

Between Plasticity and Performance: An ontological account of electroacoustic music

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Electroacoustic music occupies a curious position within the arts. On the one hand, it appears to be aligned with the plastic arts, such as painting and sculpture; composers often refer to the haptic, kinaesthetic and even proprioceptive nature of their compositional acts in terms of crafting, moulding and sculpting sounds in the studio. On the other hand, electroacoustic music appears to be aligned with the performing arts, such as drama, dance and most forms of instrumental music; the proliferation of diffusion systems and the increasing sophistication of tools for real-time spatialisation lend credence to associations with traditional notions of performance practice. This paper seeks to demystify this ostensible paradox. It starts considering an ontological distinction that holds between the plastic arts and the performing arts, goes on to consider whether electroacoustic music is ontologically similar to one or the other, and concludes with the following point: electroacoustic music *may* be characterised by *either* plasticity *or* performance but, in many cases, it falls *between* these polarities. This observation may help to explain why some philosophers, aestheticians and musicologists have struggled to accept electroacoustic music whilst enabling one to identify where the unique value of this exciting and uncompromising art-form resides.

Throughout its sixty-year history, most forms of electroacoustic music¹ have been compared with the plastic arts. For example, James Urmson (1976), Levi-Strauss (1969) and Nicholas Wolterstorff (1980) have compared works of *musique concrète* with works of painting, Stan Godlovitch has associated works of electronic music with sculptures (Godlovitch 1998), Linda Ferguson has compared works of tape composition with works of sculpture, painting and film (Ferguson 1984), and Stephen Davies has compared electronic music with film (Davies 2004). Such comparisons are certainly not lost on practitioners. For example, Pierre Schaeffer, founder of *musique concrète*, once suggested that the term *musique plastique* might be more appropriate (Schaeffer 1952: 115) and Rick Nance's recent *Compositional Explorations of Plastic Sound* considered how notions of plasticity may inform compositional practice (Nance 2007).

Curiously, electroacoustic music has also been linked with the performing arts. Such links were evident from the very beginnings of *musique concrète*, with *Symphonie pour un homme seul*, a musical composition by Pierre Schaeffer and Pierre Henry composed in 1949–1950, being performed using the *potentiomètre d'espace* - a purpose-built performance system that was designed for the real-time spatial control of sound distribution in concert. Today, large diffusion systems are often used to facilitate the performance of electroacoustic music in concert and the associated performance-related intentions have been widely discussed. For example, Jonty Harrison's numerous papers have considered ways of reinforcing musical structure and space within performance (Harrison 1999a; 1999b; 2000; 2010; 2011), Denis Smalley has discussed the relations that hold between composed spaces and listening spaces (Smalley 1991), Simon Emmerson has considered what it is to perform

'live' in the context of electronic music (Emmerson 2007), and this author has sought to rationalise and explain the varied constituents that coalesce within an idealised electroacoustic performance (Stansbie 2013).

This paper considers whether electroacoustic music is one of the plastic arts, the performing arts, or both. It starts by introducing and explaining an ontological² distinction that holds between the plastic arts and the performing arts, based upon Richard Wollheim's well-known *type* theory (Wollheim 1980) and Stephen Davies' notion of *thick* and *thin* works (Davies 2004). It goes on to consider which, from an ontological perspective, electroacoustic music most closely resembles, before concluding with the following point: electroacoustic music may be aligned with the plastic arts *or* the performing arts, but works are, in many cases, characterised by plasticity *and* performance, falling between these ostensible polarities. This observation may help to explain why some philosophers, aestheticians and musicologists have struggled to understand and even accept electroacoustic music. However, it also enables one to identify where the unique value of this exciting and uncompromising art-form ultimately resides. Future research goals are briefly identified at the end of the paper.

The type theory

In *Art and its Objects*, Richard Wollheim outlined his influential ontological account of art, known as the *type* theory (Wollheim 1980). This section introduces and explains Wollheim's theory before demonstrating how it enables one to differentiate between the plastic arts and the performing arts.

The term *type* is commonly used by philosophers to describe rather puzzling cases in which objects and events seem to hover between an abstract mode of existence and a concrete mode of existence. For example, in *Modern Philosophy: an Introduction and Survey*, Roger Scruton uses the term *type* to describe the Ford Cortina:

If I refer to the Form Cortina, I do not refer to one particular car, but to a type of car. The individual Cortinas are 'tokens' of this type. (Scruton 2004: 84)

Scruton goes on to suggest that we discuss types (such as the Ford Cortina) as though identifying a particular physical objects. However, he suggests that types are only really encountered and understood through their various instances, known as *tokens*. This is because a type, unlike a token, is an abstract, generalised entity, lacking a particular location in time and space:

The Ford Cortina [...] is to be described and explained in terms of concrete processes in the spatio-temporal world. Nevertheless, there is no place where the Ford Cortina is. It remains aloof from the world of its tokens, just as numbers do. (Scruton 2004: 84-85)

With this in mind, Scruton suggests that types straddle a fundamental ontological divide between concrete and abstract modes of existence (Scruton 2004: 84; 1999: 104); types do not exist in the concrete, spatiotemporal world. However, they are encountered in, or through, their various concrete manifestations. Thus, the type: "is an abstract object, which itself bears the predicates of the individuals that exemplify it" (Scruton 1999: 104).

In 1980, Richard Wollheim suggested that works of art can be described as *types* that are – like all types - encountered *in* or *through* their various tokens. Thus, a work of photography is a type that is encountered *in* or *through* its various prints and a work of music is a type that is encountered *in* or *through* its various performances and recordings. In these cases, prints, performances and recordings are *tokens* of artistic types.

