

My Practice of Live Performance of Spatial Electronic Dance Music

SÉBASTIEN LAVOIE

University of Huddersfield (UK)

When I compose music using spatialisation techniques, I am aiming to create a sense of immersion and movement. I am enthralled by the ability and possibility to move sound in space and I consider it an important feature of music. For me, it enhances the listening experience, and this is achieved through localization, diffusion, height and trajectories of sounds. The implementation of spatial counterpoint in my compositions utilises parallel and contrary spatial motion. This use of “spatial counterpoint”^[1] inherently implies a set of compositional considerations for approaching a new work. My music is different to more typical electronic dance music (EDM) since we can hear sound trajectories, changeable rates of speed in sonic movement, localization and a height dimension in the sound. I have arrived at a heuristic meaning and common sense set of rules for spatialisation. My spatialisation technique was influenced by the position of the three rings of speakers at different height in the Spatialisation and Interactive Research lab (SPIRAL)^[2] Studio at the University of Huddersfield. In keeping with my concept of “gravitational spatialisation”, I decided to keep most of my loops containing “heavy” low frequencies (20Hz~250Hz) on the bottom circle of eight speakers while moving or positioning the loops with mid and high frequencies on the two rings of speakers above. This creates a “gravitational spatialisation” where higher pitch sounds are usually heard above the lower bass sounds or kick. Since the ears perceive and localise the high pitch sound more easily (Lee, Gribben, and Wallis 2014), I tend to place the sounds on the higher rings of speakers. This last finding is supported by Lee, Gribben and Wallis where they state that “the addition of height channels in new reproduction formats such as Auro-3D, Dolby Atmos and 22.2, etc. enhances the perceived spatial impression in reproduction” (2014: 1).

Genesis of the Performance Practice

The idea of rhythm and dancing has been important throughout my life and over several years I attended numerous nightclubs in order to hear DJs during the “golden age” of house and techno music. The instant somatic gratification from the bass frequencies was compelling. Yet, I was also drawn to the compositional and intellectual aspects of this music. I started to go to nightclubs at the age of 14 years old and I grew up listening to dance music, which at the time (around 1988) coincided with the birth of house music. Over the years, I have acquired knowledge from these music genres by regularly attending events of this kind and I have developed a strong inclination for rhythmical music, especially EDM. Unfortunately, most of them do not utilise the art of spatialisation in any significant way. This is where I thought I could reconcile my musical aspirations: incorporating my skills from acousmatic composition and implement them in an EDM style. I started as an acousmatic composer and I became a composer/performer of EDM at a later stage. I have developed a studio practice, where I want to integrate live performance and in-the-moment decision making at every point. My upbringing in nightclubs was dedicated towards the physical aspect of life. I relate this to my ongoing need to experience music viscerally when I compose, and although I had a rigorous training in it, I do not find this sense of physicality in much of the acousmatic repertoire. Since I have always been drawn to EDM, I started to apply my acousmatic practice to these styles of music production.

Through my particular compositional practice, I mix techno, house and trance music. I also define how my composer/producer/performer interchangeable roles work seamlessly as it is an interesting creative model. I have explored through the evaluation of spatialisation tools and plugins, which ones would be relevant to implement to EDM.

There is a preparation, a selection, and a structure to each of my performances; I organize the set list and program for each specific event. The experimentation is done as the performance evolves, reading and sensing the components of that moment in order to provide the required musical offering:

When an EDM producer (usually also a DJ) in a recording studio selects and organizes sounds in determined ways, he is already acting in accordance with their virtual effects on a dance floor. Experimenting with sound combinations, he is also experimenting with his audience's movements, thus producing a kind of tool that comes from and arrives at his relations with the dance floor (Ferreira 2008: 18).

Thus, there are similarities between the act of DJing and my live performance. They both are organized in advance, but they also allow the freedom to improvise with the already composed musical material. What differs is my ability to decompose and recompose certain parts from the pieces as they unfold. In addition, I can apply specific effects on individual loops, which allows me to generate new musical ideas and directions to develop during the improvisational sections. In my work, I do consider my method of formal arrangement to be a form of experimentation into what a track or composition can be. I want the experience to be an immersive one that can be appreciated both by the body and the head.

