

The art of diffusion in electro-acoustic music

The idea of "diffusion" (spreading) sound in space dates back to the late 50ies when composers like Stockhausen and Xenakis started to explore (undeniably influenced by more technically orientated people) the concept of multi dimensional sound. In fact, the idea of presenting sound in space at this point of time was more close to what we today think of as "home movie theater" reproduction of sound, meaning a prerecorded definition of how sound is projected in space. For instance Xenakis, at that time working as an assistant for Le Corbousier, made a piece for 350 loudspeakers in the Philips pavilion during the world exhibition in Bruxelles in 1958. The main composer was in fact not Xenakis, who only made a short piece as a transition between the main event of the spectacle created by composer Edgar Varèse and Le Corbousier who also made slide and film projections all over the spectacular building. However the way Xenakis penetrated the idea of spreading sound in space was by far the most elaborate the world had ever seen.

Today a 350 loudspeaker setup sounds like a dream for a composer of electro acoustic music and in fact, let's admit it, it is. However, the idea of working with the projection of sound in space have lingered on up to modern days even though we normally play with much less than the amount of loudspeakers that created "Poème Electronique". Even 4 loudspeakers make a huge difference to only 2, and as you add more speakers the possibilities expand.

The modern idea of, or definition of, the concept of diffusion is however remote from that of predefined placement of sound in a number of speakers. Diffusion is in fact (re)performing a piece of music, no matter if its prerecorded or done live. This puts a borderline between prerecorded multichannel music that by definition is already "prediffused", and that of a mono or stereo recording that is projected through many more speakers than it was created for.

Of course, there will always be a certain discrepancy in the way music is composed and intended to be performed. In fact, as I see it, there is no way of (re)performing a piece of electro acoustic music in less than double the amount of loudspeakers for which it was created. With a mono piece for example, we suddenly add a panorama (2 dimensions). I can still remember the early days of stereo recordings when there were only 3 positions in the sound field. Either left, right or the middle. Those were the days... Technology and aesthetics have come a long way since. Let's assume that we have a piece of music created and pre-diffused in 5.1 (typical home movie theater format). What could I as an interpreter possibly do with that if I had just another 2 or 3 extra loudspeakers to play with? To my mind at least, nothing of any serious artistic, or even for the audience, significant experience that could possibly add anything to the composition (or give me any credits as an interpreter). However if we increase the number of speakers to 10 or 15 or even 20 the situation would change.

Depending on how I choose to place these speakers in the space, different possibilities would arise. For instance, with 10 speakers I could put 5 speakers on floor level and let 5 reside in the ceiling (provided the ceiling is high enough) thereby giving me the option of suddenly placing the music in 3 dimensions. With an additional 5 speakers (giving me 15 to play with) I could simulate a "room outside the room" (and indeed placing the speakers farther from the audience) especially if I altered the frequency characteristics of the sound in the speakers residing farther from the audience. And so I can go on... Finally though, my basic idea is that for anyone who wants to "add" artistic dimensions in the sense of interpretation of spatial qualities will always need a number of loudspeakers that is at least the double of what the music itself was composed for.

However there is more to diffusion than meet the naked eye. Someone (anyone) who wants to act as a "diffuser" of music that he or she is not actually the creator of has a certain number of options at hand in terms of musical parameters to play with. These are: volume, displacement (meaning putting a sound where it was not originally intended or thought of to be), frequency (in terms of filtering the original sound as to adjust for acoustic environment or create psycho acoustic or other effects). So in effect, as an interpretator of prerecorded music of any kind you are relatively restricted in the way you can influence the actual musical impact of the audience.

Often we hear of the comparison between a diffuser and a conductor of an orchestra. Well, there is a resemblance but then again it's not quite the same. Whereas a conductor may add his or her personal touch to a performance by actually altering the tempo and indeed each musicians appearance (in terms of timbre, volume, articulation etc) in a piece of music, the diffuser cannot. There is no way the diffuser can interact with the various layers of sound of a prerecorded piece of music and thus with the layers that in fact constitutes the building blocks from where a truly different interpretation could be made. There are of course examples of electro acoustic music where the diffuser has a true multitrack recording available for live remixing and diffusion, but that is a situation that rarely occurs. However, although we cannot compare the role of a diffuser to that of a conductor of an orchestra, it does not mean that the skills of a good diffuser should be underestimated. I believe that first of all a good diffuser is recognized by his or her ability to analyze a piece of music. Otherwise we would only need a technician to put the volume where it (presumably) should be and that would be the end of the story. But a diffuser who truly understands the intentions of the composer can actually push these intentions that were originally thought of in a small studio and bring them into a huge concert hall, balancing them to a sounding displacement, meaning sometimes overdoing gestural aspects of the piece, or by virtue push a little bit more or a little bit less on those dramatic points in a piece. Now that is, in my opinion, what diffusion is all about.

It is about understanding (as is always the case in musical interpretation) the overall idea of a composers intentions, style, formal structure etc, respect that idea and finally make it come out in a bigger context. As I see it, that is the role of the diffuser, or should be at least. Now I know there are people who would argue with me on this point, but I truly believe that this is the most profound and vital quality aspect of diffusion. Not only am I a composer of electro acoustic music since 30 years but also a diffuser since at least 20. I have had bad experiences with people diffusing my own music and I have made a couple of rather bad interpretation, or should I say, insensitive performances of other composers music as well. So I know. It is not an easy thing to actually add artistic value to a piece composed by someone else than yourself, and then again composers are just a bit oversensitive about their own works. As are diffusers of their work. Aren't we all?