Wollheim went on to suggest that types have various properties that determine, at least in part, the nature of the type's tokens. In some cases, types have a large number of properties and, as a result, their various tokens are characterised by instantial uniformity. In other cases, they have relatively few properties and, as a result, their various tokens will be characterised by instantial novelty. Thus: "[...] not every property that can be predicated of the former [a token] *ipso facto* belongs to the latter [a type]" (Wollheim 1980: 82) and this implies that artistic types are, in some cases, schematic formations that may be instantiated in numerous different ways, which Wollheim describes using the term *interpretation*:

This point is generally covered by saying that in such cases there is essentially an element of interpretation, where for these purposes interpretation may be regarded as the production of a token that has properties in excess of those of the type (Wollheim 1980: 82)

At this stage, one may begin to elaborate a distinction that holds between the plastic arts and the performing arts; the former typically strive for instantial uniformity whereas the latter typically strive for instantial novelty. To demonstrate this point, we shall consider three cases: a work of painting, a work of photography and a work of instrumental music.

A work of painting is a type that has just one token – the paint-covered canvass. In this case, all of the properties of the type are shared by the token itself and, as a result, it is reasonable to assume that the painting achieves a degree of instantial uniformity that is common to other plastic arts, such as carving and non-cast sculpture. By contrast, a work of photography may have numerous tokens – prints. These tokens may have properties that are *not* shared with the associated type, since they may, for example, be printed in various different sizes and onto various different surfaces. Even so, all of the prints will be derived from the same negative or digital image and, as a result, the vast majority of the type's properties will be encountered in its various tokens meaning, once again, that the photographic type assumes a degree of instantial uniformity common to the plastic arts. A work of instrumental music may also have numerous tokens - performances and recordings. However, the type is a schematic formation that may be instantiated in numerous different ways, typically meaning that a type's tokens will display a wide variety of instantial novelty. This point has been raised by Stan Godlovitch, who says:

[In the case of music] novelty and variety are openly sought and positively virtuous. As an individualist art, making musical instances is distinguished from passive, routine, predictable forms of instantiating as occur in mechanical replication strictly governed under the aegis of a determinate stereotype. [...] Creative music-making falls at the liberal end of instantiation and, thus, requires a context of underdetermination conducive to substantial discretion, control, and variety despite the fixity of the type. (Godlovitch 1998: 89).

Godlovitch goes on to flesh out the notion of *underdetermination*, saying that musical works: "massively underdetermine whatever emerges during a performance" (Godlovitch 1998: 82). He goes on to clarify this statement:

[...] works do not underdetermine performances quite on analogy with schematic diagrams in electronics which permit a limited range of substitutions but which nevertheless manage the critical details of real circuits. Better, perhaps, to conceive them in the way fossilized bone underdetermines the creatures the palaeontology reconstitutes, all the soft tissue, the physiology, the behaviour, the very life demanding the palaeontology's creative intervention. But this is not quite right either unless the musician's task were largely reconstructive of past musical life, and so largely a matter of fitting hypotheses to the elaborated facts. [...] Better yet to conceive notated works as being frameworks, like story lines, scenarios, or scripts awaiting completion through collaboration by players and the receptive approval of the musical community and its audiences. (Godlovitch 1998: 82)

Godlovitch's notion of underdetermination is similar to Stephen Davies' notion of *thick and thin works*. In *Musical Works and Performances: a philosophical exploration*, Davies, a well-known type theorist, suggests that musical works are schematic formations that leave open a degree of indeterminacy; the extent, depth and saturation of schematisation will depend upon the work in question and, as a result, one may suggest that works can be placed on a continuum with thin works at one end and thick works at the other:

If it is thin, [...] most of the qualities of a performance are aspects of the performer's interpretation, not of the work as such. The thinner they are, the freer is the performer to control aspects of the performance. Pieces specified only as a melody and chord sequence are thin. Some tin pan alley songs are of this kind. For them, the player creates the larger structure of the performance by deciding on the number of repeats, variations, elaborations, links and the like [...] By contrast, if the work is thick, a great many of the properties heard in a performance are crucial to its identity and must be reproduced in a fully faithful rendition of the work. The thicker the work, the more the composer controls the sonic detail of its accurate instances. Igor Stravinsky's *The Rite of Spring* (1913) is a thick work by comparison with Mozart's *Divertimento in D, K. 136*. Thicker yet is Edgard Varèse's *Déserts* (1954) for tape, wind, percussion, and piano, because the contribution made by the tape is both essential to the work's identity and extremely specific.³ (Davies 2004: 20).

Davies concludes with the following ontological observation: works for performance are: "always thinner [...] than any of their accurate renditions" (Davies 2004: 20).

Godlovitch's notion of underdetermination and Davies' notion of thick and thin works enable one to explain how musical types may produce the kind of instantial novelty common to the performing arts. Crucially, the performing arts require an act of performance to fill-in the areas of schematic indeterminacy and this marks a radical distinction from those plastic arts, which are, for the most part, replete types that lack indeterminacies. Thus, the plastic arts are characterised by instantial uniformity whereas the performing arts are characterised by instantial novelty.

With the above in mind, we shall now consider whether electroacoustic music can be described (from an ontological perspective) as a plastic art or a performing art.

