

# Editorial: Which words can we use related to sound and music?

The intention of this issue is to analyse and explore the evolution of terminology used for sound and music. Of course listening is the best way to understand sound and music; however, when one wants to analyse or offer discourse regarding music in a symbolic way, words are necessary as well as concepts, which may involve several terms. Words are not only useful to ‘talk’ about music, but they are also important to operate within music while making it. Composers have their own personal vocabulary; teachers use adapted terms in order to transmit musical information; analysts work with different high-level structuring frameworks; and performers have their own words to define sound and musical performance.

When Pierre Schaeffer first started working on *Musical Objects*,<sup>1</sup> he defined a series of terms to talk about sound in relation to our perception and he developed specific concepts to define the categories for sounds (typology) and the behaviour of sounds through time (morphology). This dual definition of sound events has strongly influenced musical thought and the way we deal conceptually with sound when composing or analysing music. It is less operational for musical analysis or for structuring concepts during the compositional process. Nonetheless, Schaeffer definitely changed the way we understand sound and sound in music.

One of the strong new features that composing with sounds brought to music is the fact that composers may deal with hundreds of thousands of different potential sounds in their work, which they have to organise and keep track of while working with representations of those sounds in order to develop a certain level of abstraction which permits them to create categories and subcategories in order to have all the sounds ‘in mind’ while composing. Inversely, when analysing or talking about music, specific words are needed to describe sound phenomena and their behaviour as well as for exploring musical features. Many analysts and musical theorists continuously define new

concepts in order to address different ways of understanding these musical phenomena.

This is why, throughout the last twenty years, we have seen different interesting attempts to build classification schemes for sound, thus attempting to organise the ever-changing nature of sounds used in electro-acoustic music and in any kind of sound-technology-based music. The difficulty with classification schemes is that often their ambition is to provide a universal framework capable of analysing any kind of music. However important this approach may be, the diversity and complexity of contemporary sound-based music make these attempts difficult to apply on a large scale. The tendency today is to build specific classification schemes for a musical work or for an ensemble or stylistically related works, where common patterns permit high-level structuring and a dedicated classification framework. On the other hand, this is how composers work, building an array or network of sounds for a musical work or a series of works, an array that will change or evolve with the following work.

The intention of this issue of *Organised Sound* was then to take a glimpse at how composers and analysts of music are using vocabulary today, how they verbalise sound and music in order to think at a symbolic level or simply to transmit to others their thoughts and analysis of music. The harvest of chosen submissions is more than interesting: it marks some important landmarks in the needs and expectations of authors and musicians challenging important concepts. Perception is at the centre of many discussions and the strong sound analysis conceptual frameworks developed by Pierre Schaeffer and Denis Smalley (typo-morphology and spectromorphology as well as space-form) are frequently referred to as starting points for new developments. A very interesting feature in this issue is the introduction of social networks as a place for naming, including how the result of shared emotional reactions relates to existing theoretical frameworks.

Eric Maestri brings a highly interesting perspective on how we perceive human-made and machine-made sounds and how these sounds interact, analysing the sound agents and their semantic implications for our perception. Highly based on Pierre Schaeffer’s theory, it continues his reflection and opens the road to new

<sup>1</sup>The *Treatise on Musical Objects* is available in English at University of California Press: [www.ucpress.edu/book.php?isbn=9780520294301](http://www.ucpress.edu/book.php?isbn=9780520294301) in the translation by Christine North and John Dack and an editorial team fostered by GRM and composed of Marc Battier, Leigh Landy, Daniel Teruggi and Valérie Vivancos.

analytical and technical challenges. Maestri presents an analysis of human–machine interaction (HMI), placing it in the perspective of sound analysis and how music in the twentieth century has provided a new, rich domain for this type of interaction with regard to mixed and interactive live performances. The importance of HMI is significant in current musical practice but less applied to musical analysis. This approach is closely related to the development of our capacity of perceiving non-human-made sounds and progressively integrating them in our listening experience. The human body remains at the centre of musical experience however extended and transformed to create a ‘hybrid sound territory’ where humans and machines interact.