During the first year of my PhD research (DeWay 2019) I produced some fixed media work that attempted to bridge these different styles of composition: the academic and more commercial music. For me, these pieces lack the sense of physical and intellectual fulfillment that I am looking for when I create work. Consequently, throughout the following experimentations, I concentrated my compositions towards live performance that includes my concept of gravitational spatialisation. Furthermore, I realized that sitting down at a concert was not my preferred mode of listening and because I like to move, and I like to hear the sounds moving as well, this form of embodied listening propelled me to search for a new way to perform and experience my music. Ultimately, my objective is to have a self-awareness of what it is I am making musically, where it is drawing from, and to demonstrate that what I am doing is synthesizing those key characteristics into something that is compositionally my own.

The way I compose and perform is through musical structure, process and intuition. The key compositional elements are the gradual accumulation and fragmentation of texturally and rhythmically driven loops. These elements help me to create a sense of musical flow through the “emergence” and “disappearance” of sonic content. The sense of flow is important for me when I compose, create or perform because it is organically evolving, transforming and changing what is happening musically. It allows me to have a vivid awareness, which enables me to react, respond and adapt to the music. It also allows me to reach an elevated state of consciousness in- and of-the-moment.

Among the characteristics that I consider important when composing is the immersive quality of the music. This immersion is related to the enclosed space where an array of speakers is the vehicle to convey the spatialisation and the musical gesture to “transport” the audience during a performance. Ultimately, I want the audience to experience a sense of immersion within the concert space, and through articulation points to make them aware of the musical structure. In addition, viscerality is another concept that is included in my work. It is achieved through immersion, the use of low frequencies and “gravitational spatialisation”; it is a phenomenon that emerges from all the actions I take

when I perform my music.

The feel-good quality to my music can be interpreted as superficial (pleasant to the ears) but there is an intellectual questioning regarding what comes next in order to provide this musical continuum. The objective when I compose/perform is to feed into what sounds good to me and into different models of musical decision-making such as adding or removing music loops, or by filtering the sonic content of the music. The inter-relationships between the fast-paced rhythmic loops from my pieces mixed with the longer, reverberating sounds are playing with the concept of ebbing water; transitioning smoothly or not with current and new sonic materials. This methodology of composing is reflected in my music and is described in Jacques Attali's book, *Noise*:

[Music] is more than an object of study: it is a way of perceiving the world. A tool of understanding. [...] Music, the organization of noise, is one such form. It reflects the manufacture of society; it constitutes the audible waveband of the vibrations and signs that make up society (1985: 4).

In my research into the application of spatial technologies and techniques to EDM, in order to create immersive and sublime experiences, this is one way in which I use music to understand my place as an original creative person within society. The music is more than an object of study and technical implementation of compositional principles, it is a way for me to articulate how I express myself in the world.

Composition and Spatialisation Tools

Throughout my research, I have experimented with a range of software and hardware tools that allow differing spatial formats to be explored. From this, I was able to develop a methodology of spatialising EDM. I believe that the role of spatialisation in EDM will continue to grow as nightclubs and academic institutions continue their interest in it. What is inspiring for me are the new tools and environments which are going to emerge and how I will be able to incorporate them into my practice. One of the areas that excites me is opened up by the Dolby Atmos plugin^[3] and its application. My experience of using the Dolby Atmos plugin tools at their London studio in August 2017 was an easy adaptation of the knowledge I had gained from the tools I was already using within Ableton. This seems to suggest an exciting future, where the sonic experience is enhanced; it is an evolution compared to the current stereo standard in EDM. I was pleased to find out that the methodology I have developed, within the Ableton and Max4Live framework, was an easy adaptation with the Dolby tool since they function in a similar way; this demonstrates that the technology is evolving in the same direction and becoming more refined. This leads me to think that I am ready and prepared for what is next in the field of spatial EDM because I know what works for me and how to achieve it. I am also enthusiastic about the fact that Dolby “is bringing its object-based 3D-audio platform to the dance music sphere by way of club installations and apps aimed at studio and DJ mixing” (Rothlein 2015). They are also looking to expand the locations where their technology is installed. After London (Ministry of Sound), Chicago (Sound-Bar) and San Francisco (Halcyon), clubs in Tokyo and Berlin are also on their radar. This encourages me to continue and to strive in that direction, in order to keep my knowledge and skills relevant. Also, I am curious to see what Ableton has planned with regards to the performance of multi-channel EDM. There are Max4Live objects in their latest software version (Live 10) that have implemented high order ambisonic libraries and a binaural tool which enables the user to play with multi-channel/surround/ambisonic audio.