Electroacoustic music as a plastic art

The previous section suggested that the plastic arts are characterised by instantial uniformity. In this section, we consider whether the same applies to works of electroacoustic music; we shall start by considering the methods employed in the creation of such music before considering whether such methods produce instantial uniformity.

The methods employed by electroacoustic composers are, in many cases, similar to those employed by plastic

artists; both work directly with the materials of their art which, in the case of electroacoustic music, is sound. The compositional process typically begins when a composer records⁴ a sound or a set of sounds, first selecting something (a sound source) to record before exploring the chosen source by exciting it in numerous different ways to produce a varied range of sounds. Once captured, recorded sounds will be auditioned and assessed by the composer, enabling them to make compositional decisions on the basis of audibly verifiable criteria:

The assessment of material and processes is made through the perceptual response of the composer as 'first listener', in a process based on actual (concrete) aural experience, and using the ear/brain mechanism most immediately to hand (the composer's) as representative of the (presumably similar, though not identical) mechanisms of other human beings. (Harrison 1999b: 118)

In this respect, electroacoustic music [...] shares the methods, techniques and concerns of *musique concrète*. Pierre Schaeffer introduced the term *musique concrète* to describe a compositional method in which composers engage directly with recorded sound materials, and he sought to differentiate this method from that of the instrumental composer who does not work directly, or concretely, with sounds but indirectly, with abstract notational systems (Emmerson / Smalley 2001; Dack 2002; Schaeffer 1966)⁵. Thus, electroacoustic composers are, like their *musique concrète* (and plastic art) counterparts: "dealing with the "stuff" or "matter" directly presented" (Dack 2002: 4).

The electroacoustic composer may, as a result of an aural assessment, choose to use recorded sounds without any further modification or transformation. However, it is likely that the composer will, at the very least, edit these sounds, or, as is often the case, transform or manipulate them during the compositional process. In many cases, electroacoustic composers employ digital sound processing tools and computer programmes to facilitate the manipulation of sounds. At this stage, we find another commonality with the plastic arts; sound processing tools afford a degree of direct, hands-on control that has striking parallels with direct manipulation of physical materials common to the various plastic arts, such as painting and sculpture. Some electroacoustic composers clearly support this view, often referring to the haptic, kinaesthetic and even proprioceptive nature of their compositional acts (Nance 2007: 13).

The electroacoustic composer may spend a considerable length of time manipulating and transforming sound materials before starting to combine sounds to form phrases and larger structures. Eventually, the piece will be finalised and copies may be issued on a given medium, such as magnetic tape, vinyl disc or, as is now common, CD or DVD. At this stage, the composer has finished recording, manipulating and structuring sounds and has thus completed the compositional process. Clearly, given

the use of a medium, the electroacoustic work may be accessed at will by a listener; this affords a degree of accessibility and repeatability that is once again commonly associated with the plastic arts.

With the above in mind, it is not surprising to discover that some theorists have highlighted plasticity rather than performance when considering certain electroacoustic traditions, clearly believing that such methods *must* result in instantial uniformity. For example, in 1983, Linda Ferguson considered some of the compositional processes typically employed in the creation of tape compositions and, after discussing sound recording and manipulation, suggested that it is not possible to perform tape compositions on the grounds that: “The expressive element of performance – interpretation - is not admitted in tape composition, and the expressive content is already present, concretely determined by the composer.” (Ferguson 1983: 20). A similar view has been proposed by Stephen Davies who, in *Musical Works and Performances; a Philosophical Exploration*, considers the compositional methods employed in the creation of electronic music (Davies 2004: 25). Like Ferguson, Davies considers the compositional methods involved in the creation of electronic music, noting that the composer has an unprecedented degree of control over their chosen sound materials:

In electronic compositions, the composer works more or less directly with the sounds that concern her, rather than instructing others on how to make them, and this allows to her much more control of their detail, which she is able to incorporate within her work by giving it an electronic representation [...]. (Davies 2004: 28)

He goes on to suggest that this compositional method produces music that is extremely detailed:

The electronic work, because it comes via a tape, record, or disc, is at the level of acoustic detail that these media are capable of storing and later conveying. Because an electronic work is sounded directly when it is instanced, the properties defining it are at the same level of detail as those characterizing performances, whereas the work-defining properties of pieces created for performance are not so fine-grained. (Davies 2004: 26-27)

The above point leads Davies to suggest that composers of electronic music issue tapes or discs rather than musical scores and, as a result, their works are mediated by a decoding device rather than a performer’s efforts. In other words, electronic music is so detailed that it can be presented without recourse to agential acts on the part of a composer and thus electronic music is: “created for playback, not for performance” (Davies 2004: 25).

Similar views may be found in the writings of Stan Godlovitch (1998), who refers to “‘pre-cast’ or ‘presented’ music” that has “been utterly and finally set up in advance” (Godlovitch 1998: 101), before saying: “Like bronze, it is cast, and persists historically independent of and uninfluenced by any performance traditions. By fix-

ing the last detail of each sound, nothing remains for any performer to do” (Godlovitch 1998: 117-118). A similar view is held by Andrew Kania, who says:

Shortly after the Second World War, some classical composers began focusing on producing works that did not require any performance. Using technology developed to record and reproduce the sounds of performances, they began creating tapes that when played back produced sound events that could not be considered an accurate record of any performance occurring in the studio, in any sense. [...] In such ‘electronic music’, the sound of the work, in an important sense, came straight from the composer, without the mediation of a performing artist. (Kania 2005: 134-135)

In this short statement, we find one of the clearest examples of what one may call *the fixity view*; Kania believes that the electroacoustic composer predetermines sounds, and this: “results in tapes (or other media) for playback rather than pieces for performance” (Kania 2005: 34). Clearly, he believes that the methods employed during the compositional process result in works that are characterised by instantial uniformity, meaning that they cannot be performed. This would, according to the ontological distinction outlined in the previous section, support the idea of electroacoustic music as a plastic art.