This article can be related to an important project developed at the GRM at the end of the 1960s, launched by Pierre Schaeffer, where the objective was to emulate typo-morphological patterns of sound through a synthesiser. The project was called SYN-TOM: ‘SYNthèse + Traité des Objets Musicaux’ (synthesis based on the TOM concepts). The idea was to identify those parameters that would represent different variations of a concept as ‘Grain’ or ‘Allure’ and apply them to the control parameters of synthesised sound in order to progressively obtain hybrid electronic sounds that simulate the behaviour of human-produced sounds. The project failed at that time because of the difficulty of developing precise analogue-synthesis devices. Later an attempt was made through collaboration with EMS in Stockholm where analogue modules would be digitally controlled. The latter project failed due to the complexity of transforming perceptual concepts in voltage-control parameters.

Eric Maestri stresses the perception of gestural movements and its relation to our identification of sound sources as well as the continuity between perception and action. He then analyses a work by Marco Stroppa, *Traiettorìa*, from the ‘allure’ point of view. This work contains a mix between piano sounds and computer-generated electronic sounds. However ‘natural’ electronic sounds may seem, they incur a strong causal difference from piano sounds. The analysis shows how both sources may fuse into new hybrid musical situations or generate contrast between them illustrating their distance.

In his article, Edward Spencer applies the spectromorphology and space-form concepts developed by Denis Smalley to Stephen Field’s notion of acoustemology, expanding them to the analysis of other types of music beyond electroacoustic. Words are used to describe emotion and reception by way of social networks. It is useful and to compare them with Smalley’s terminology. Based on Smalley’s spectromorphology taxonomy, which was originally applied to electroacoustic music, Spencer shows that this approach can

be useful when dealing within non-electroacoustic contexts. The same situation can be found with the space-form taxonomy, which initially based within electroacoustic music is perfectly adapted to analyse the musical space patterns of EDM and the work of popular music producers, so that listeners can efficiently apply Smalley’s terms in an affective way.

Spencer introduces a strong trend in today’s culture, which is to analyse ‘user’ words or how perceptual or emotional terminologies are used to describe or react to a musical event. Through the short excerpts he has worked on, he stresses the importance of this kind of approach and how subjective factors enter into the words used related to sound and music. He also places acoustemology as a useful method to both describe music and how environments such as YouTube and other social networks are rich in descriptions and reactions and represent not only the point of view of a listener but also a network of individual experiences brought together related to the same musical context.

Expanding Smalley’s space-form taxonomy which has been a source of inspiration for the author, Erik Nyström proposes an original terminology related to spatial texture based on his compositional experience and his ‘naming’ of sounds and on abstract extra-musical concepts, highly pertinent from his point of view to describe spatial perception and the behaviour of sounds in space. As an inspiring example, he cites Schaeffer’s use of the category of ‘eccentric’ sounds, which defines sounds that did not ‘fit’ in previous categories!

He starts with a foundational ‘dimension of motion’ and continues with an ‘ontology of motion in spatial texture’ to describe motion principles and types, thus creating a rich array of situations describing our interaction with space as creators and listeners.

Peter Plessas presents us with an attempt to classify sounds based on experimental information collected among eight musically trained individuals. His approach analyses the fact that among certain communities there is a local, common to all, typology of sounds that emerges within a project providing what he calls a ‘latent knowledge’. He also insists on the fact that contemporary scores for mixed works give instructions on what should be done without providing information regarding how it should sound. He stresses the need of verbal descriptions as a communication tool within performance as well as the difficulty regarding the description of timbre.

Plessas offers an interesting perspective on the evolution of sound description and how different ways of talking about sound have been used, taking us after that to the difficulty of defining the result of a technological manipulation of a sound when the same effect can have very different results depending on how the parameters are set. He then describes the undertaken experiment and how, based on opposite pairs of

concepts (such as *hesitant-confident*), the participants had to place different sounds within those scales. The results demonstrate the importance of this kind of classification method, originally developed by Schaeffer, which strongly simplifies the classification method.

