jonty Harrison. On both occasions a number of Meyer loudspeakers from the TU-studio were added to the visiting systems. The official reason for the mixing of systems is that Meyer speakers were intended for the reproduction of multi-channel works in the festival. This is the precise point which caused me to write a few lines.

Historically, loudspeaker orchestras developed as performance systems for stereo works. The largest-scale instrument on which I have been able to interpret a number of works is the Acousmonium of the GRM, developed by François Bayle during the early seventies. It groups very different types of loudspeakers into an imposing spatial setup.

The term orchestra is appropriate not only because of the deployment of individual 'loudspeaker-instruments' in space, but also because of the different registers and timbral qualities of each loudspeaker. The setup of the Acousmonium is not fixed, however. It can vary on each occasion (even in the "Salle Olivier Messiaen" in Paris where the GRM's regular series of concerts takes place), enabling experimentation with each new speaker configuration. The innumerable concerts of the past 30 years have revealed advantages and disadvantages of certain setups - but how can this be objectively assessed?

Every composer has his own ideal conception of the sound of his own works. Is it the sound-image of the studio in which the piece has been produced or is it an imaginary, unreachable sound-image? Is it moulded by a certain technical standard - such as the quality of tape machines, the unique resources of individual studios and loudspeakers? Does his ideal sound-image change in the course of his aesthetics? Is it a symmetrical sound-image or is it asymmetrical on purpose? (The last produces some advantages because symmetry applies only to a small part of the audience which is placed in the centre.)

There are as many opinions on the setup of a loudspeaker orchestra as there are on the matter of sound composition itself.

It is certainly true that for many composers, intimate contact with the sound material of a work, the constant relistening, refinement and steady progress to the realisation of the work's conception, together with the possibility of its almost totally accurate reproduction, excludes more and more the idea of an interpretation afterwards. The reproduction of a stereo composition on a loudspeaker orchestra (of which the single pairs do not always correspond to the individual's taste for sonority and where the task is to find favourable combinations) can already be a hurdle for interpretation. This is particularly the case for the beginner, as there are quite a number of technical matters to be integrated - even the handling of the diffusion console itself might distract

someone from a real interpretation. Many workshops and my participation in the "International competition for the interpretation of electroacoustic music" in Brussels in October 2000 revealed clearly the existing lack of training for sound projection and interpretation of electroacoustic music. What is needed is special training for these topics. If we could train specialized interpreters - specialized not only in the technical matters but above all in musical interpretation - we might arrive at a point where composers could hand over the interpretation of their works to these specialists.

But what is interpretation in electroacoustic works? Discussion around this topic already finds two incompatible points of view in Paris alone: IRCAM and GRM. At IRCAM one takes only very cautious steps towards the interpretation of recorded sounds. Mostly one establishes volume levels during a rehearsal that are exactly reproduced during the concert (they hardly even take into account any possible change of acoustics - and they do not include at all the possibility of responding to the mood in the hall or the feelings of an interpreter). At the GRM it is almost the exact opposite. There it is absolutely no question of basic attitudes - rather a practical problem. One needs time to adjust oneself to the system. The different sound characters and characteristics of direction of the loudspeakers must be discovered. The interpreter must become acquainted with each hall and its acoustics and must distribute the sounds of the composition on to the different groups of loudspeakers accordingly. Interpretation does not mean only spatialization and the invention of movements. The existing spaces of the sounds in the composition are transmitted into the real space, their changes in dynamics and in space are adjusted to the dimensions of the concert hall and compositional gestures and contrasts are underlined. It deals with an "extension" of the compositional structure.

This is only possible when the interpreter knows the composition by heart. This is what has been criticized with (renowned) festivals where the interpreters, due to lack of rehearsal time, hear the composition for the very first time during the concert - what type of interpretation is possible in these circumstances? They somehow try to run after the piece and do something that sounds as though... For the listener the result is a very unsatisfying experience which calls into question the use of loudspeaker orchestras at all. Back to Berlin where luckily this was not the case.