Some electroacoustic composers appear to support the plasticity view outlined above, perhaps believing that their works are replete or fixed formations. Simon Emmerson described such composers as *idealists*, suggesting that they prioritise: “the composer’s ideal soundfield as heard in the studio of creation. Some composers and performers (the ‘idealists’) believe that this needs no further interpretation, merely the optimal adjustment of loudspeaker placement and setting the overall sound level.” (Emmerson 2007: 148). The existence of idealists would seem to support the notion of electroacoustic music as a plastic art. However, we must now consider whether such an ideal may be achieved and, in doing so, we shall consider the case for describing electroacoustic music as a performing art.

Electroacoustic music as a performing art

In this section, we shall briefly consider some of the various ways in which electroacoustic music is presented. This will enable us to assess whether such music can allow for, and even presuppose, instantial novelty.

Works of electroacoustic music are typically presented using a loudspeaker or set of loudspeakers. In theory, this enables one to present instances of a work without any significant qualitative differences (instancial uniformity). However, in practice, this is rarely achievable; electroacoustic works are, as Jonty Harrison points out, typically composed in a studio but presented in concert halls or similar public performance venues⁶ (Harrison 1999) and, as Simon Emmerson points out: “The studio

does not resemble a concert hall" (Emmerson 2008: 148). We shall briefly explore Emmerson's point and thus identify some of the key differences between studios and concert halls.

The process of decoding audio is never transparent⁷ – the type of the encoded medium employed, the algorithm or method used to access the code, the type of loudspeaker system used to replay the sound, the specific type of loudspeaker employed⁸, the placement and number of loudspeakers, the various objects situated in front of and around the loudspeakers, the position of listeners relative to the loudspeakers and the acoustic qualities of the listening space are amongst the various factors influencing such a process. Thus, the instantiation process, no matter where it takes place, has an impact upon the sounds that emerge.

The composition studio seeks to marginalise the various factors influencing the decoding process by offering a relatively stable, often bespoke, listening environment; the room acoustic, the studio layout and the available equipment may (or may not) be ideal. However, such features are unlikely to change throughout the compositional process, and, as a result, the composer may become accustomed to the studio environment and thus anticipate, or even forget, the influence that the studio exerts upon the encoding and decoding of sounds. In short, the composition studio offers the illusion of decoding transparency. By contrast, the concert hall may offer a relatively stable listening environment. However, it is likely to differ, often substantially, from the listening environment found in the studio. The most obvious difference is that of scale; the concert hall, by virtue of the requirement to engage an audience, is likely to be much larger than the composition studio⁹ and this often means that it is difficult, if not impossible, to replicate the conditions under which a composition was created; it is particularly difficult to ensure that the position of the loudspeakers, and the position of the listener(s) in relation to the loudspeakers, matches that of the studio. The consequences of this have been discussed by Jonty Harrison:

If a stereo piece is played over a stereo pair of loudspeakers (even large speakers) in a large hall, the image will be even less stable and controllable than in a domestic space, and will certainly not be the same for everyone in the audience [...] Listeners at the extreme left or right of the audience will receive a very unbalanced image; someone on the front row will have a 'hole in the middle' effect, whilst a listener on the back row is, to all intents and purposes, hearing a mono signal! (Harrison 1999: 121)

The potential for inadequate listening positions is compounded by the problem of phase cancellation. This often occurs in cases where there is a substantial distance between a loudspeaker and a listener and is particularly pronounced in cases where temperature and humidity variations and air movements create unwanted and continually varying changes in the phase of a signal (Doherty 1998: 9-10). This may, in some cases, result in variations

in the phase relationship between the left and right loudspeakers, potentially cancelling out certain frequencies but also affecting the listener's ability to locate sounds by destroying spatial cues (Rumsey / McCormick 2006: 446). Along similar lines, the acoustic qualities of the concert hall are likely to differ from the acoustic qualities of the studio. According to Frank Henriksen, such differences are likely to reflect, diffract and absorb sounds in ways that the composer cannot necessarily anticipate in the composition studio (Henriksen 2002: 72-75). He goes on to suggest that reflections, diffractions and absorption affect the spectral makeup, spatial location and, most importantly, the dynamic contours of a given work (Henriksen 2002: 72-75).

One may argue that the effects of concert halls are unavoidable, incidental and largely irrelevant to both composers and listeners. However, this view, should it be encountered, is starkly at odds with the epistemic practices of (most) electroacoustic composers; since these composers spend a significant proportion of the compositional process sculpting, crafting and shaping their chosen sound materials, it is reasonable to assume that the qualitative differences between instances of their works are deemed to be highly problematic. This observation is, in effect, a reversal of the ontological claims of Ferguson, Davies, Godlovitch and Kania; reverberation, reflection and absorption are problematic *because* the composer has such a high degree of control over sound materials¹⁰.

