A Critical Analysis Model for Electroacoustic Music for ACMC 2006

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Abstract

This paper seeks to offer a historical perspective into the genre of electroacoustic music and highlight some of the issues associated with the terminology utilised for analysis and criticism. A number of perspectives are presented and discussed resulting in four methods which will form a unified and accessible terminology model. This model will act as the central methodological framework for a critical analysis of Mungo *and* Thrausmata *presented in my honours dissertation on the electroacoustic music of Australian composer Ros Bandt.*

Introduction

In the 21st Century the term Electroacoustic Music encompasses a diverse array of musical ideas. The specific definition and characteristics are still subject to much debate. Clear definitions state that the genre is

> "music in which electronic technology, now primarily computer-based, is used to access, generate, explore and configure sound materials, and in which loudspeakers are the prime medium of transmission" (Emmerson & Smally, 2002).

In the majority of literature it is commonly understood that electroacoustic music evolved from two strong developments in Europe in the 20th Century. *Musique Concrete* which was pioneered by Pierre Schaeffer in Paris in 1948 and *Elektronische Musik,* which was the term used to describe a collection of composers working in Cologne in the early 1950's. *Musique Concrete* involved the recording and modification of sounds and subsequently assembling them to realise the musical work as a concrete recording rather than an abstract score. *Elektronische Musik* was concerned with creating precise sonic realisations of elaborate complex scores, drawing a strong methodological approach to that of the serial techniques.

Over time the term 'Electroacoustic music' was adopted to refer to concrete and electronic approaches in music. Other terms such as computer music, sonic art or electronic music are widely utilised but electroacoustic music remains the dominate term. It should be noted that the term 'electroacoustic' simply illustrates the technology used in the production; it does not describe the sonic language or the distinctive expressions made possible by this technology (Emmerson & Smally, 2002).

The innermost aspiration of the electroacoustic composer was, and still is, to expand compositional resources beyond those accessible from instruments and voices. This results in an exploration of new sound shape and timbres by the manipulation and transformation of recorded sounds and synthesizing new sounds. This is an innovative approach which is essentially breaking the barriers and confines of fixed pitch and metric identity, the essence of western music. The use of natural sounds in electroacoustic music allows us to claim that this is the first musical genre ever to place under the composer's control "an acoustic palette as wide as that of the environment itself" (Emmerson, 1986).

The visionary electroacoustic composers who pioneered this genre understood that this use of technology would shape the future of music. In any case, with vision and innovation comes a certain amount of resistance as the fear of change is potent in the majority of humanity. An underlying cause of the resistance in electroacoustic music is the role of technology, and in particular the computer. This controversial issue has sparked continual debate and has commonly resulted in an inferior attitude towards electroacoustic composers; this is particularly evident in an Australian context. It can not be denied that the accessibility of technology in today's musical climate has allowed composers with limited knowledge and experience to create with the aid of the computer. This could be viewed as a broadening of the spectrum of composition, or a downwards spiral to a diminution of expression and genuine musical thought. The second, being a rather dramatic option, will constantly be prevented by the visionary composer who employs this technology as an extension of expression and a freedom of musical thought.

In pedagogical approaches to composition, musical analysis is an essential element of discovery and understanding. In the genre of electroacoustic music, analysis has received very modest attention, predominantly due to the fact that a common language or method of analysis does not exist.

There are a series of challenges associated with analysing and criticizing electroacoustic music; most obviously the fact that in the majority of cases no score exists. The lack of a written document creates difficulties for the analyst who insists on carrying out objective work, the objection is certainly that the recorded work is in fact an objective representation, yet the inconvenience of not being able to refer to a score is a key factor into why analysis has been disregarded in this area. This is still a prominent factor today despite as early as 1930 composers such as Stokowski called for the realisation of scores directly in tone, not on paper (Risset, 2002).

The sound materials utilised in electroacoustic music creates a broad spectrum of materials from a kaleidoscope of noise to a pure sine tone. Music theory is yet to develop the means to confront such a wealth of sound materials, this is one of the contributing factors to the contradicting language issues (Licata, 2002).

The complexity of the issues that surrounds the language of electroacoustic music creates a perception that there is a lack of resources in this area of music. When research is conducted, it is clear that the problem is in the lack of unity. Extensive resources exist, but many are contradictory in nature making it exceedingly difficult for the analyst or critic to establish an appropriate language to discuss the works. This often results in a tendency to avoid the work or resort to clichéd terms that tend to underestimate or insult the integrity of the work. It is imperative for the critic and analyst to be equipped with a unified language to discuss the genre.