BEAST is a smaller system than the GRM Acousmonium. One might even compare it to a chamber orchestra. There are two marked differences: in BEAST the placing of the loudspeakers is in pairs and is relatively fixed. They play certain roles and have specific names. This results in a practical advantage: on the diffusion console one can always find the same relationships. The comparison to an instrument is therefore closer than with the Acousmonium where - according to the setting of the loudspeakers - also the references on the console are new each time. The second difference can be found in the quality of the loudspeakers. BEAST is more balanced in its total sound according to my view. It does not have the sonorous power of the Parisian system, but it is more suitable for fine adjustments and subtle work in sonority. These qualities can also be reached with the Acousmonium, but only after much more rehearsal time.

But BEAST too is primarily designed for the diffusion of stereo works. What happens then when one plays multi-channel works on such a system? One fundamental difference between stereo and multi-channel works is the virtuality or reality of the third dimension. It goes without saying that one can also create an impression of depth with

two loudspeakers (which means going beyond the left-right limitation). But the real leap of quality in the case of managing with space occurs at the change to four composed sources. The conception of the composed space changes radically. With the addition of more loudspeakers (like six, eight, sixteen etc.), a more homogeneous and more varied illustration of space is assured but the conceptual difference is not as enormous as the leap from two to four. (I do not speak here of projection of stereo works on more loudspeakers but of the composition of a certain number of sources.)

When one composes the third dimension in the studio, movements in the whole space can gain a function (structural, emotional, narrative etc.) which the composer also wants to be projected in performance. Frontal and rear sound may possibly no longer be interchangeable; it becomes important that all listeners experience the work in a precise configuration. The exact setup of the loudspeakers is therefore planned beforehand. But it is often extremely difficult to find a true realisation of the pre-planned configuration (without rearranging the whole system during the concert!) - and this can impose a change from one very specific concept of a piece to another.

But there is another difficulty with projecting multi-channel works on loudspeaker-orchestras: multi-channel compositions are mostly composed for a homogenous ensemble of loudspeakers. When the sound moves from one to another, one does not necessarily want a change of sound colour as well. However, because of the range of different loudspeakers in their systems, this can occur when one moves the sound from one loudspeaker to another within BEAST or the Acousmonium. In this sense a combination of a homogenous circle of 8 Meyer loudspeakers and the systems from both Paris and Birmingham offer a very good compromise. For both aesthetic movements the possibility of an adequate instrument is at one's disposal; it also gave BEAST additional power for energetic passages without overshadowing its capability for filigree.

I will finish by outlining my personal way of handling this "combined" system because it came closest to my own preferences for a multi-channel loudspeaker system. In April 2000 I was able to realize a concert in Paris with multi-channel works on the Motus-Acousmonium - a system of comparable size to BEAST. For this, as for the concert in the Parochialkirche I decided to present four channel mix-downs (despite the fact that the originals were composed in eight channels). The four-channel version still encompasses a large amount of the composed multi-channel space, but requires only four matched loudspeakers for the reproduction.

In such a situation, the first phase of my work in rehearsal is always to search for groups of four loudspeakers that each could be a possible acoustic image, an acoustic view of the work. The next stage is the search for combinations and transitions. Instead of working with a stereo source in order to transmit the two-channel image into space I work with a four-channel sound-space. But there is no single ideal sound image. (The studio in which the work has been produced is just one sound possibility - and, moreover, often a very limited one.)

My search aims for points of view and insights into the work which are meaningful at the moment of the concert, using the composed sound space on tape as a basis. Reproducing them on the homogeneous Meyer speakers gives a very neutral and exact

image; using all the possibilities of reshaping the space with the BEAST system gives a variety of possibilities for going beyond the composed version on tape and the ability to "adapt" the composition to the moment and the acoustics of the real concert hall.

In this sense the combination of both philosophies - sound-diversity with a large number of loudspeakers and homogeneous circle of loudspeakers - offered a very inspiring instrument which indulged my passion for playfulness and which opened many possibilities, which neither one of the systems alone would have had.

Translation: George Goodman