The above point may be demonstrated by reference to Denis Smalley's notion of spatial consonance and dissonance (Smalley 1991). In *Spatial experience in Electro-Acoustic Music*, Smalley suggests that electroacoustic composers think of spatial imaging as a means of enhancing the sounding properties inherent in sound materials and their structural functions, before describing such imaging, as considered by the composer and composed into the work, as a composed space (Smalley 1991: 123). He goes on to note that the *composed space* is typically transferred to a *listening space*, such as a concert hall, before differentiating between the composed space and the listening space, noting that the former will have been embedded in the musical content of a work whereas the latter will usually lie outside the composer's control. Despite this, the listener is confronted with what Smalley refers to as a superimposed space – a nesting of the composed spaces within a listening space (Smalley 1991: 123). This nesting process may have certain significant consequences, as outlined below:

The superimposition process causes acoustical changes which have consequences for the perception of musical content and structure, particularly in public spaces. The public space, where listeners are distanced from loudspeakers, undermines the sonic articulation and clarity considered so important and dealt with so carefully by the composer in the studio-space where the work was created. This is the negative consequence of the act of transference. (Smalley 1991: 123)

Smalley goes on to suggest that the superimposition process does not necessarily have a negative impact upon a given instantiation and, to demonstrate this point, he introduces the terms *spatial consonance* and *spatial dissonance* as a means of discussing the relationship between the composed space and the listening space (Smalley 1991: 123). In some cases, the spatial images present in electroacoustic works are consonant with the listening space. However, this is not always the case; an intimate, composed-space presented within a large listening-space (dissonant spatial relationship) may result in a loss of intimacy that will potentially obstruct the listener's apprehension of the musical content (Smalley 1991: 123).

With the above point in mind, one may agree with Jonty Harrison, who suggests that: "it is the medium which is fixed, not the music" (Harrison 1999a: 1). Harrison goes on to note that the influence of listening spaces will remain problematic unless something radical is done; he is referring to the need for performance agents who are, in the electroacoustic tradition, associated with the practice of sound diffusion (Harrison 1999a). We shall briefly consider such a practice in order to assess whether this creates a sense of instantial novelty.

In order to negate the various issues described above, electroacoustic composers often diffuse their works using a *diffusion system* – a bespoke software and hardware system that links a decoding device (such as a CD player, a DVD player or a computer hard-drive) to a loudspeaker array via some sort of mix engine and control interface (Mooney 2005: 169). The control interface is typically the point of agential contact; the human agent engages directly with the control interface and is able to regulate the level of the signal being sent from the source to the loudspeaker array. This typically involves the real-time movement of faders on a mixing desk, enabling the performer to increase or decrease the amount of signal being sent from the decoding device to any given loudspeaker, or set of loudspeakers, within the array. In doing so, the diffuser is able to situate or place sound materials at individual or multiple points within the space and, by increasing the signal sent to one (or more) set(s) of speakers whilst decreasing the signal of others, create the impression that the sound moves from one to the other. The vast majority of agential acts combine placements and movements, thus severing the distinction outlined above. For example, a sound diffuser may start a particular performance with sound materials located at specific points in the listening space and proceed to move, sculpt and shape those sounds within the space, perhaps eventually arriving at another specific placement before moving off again. In doing so, the diffuser is able to act with fluidity and spontaneity, respond to the musical materials in real-time and make decisions about the acoustic influence of the listening space and the relative position of the audience as the performance develops. Accordingly, the diffuser may create the impression of

intimacy, immensity, elevation, envelopment, distance, surprise, and so on.

With the above in mind, there are good reasons for associating electroacoustic music with the performing arts. This is clearly what composers have in mind when they describe sound diffusion systems as instruments, ensembles or orchestras and the practice of sound diffusion as a form of playing, as is clear from Simon Emmerson's discussion of two diffusion systems¹¹:

Both looked superb in addition to their sounding – but I will not say they intrinsically 'sounded superb' because, of course, as an instrument they had to be played by performers, and the concept of virtuosity still applies. There can be 'good' or 'poor' performances. This seems strangely at odds with the developing philosophy in the field which stressed the 'transparency' of the technology. (Emmerson 2007: 85-86)

Further to this, it seems reasonable to suggest that electroacoustic composers, particularly those familiar with the practice of sound diffusion, often consider the various possibilities that diffusion presents during the creation of their works. In such cases, composers make compositional decisions with these various possibilities in mind and, as a result, their works presuppose acts of sound diffusion. This point is supported by Jonty Harrison who, in *Sound, space, sculpture: some thoughts on the 'what', 'how' and 'why' of sound diffusion*, makes the following claim:

[Electroacoustic music] grows, mutates, evolves, permitting a certain fluidity and flexibility in the final aural manifestation of the sound (along the lines of Varèse's thinking on the development of crystals), thereby permitting diffusion the possibility of further expanding the underlying argument. (Harrison 1999b: 125)

Harrison goes on to clarify this point:

The simple fact is: much electroacoustic music, particularly that in the musique concrète and acousmatic tradition is intended to be diffused, has the variability of performance underlying its aesthetic base. (Harrison 1999b: 124)

In this context, the term *variability* is particularly significant, since it implies that electroacoustic works are not (like most of their plastic counterparts) replete, determinate entities, but schematic, indeterminate formations that may be instantiated in a variety of different ways. In other words, electroacoustic works may underdetermine their various instances and are therefore potentially thin types that have thick tokens. This clearly aligns such works with the performing arts and, in particular, their scored, instrumental counterparts; both encourage a degree of variability, presuppose diverse instantial acts.