As an artist I do think it is important that I need to push boundaries—doing it step by step while still accomplishing what I want to do musically. I want to continue to promote nightclub (commercial) music as being as valid as any other genre. I see a comparable evolution with Jazz music when it was considered an “underground” phenomenon, not welcomed into academia, until it reached universal acceptance. EDM has followed a similar development entering progressively academic institutions as a subject of serious study. A parallel occurrence can be observed with the recent shift in perception of society in regard of graffiti artists such as Banksy, who did not have any other outlet than the street to display his art, and now is welcomed into galleries and other prominent art centers. This shows how something can exist outside the establishment and may become institutionalized. Thus, I want to elevate EDM to a noble art form in order to teach it, not just use it for commercial purposes only.

Perspectives of Spatial EDM

One of the reasons I have completed this long academic endeavor of 5 years was to push myself further as a musician in an evolving technological landscape. I was motivated to do it because I see a trend among the younger generation of music students: they often have not played traditional instruments such as a guitar, a violin or a piano, but most likely they own a computer which has the potential to be a musical instrument. This coincided with my own situation, using the computer as a creative tool. In my research project I have demonstrated that merging composition and improvisation can provide a rich creative environment for the composition and performance of EDM. Furthermore, I have established in this document that my live performance practices redefine what a composer of EDM can be. Thus, I want this research to promote a viable future for modern EDM composers. As such, this commentary presents a methodology and a set of accessible tools to be able to create and teach music as a contemporary artist, while acknowledging the growing popularity of EDM and spatialisation.

When I first encountered the SPIRAL Studio at the University of Huddersfield, I was intimidated by its size and its complexity. Since then, I have assessed various tools and techniques for spatialisation and what changed most since the beginning of the research is the level of confidence I have acquired when approaching large speaker arrays. Also, since I am using accessible spatialisation tools (Max4Live plugins “Max Api Ctrl1LFO” and “Max Api SendsXnodes”), I have developed a method to adapt quickly and easily to various configuration of sound systems.

Over the course of my research, I have learned ways to promote myself as a performer by growing a social media presence by livestreaming my music. Since July 2016, I have performed live on several streaming platforms such as [YouTube](#), [Facebook](#), [Twitch](#), and [Periscope](#); I have over 150 videos where I play music, one example is the recording below.

Rocket Verstappen - Studio Live Recording (DeWay 2016)

Sebastian DeWay - Rocket Verstappen (Studio Live)



This experience is an ongoing project and it allows me to improve my music on a technical and practical level. It is a practical outlet for me to mature as a performer and also to reach an audience around the world. I am looking forward to the day where spatial audio will be accessible in a livestreaming format since the technology is still being developed and not yet available. Until then, I am getting ready.

Author Biography

Sébastien is a French-Canadian from Montreal who regards himself as belonging to this generation of composer-producer-performer who use the laptop as a musical instrument. This compositional tool allows him to develop his musical skills as much on stage as in the studio. His PhD research investigated the use of spatialisation tools and techniques to enhance electronic dance music through an immersive sound experience. Sébastien's works have a form and shape arising from pre-compositional and in-the-moment decisions.

Email: Sebastien.Lavoie.1@gmail.com

Website: www.SebastianDeWay.com

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Filmography

"Rocket Verstappen (Studio Live)". Uploaded on 27 August 2017. <<https://www.youtube.com/watch?v=0ap9GIGJmXM>>. (accessed 9 September 2017).

Notes

[1] This is my spatial contrapuntal system for this practice: I have called it "gravitational spatialisation". It comprises a spectral separation of the audio content with sound positioned according to its frequency.

[2] The studio is used for research into the development of new control mechanisms for the spatialisation and diffusion of sound in performance and composition. Additionally, the studio is used for composing multi-channel electroacoustic pieces to be played in concert and installation environments. The SPIRAL Studio is a 25.4 channel studio. It comprises three octophonic circles of speakers that provide a height dimension, a central high speaker pointing straight down to the sweet spot, and four subwoofers.

[3] At Ministry of Sound, tracks were processed using the Dolby Atmos Panner plugin, which was used to automate the three-dimensional panning of various musical elements (Robjohns 2017).