Loïc Bertrand provides us with an insight into one of the founding texts of Schaeffer: 'Essai sur la radio et le cinéma, esthétique et technique des arts-relais'. This work opens the road of Schaeffer's interrogations regarding media and how the recorded sound and images change the perspective of perception and the position of the listener-viewer in relation to other artistic expressions.

He works on the concept of the 'language of things', which he defines as the fact that when sounds interact together, even with silence, they create communication amongst themselves.

Schaeffer gives a particular importance to the microphone, as an object for discovering and deconstructing the sounding world, concentrating on radio and how a different relation from that in theatre is created between the voice of the speaker and the listener. Bertrand stresses the concept that the microphone or the camera gives us the point of view of the object itself and not the point of view of humans and how we have to become 'friends' with the technical objects. It is interesting that Schaeffer includes technical objects as 'Things' tending towards a humanisation of technology and machines that were and sometimes are even today considered as alien from humanness, potentially capable of the worst feats at a time in which they have become the composer's strongest ally.

This idea can even be put in perspective regarding the strong interest in machines that arose after the Second World War when machines had proven their incredible capacity for destruction. These machines responded to human designs and the development of what was called 'cybernetics', which studies the principles that control interactions between living beings and complex machines, opening a new perspective of confidence in machines. When we consider that Schaeffer's book on 'Arts relais' was written in 1941–42, we are more than surprised by Schaeffer's capacity of anticipation and how these experiences (Beaune) were essential to the ideas leading to music concrète and subsequently to acousmatics.

In opposition to Bertrand's article, Ben Byrne focuses on listening, not through the act of capturing sound but as a perceptual experience. The three authors, on whom Byrne concentrates – Henry David Thoreau, John Cage and Michel Serres – are expert listeners who have questioned listening in a deep way trying to describe their impressions and reactions. Byrne proposes the important concept of 'multiplicity' to analyse how we should perceive sound.

Cage stresses the impossibility of silence and Thoreau sound as a universal presence. Cage's '4'33''

piece is a listening experience which he himself applied in different situations where he would remain silent exploring the silent world around. Byrne defends the initial entangling of sounds, as an opposite to *écoute réduite*; you need to include the existence context of sounds. He stresses Bergson's conception that a 'number is the synthesis of one and the many' and applies this interesting concept to duration as one and many for the existence of sound.

Is this so distant from Schaeffer's approach as described in Bertrand? In fact Schaeffer proposes an identification process in order to recreate differentiation within a context.

Bergson and Deleuze converge towards Michel Serres where sound is a qualitative multiplicity but also temporal and spatial, being expanded by Byrne to a large variety of elements.

Sam McAuliffe broadens the discussion to improvisation and starts with the always-pertinent question of what can or not can be considered as music and how the position of the listener towards what he hears defines a possible context. Pierre Schaeffer was one of the first to give equal importance to all sounds, including those which are commonly called 'noises', and to focus on 'acousmatic listening' changes the perception we have of sound. Based on an improvisation framework created by McAuliffe, the article analyses the important link between music and the sound environment and how music can relate to a place mainly when put in an *écoute réduite* perspective through field recording. His experience is based on Luc Ferrari's work with the 'almost nothing' approach of recording environmental situations and organising them to be presented as a musical work, and the saxophonist Jim Denley who improvises within the sound environment which then becomes a part of his work.

McAuliffe presents the case studies based on two locations in Melbourne, Australia and how the listening of the field recording in an acousmatic perspective creates a series of starting points and concepts that structure and organise the instrumental performance, always stressing the relation between music and the environment.

Adam Collis poses a very interesting problem in which the dichotomy time/space can have an influence in music depending on whether time or space is predominant in musical composition. Time predominance favours symbolic representation of sound while space predominance permits the use of other sounds including what is currently called 'noise'. He suggests that the mathematics-based model of music comes from Pythagoras and this has conditioned the supremacy of pitch among other components of sound. Luigi Russolo and Karlheinz Stockhausen have questioned this approach and implicitly opened music to other sounds.