Combining plasticity and performance

Thus far, this paper has considered the idea that some electroacoustic composers strive for instantial uniformity and thus create works that are replete or fixed during the

compositional process; such works seem to be more closely aligned with the plastic arts. It has also considered the idea that some electroacoustic composers strive for instantial novelty, and thus create works that underdetermine their instances; such works seem to be more closely aligned with the performing arts. Curiously, there seems to be a third possibility that requires our attention; many electroacoustic works seem to be characterised by both plasticity *and* performance, falling between these ostensible polarities. The remainder of this section explores this idea.

Electroacoustic composers may produce works that are intended for concert diffusion. However, the same composers are often happy to issue their musical works on CDs or DVDs, thus enabling listeners to instantiate the music within a number of different listening contexts (such as home-listening or studio-listening) in which sound diffusion unavailable. In such cases, the work would appear to strive for both instantial novelty, when presented in a concert hall, and instantial uniformity, when presented elsewhere. As a result, a curious situation emerges; works appear to be characterised by both plasticity *and* performance, since their instances appear to be uniform in some cases and qualitatively distinct in others.

Some composers address this ostensible paradox by producing two version of the same piece. For example, in a recent talk, Jonty Harrison explained that he created two versions of a stereo acousmatic work called *Hot Air* (1995); Harrison explained the difference between these versions as follows:

I knew that the work would be premiered on the GRM's Acousmonium on the deep stage of the Salle Olivier Messiaen. The piece contains a very long 'Mediterranean nightscape' section which recedes very slowly into the distance, to the vanishing point [...]. I knew that I would be able to sustain this structural effect in diffusion, but when I came to release the work on CD, I shortened this section, feeling it was too long for a personal or domestic listening context, without the benefits of diffusion and real loudspeakers in distant positions. (Harrison 2011: 6)

The difference between the two versions of *Hot Air*, suggests one way in which a work may be characterised by both plasticity *and* performance; the version that is for *performance* underdetermines a particular act of diffusion in which materials slowly recede into the distance whereas the version that is for CD listening offers the listener a replete, fully-determined listening experience that is (arguably) less compromised by the absence of sound diffusion.

Despite the above, it is rare to find that a composer has radically altered the structure of a composition to account for different listening situations; the vast majority of composers make a single version of their works which they are happy to present in concert and to release on a CD or DVD. With this in mind, one may argue that the

situation described above is relatively common, particularly in the age of recording technology. For example, we often find that works of classical music, which were originally intended for concert performance, may be recorded and released on CD. Alternatively, works of rock music, which have been composed in a studio and realised using a fixed medium, may be performed live in concert. This situation has been discussed, at length, by Andrew Kania, who reaches the following conclusion:

"Classical and jazz are alike in being live performance traditions. This results in the similar attitude each takes towards recording technology, using it to produce, in a sense, durable performances. Yet, the classical tradition is centred around enduring works, which are the creations of composers, while in jazz the primary focus of critical attention is ephemeral performances, so that the tradition cannot be said to contain works in the same sense as in the classical tradition. Rock music, on the other hand, while including an important practice of live performances, is centrally a recorded art, whose works are replete recordings that manifest songs which can be performed live, without the works themselves being performances of those songs, and without the songs being works in their own right." (Kania 2008: 15).

With this in mind, it is tempting to suggest that electroacoustic music is, from an ontological position, similar to rock music, offering replete recordings that manifest works that can be performed live. Yet this suggestion implies that variability is only ascribed to the performance and not to the work itself; as previously mentioned, much electroacoustic music has performance underlying its aesthetic base; such variety does not suddenly emerge in performance, for it has been determined in advance, being crucial to the work itself (Harrison 1999b: 124). Perhaps, then, electroacoustic music seems more closely related to works of classical music, being intended for performance but using technology to produce, in a sense, durable performances. Yet this does not seem quite right, either; in the electroacoustic tradition, technologies are not used to document or capture performances but to compose works; we do not hear anything akin to a once-upon-a-time performance when listening to an electroacoustic work via a CD.

With the above in mind, it is, perhaps, worth developing an ontological account that stresses the unique nature of electroacoustic music; rather than focussing upon plasticity *and* performance, one may suggest that electroacoustic works fall between these ostensible polarities. There are two possibilities. Firstly, one might suggest that works of electroacoustic music underdetermine their instances, and produce instantial novelty that occurs *either* in the concert hall *or* in other listening situations. Alternatively, one might suggest that electroacoustic works occupy two simultaneous positions on Davies' thick-thin continuum being, on the one hand, thick enough to be released on a CD and, on the other hand, thin enough to be performed in concert. It does not matter which of these options we choose. However, a failure to acknowledge the unique nature of electroacoustic

music is surely the cause of much ontological confusion, and the reason why some philosophers, aestheticians and musicologists have struggled to accept and understand electroacoustic music. Ontological theorising is, therefore, essential if we are to identify and celebrate the unique nature of this exciting and uncompromising art form that appears to fall between plasticity and performance.

Conclusion

This paper has considered electroacoustic music in relation to the plastic arts and the performing arts. It started by suggesting that electroacoustic music is one of the plastic arts, went on to suggest that it is one of the performing arts and concluded with the following claim: electroacoustic music may be characterised by plasticity *and* performance or, as is more likely, it falls *between* these ostensible polarities. Further research is needed, particularly in terms of the development of a bespoke ontological account of electroacoustic music. This will enable us to develop a greater understanding of the unique nature of electroacoustic music, similarities and differences between other art forms, the nature of performance interpretation in electroacoustic music, the ability to differentiate between authentic and inauthentic instances, amongst others.

References

- Brown, L. (1996). Musical Works, Improvisation, and the Principle of Continuity. *Journal of Aesthetics and Art Criticism* 54/1: 353–369.
- Dack, J. (2001). Diffusion as performance. In: Lasker, G. / Lily, J. / Rhodes, J. [eds.] *Systems Research in the Arts, Volume III: Music, Environmental Design & the Choreography of Space*, Vol. 3/1 pp. 81–88.
- Dack, J. (2002). Abstract and Concrete. *Journal of Electroacoustic Music* 14/1: 2–7.
- Davies, S. (2004). *Musical Works and Performances: A Philosophical Exploration*. Oxford: Oxford University Press.
- Echard, W. (2008). Subject to a Trace: The Virtuality of Recorded Music. In: Dogantan-Dack, M. [ed.] *Recorded Music: Philosophical and Critical Reflections* pp. 22–40. Middlesex: Middlesex University Press.
- Emmerson, S. (2007a). *Living Electronic Music*. Aldershot: Ashgate Publishing Limited.
- _____. (2007b). Seeing (or not seeing) the Loudspeaker; Seeing (or not seeing) the Music. In: Barriere, F. / Clozier, C. [eds.] *De la relation entre audition et vision dans la création en musique electroacoustique (The relationship between hearing and seeing in the creation of electroacoustic music)* pp. 85–88. Bourges: Editions Mnemosyne.
- Emmerson, S. / Smalley, D. (2001). D. Electro-acoustic Music. *Grove Music Online*. Available from <http://www.grovemusic.com/index.html> [Accessed 18 May 2007]
- Ferguson, L. (1983). Tape Composition: An Art Form in Search of its Metaphysics. *Journal of Aesthetics and Art Criticism* 42/1: 17–27.
- Godlovitch, S. (1998). *Musical Performance: A Philosophical Study*. London: Routledge.
- Gracyk, T. (2009). Ontological Contextualism. In: Davies, S. et al. [eds.] *A Companion to Aesthetics* [2nd ed.] pp. 449–452. Malden: Wiley-Blackwell.
- Harrison, J. (1995). Hot Air. In: *Articles indéfinis* (CD – IMED 9627). empreintes DIGITales, 1996.
- _____. (1999a). Diffusion: theories and practices, with particular reference to the BEAST system. In: *eContact*, Vol. 2.4. Available from <http://cec.sonus.ca/econtact/Diffusion/Beast.htm> [Accessed 23 June 2010]
- _____. (1999b). Sound, space, sculpture: some thoughts on the ‘what’, ‘how’ and ‘why’ of sound diffusion. *Organised Sound* 3/2: 117–127.
- _____. (2000). Imaginary Space – Spaces in the Imagination: Australasian Computer Music Conference 1999 Keynote Address. In: *eContact*, Vol. 3.2. Available from <http://cec.sonus.ca/econtact/ACMA/ACMConference.htm> [Accessed 23 June 2010]
- Harrison, J. / Wilson, S. (2010). Rethinking the BEAST: Recent developments in multichannel composition at Birmingham Electroacoustic Sound Theatre. *Organised Sound* 15/3: 239–250.
- Harrison, J. (2011). Time, Space, Structure(s): Issues in the creation and perception of multidimensional form in acousmatic music. Paper presented at: *Form in Electroacoustic Music*. Institute of Creative Technologies, De Montfort University, Leicester, 20th Feb 2011.
- Henriksen, F. E. (2002). *Space in Electroacoustic Music: Composition, Performance and Perception of Musical Space* [PhD dissertation]. London: City University.
- Hofweber, T. (2012). Logic and Ontology. In: Zalta, E. [ed.] *The Stanford Encyclopedia of Philosophy*. Available from <http://plato.stanford.edu/archives/sum2012/entries/logic-ontology/> [Accessed 17 August 2012]