Stockhausen suggests that normally music is a time frame, which is filled up with sound events; an opposed

option is that sounds define the time frame – sounds construct time. In contemporary acousmatic creation, sounds impose a listening time frame and the kind of sound, its spectral nature, determines how time is used and developed in music. Collis presents different examples of attempts to deconstruct the time-based conception of music: John Cage's *4'33"* where the room (or one's own body's) sounds create a perception of time, or Agostino Di Scipio's environment interactive systems. The article then concentrates on Ryoji Ikeda's work, based on short sine impulses organised in rhythmic patterns, investigating how the listener perceives these patterns within a space frame.

Patrick Valiquet's article on Marcelle Deschênes and acousmatic education in Québec is an introduction to the way in which Pierre Schaeffer's ideas and work have been applied within an educational environment. Marcelle Deschênes was the Canada's original voice of Schaeffer's ideas. Schaeffer was original in every aspect he touched, pedagogy not being the least, mainly when it dealt on learning how to listen and to compose based on what listening may provide as a new insight to emotion. Her concept of teaching the ear as an instrument is essential in her approach and Valiquet expresses clearly the importance and value of the Deschênes's pedagogical and musical work.

When it is commonly thought that it was Francis Dhomont who brought acousmatic music to Canada, Valiquet shows the importance of Deschênes's earlier work done and dismantles the claims of acousmatic orthodoxy of the Montréal School. He analyses the musical career of Deschênes, the musical context in which she lived and the influences she received. One of her major contributions was to extend the concepts of the 'Traité des Objets Musicaux' to form and to the dynamic of sound through time, which was not really inherent to the concept of Schaeffer's sound object. She took the more applicable ideas from Schaeffer's work and applied them to the analysis and understanding of music in a very general sense. While remaining faithful to Schaeffer's ideas and concepts, she enlarged the fields of application in which she worked from a multi-disciplinary perspective including painting and drawing.

Four off-theme articles complete this volume. Yet they are related in many aspects to the problems evoked here. The important relation of music and gesture provides an interesting complement to the 'wording' of sound and music as well as the analysis of space and emotion and space and time in music and the importance of sound.

Federico Schumacher Ratti and Claudio Fuentes Bravo discuss space–emotion in acousmatic music or

the relations between spatiality/spatialisation of sound and the cognitive/affective empathic processes involved in the acousmatic experience. Based on experimental listening experiences, oriented interviews and electrodermal activity, they establish the close link that may exist between space and emotion in an acousmatic listening situation and the significative influence of space. The similar results among listeners, obtained through a rigorous methodology, suggest an interesting and original relation between their responses and the existing literature.

Jon Bellona working on the work *The Hands* composed by Michael Waisvisz illustrates and discusses the vocabulary of gestures developed by Waisvisz. The Hands is also the name of the digital musical instrument developed by Waisvisz and his team at STEIM in Amsterdam. It was one of the first interactive devices based on movement. The importance of this article is that it analyses The Hands from a musical perspective instead of a purely technical one and Bellona clearly shows the relations between the hand gestures, the body and the music. For Waisvisz the visual image of the performer was of the highest importance for the listener's experience, reintroducing body and gestures within the electroacoustic experience.

Continuing with interactivity, Anna Einarsson analyses how performers experience responsive technology in a mixed work. Based on performance analysis and interviews with singers stressing the role of sensorimotor interaction with the body in musical performance. Again we find here an interesting relationship between human and the non-human sound production; however, the article aims to demonstrate how performers represent sound and how they relate to the technological environment, thus opening a new perspective in the way to analyse this relationship.

Finally, Riccardo Wanke analyses musical creation through an ecstatic-materialistic approach, in which sounds are integrated into a structure. He analyses how listeners develop perceptual approaches to understand the message. Composer and listener meet through sound and corporal reactions to sound itself. Wanke thus gives a very interesting analysis and personal reflexion on how we perceive music and how the composer relates to the listener.

This volume clearly addresses the issues of words and concepts for sound and music as well as analysing the perceptual implications of organised sound for both composers and listeners.

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