- Kania, A. (2005). *Pieces of Music: The Ontology of Classical, Rock and Jazz Music* [PhD Thesis]. University of Maryland.
- _____. (2008). Works, Recordings, Performances: Classical, Rock, Jazz. In: Dogantan-Dack, M. [ed] *Recorded Music: Philosophical and Critical Reflections* pp. 3–21. Middlesex: Middlesex University Press.
- Kilpatrick, S. / Stansbie, A. (2011). Materialising Time and Space in Acousmatic Music. In: Vande Gorne, A. [ed.] *L'Espace du Son III* pp. 55–62. Ohain: Musiques et Recherches.
- Levi-Strauss, C. (1969). *The Raw and the Cooked*. New York: Harper & Row.
- Mooney, J. (2005). *Sound Diffusion Systems for the Live Performance of Electroacoustic Music. An Inclusive Approach led by Technological and Aesthetical Consideration of the Electroacoustic idiom and an Evaluation of Existing Systems* [PhD Thesis]. The University of Sheffield.
- Nance, R. (2007). *Compositional Explorations of Plastic Sound* [PhD Thesis]. DeMontfort University.
- Rohrbaugh, G. (2005). The Ontology of Art. In: Gaut, B. / McIver Lopes, D. [eds.] *The Routledge Companion to Aesthetics* [2nd ed.] pp. 241–254. New York: Routledge.
- Rumsey, F. / McCormick, T. (2006). *Sound and Recording: an introduction* [5th ed.]. Oxford: Focal Press.
- Schaeffer, P. (1952). *A la recherche d'une musique concrète*. Paris: du Seuil.
- _____. (1966). *Traité des objets musicaux*. Paris: du Seuil.
- Smalley, D. (1991). Spatial experience in Electro-Acoustic Music. In: *L'Espace du Son II* pp. 121–124. Ohain: Musiques et Recherches.
- _____. (2007). Space-form and the acousmatic image. *Organised Sound* 12/1: 35–58.
- Stansbie, A. (2013). *The Acousmatic Musical Performance: an ontological investigation* [PhD dissertation]. London: City University.
- Thomasson, A. (2004). The Ontology of Art. In: Kivy, P. [ed.] *The Blackwell Guide to Aesthetics* pp. 78–92. Oxford: Blackwell.
- Urmson, J. (1976). The Performing Arts. In: Anscombe, G. [ed.] *Contemporary British Philosophy; Fourth Series* pp. 239–252. London: Muirhead Library of Philosophy.
- Wollheim, R. (1980). *Art and its Objects* [2nd ed.]. Cambridge: Cambridge University Press.
- Wolterstorff, N. (1980). *Works and Worlds of Art*. Oxford: Clarendon Press.
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- ¹ For the sake of clarity, this paper is primarily concerned with a particular type of electroacoustic music known as *acousmatic music*, although various other types are mentioned throughout. In this context, the term acousmatic describes a listening situation in which the source or cause of a sound is not presented (visually) to a listener and thus *acousmatic music* refers to music which utilises or explores this listening situation.
- ² Ontology is a branch of metaphysical philosophy that is concerned with the nature of being or existence. It is often described as the theory of objects and their ties, providing criteria for distinguishing different types or kinds of objects, enabling one to unpick the various relations that such objects enter into (Hofweber 2012: 1). For more information, see: Stansbie (2013).
- ³ Davies' thick-thin thesis does not seek to quantify the various sounds occurring during a given performance: "performances of thin works are as replete with acoustic information as are those of thick works, but, for performances of thin works, more of this information is referable to the performance than to the work" (Davies 2004: 20). Thus, large orchestral works are not necessarily any thicker than solo piano works.
- ⁴ Composers may also synthesise sounds, using a process described by Emmerson and Smalley: "Creating a sound through synthesis requires the composer to design the constituents of a sound and their evolution according to a particular method – for example, building sounds based on waveforms, constructing sounds out of the briefest sound-grains, or specifying the parameters of models based on the behaviour of the voice, instruments and other sounding bodies." (Emmerson / Smalley 2001: 1).
- ⁵ Schaeffer's use of the term *concrète* served to emphasise the difference between his compositional techniques and a perceived over-formalisation of abstract serial techniques employed by many of his contemporaries. John Dack provides a comprehensive overview of the various differences, noting that the specific meaning is often unclear since the term concrete can be used as both an adjective and a noun (Dack 2002).
- ⁶ This is not to suggest that the concert hall is the best place for the presentation of electroacoustic works: "Leaving aside the interesting but thorny question, not strictly relevant in the current context, of whether the 'concert', with its behaviour codes and anachronistic rituals, is the most appropriate format for electroacoustic music anyway, the last half century has nevertheless seen much of this kind of public presentation." (Harrison 1999: 120).
- ⁷ This point has been made, at length, by Brown (1996) and Echard (2008).
- ⁸ Harrison and Wilson have noted that loudspeakers: "[...] cannot be treated as strictly neutral and transparent conveyors of fully and ideally realised sound material" (Harrison / Wilson 2010: 240).
- ⁹ There are various other differences which may be less obvious. For example, the performance system may use a different algorithm to access the code and it may use various different loudspeakers than those employed during the creation of a work. These factors all influence the decoding process and, crucially, differentiate the decoding process from that encountered in the studio.
- ¹⁰ Jonty Harrison appears to agree with this point: "[...] it seems strange that the acoustic peculiarities of the public playback space itself are frequently given little consideration in [tape playback]" (Harrison 2000: 1).
- ¹¹ Emmerson is referring to the Gmebaphone/Cybernéphone and the GRM Acousmonium. For more information see: Stansbie (2013).

[Abstract in Korean | 국문 요약]

조형예술과 공연예술 사이: 전자음악의 존재론적 해석

아담 스탠스비

전자음악은 예술 장르 가운데 매우 특이한 위치를 차지하고 있다. 한편으로는 회화나 조각과 같은 조형예술과 그 궤를 함께하고 있는데, 예를 들어 작곡가들은 스튜디오 내에서 행하는 주소, 조형, 조각과 같은 행위들이 가지고 있는 촉각, 운동감각, 그리고 자기수용적 측면에서 작곡 행위와 동일한 특성을 종종 발견한다. 다른 한편으로 드라마, 무용, 기악음악과 같은 공연예술적인 측면에서의 전자음악은, 실시간 조작이 가능한 다채널 사운드 시스템의 보급과 더불어 기존 형식의 공연예술과 성공적으로 결합할 수 있었다. 본 연구에서는 이 표면적 역설을 적극적으로 설명하고자 하는데, 조형예술과 공연예술 사이에서의 존재론적 구분과 더불어 전자음악이 조형미술, 또는 공연미술과 얼마나 존재론적 측면에서 닮아 있는가를 살펴보고 다음과 같은 결론을 맺고자 한다. 전자음악은 조형예술적 측면에서 또는 공연예술적 접근에 의해서도 특징지어질 수 있다. 그러나 많은 경우에는 이 두 지점 어딘가에 존재하는 것으로 설명된다. 이러한 고찰은 왜 때로는 철학자, 미학자, 음악학자들이 전자음악을 확고하고 흥미로운 예술 장르로서 그 가치를 분명히 하는 데 어려움을 겪는지 설명하는 데 도움이 될 것이다.