In terms of musical analysis, although a complicated issue in electroacoustic music, the term now incorporates a diverse array of activities. Fundamentally musical analysis represents the nature of music, music's role in human life and the role of the human intellect with regard to music (Bent & Pople, 2006). In essence analysis is the perception of music, a procedure of discovery and understanding. In fundamental terms analysis may be looked at as a three method procedure; recurrence, contrast and variation (Bent & Pople, 2006). When looking at the role of musical analysis from this simplified perspective, the process of analysing and criticising electroacoustic music with the extensive body of work in this genre should then not be as complex as it is perceived. The solution lies in finding the appropriate terminology to examine these works.

Four methods will now be discussed that offer an accessible model for a unified language of electroacoustic music. The four principles offer a balance of qualitative and quantitative research methods. It should be noted the intention is not to form a model for a particular style of analysis or criticism, but rather a vital platform of knowledge that will act as a foundation and point of departure for future investigations in this area.

The first method involves the visual representation of quantitative data in the form of a sonogram analysis. A sonogram immediately solves the problem of absent scores and offers the analyst something tangible to represent the work which unquestionably will assist when discussing structure and dynamic range.

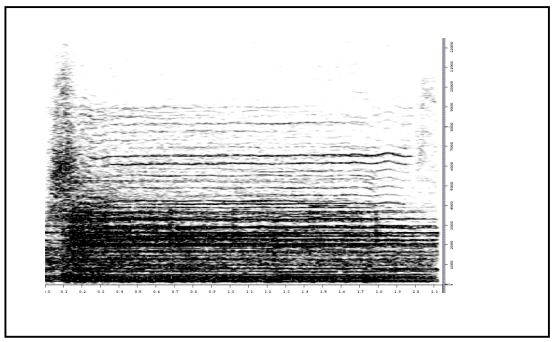

Figure 1. *Example of a sonogram analysis*

Simon Emmerson has presented a context within which to discuss the materials utilised by electroacoustic composers, specifically the materials which reach beyond those in current music theory. His approach is in essence based on the evocation of images in the listener's mind, not with how specific sources may evoke particular images but with how the imagery evoked interacts with more abstract aspects of musical composition (Emmerson, 1986, p.24). He uses the term 'mimesis' to describe the imitation not only of nature but of human culture not usually associated directly with musical material, essentially sounds that immediately reference an aspect of life. There are two types of mimesis; 'timbral' mimesis which is a direct imitation of the timbre of natural sound and 'syntactic' mimesis which imitates the relationship between natural events. With this in mind we can hear music with either an aural or mimetic discourse, either of these may be organised on ideas of syntax either abstracted from the materials or constructed independently from them in an abstract way (Emmerson, 1986).

Trevor Wishart explores a language with commonly understood symbols within the sonic world. He challenges the concept of sound landscapes and clearly defines the characteristics of landscapes in ways that offer insight into new analytical perspectives. Wishart breaks down our perception of landscape into three categories; I, the nature of the perceived acoustic space; II, the disposition of sound objects within the space; and III, the recognition of individual sound-objects (Wishart, 1986, p.49). His unique perspective makes the language for discussing landscape exceedingly accessible.

Dennis Smally has pioneered the term 'Spectro-morphology' based on the way sound objects have the potential for building gestures, shapes and forms. This study was the first in English, to examine precisely how these shapes are built up and may be developed. Spectro-morphlogy is an approach to sound materials and musical structures which focuses on the spectrum of available pitches and their shaping in time. It offers a framework for understanding structural relations and behaviors as experienced in the temporal change of the music. Extra musical message

> "conveyed in a strongly mimetic work is carried and articulated by spectro-morphology" (Smally, 1986, p.63).

The influence of spectro-morphology seeks to clarify our conception of the nature of music and in essence demands the composer to have a greater understanding of sound in human life (Hirst, 2000). It "reaffirms the primacy of aural perception … and warns composers, researchers and technologists that unless aural judgment is permitted to triumph over technology, electroacoustic music will attract deserved condemnation" (Smally, 1986).

The visionary perspectives of Emmerson, Wishart and Smally are obvious. Combining these methods with the visual representation of sonic data produces an accessible critical analysis model that unifies the terminology. The inclusion of historical background and cultural context in the model may be perceived as an act of common sense, but I believe this is a necessary inclusion as it is so often neglected in electroacoustic music analysis. The intention is to produce a vital platform of knowledge for the analyst and critic so this stage is fundamental to the

model. The final process of the critical analysis model can be viewed as follows:

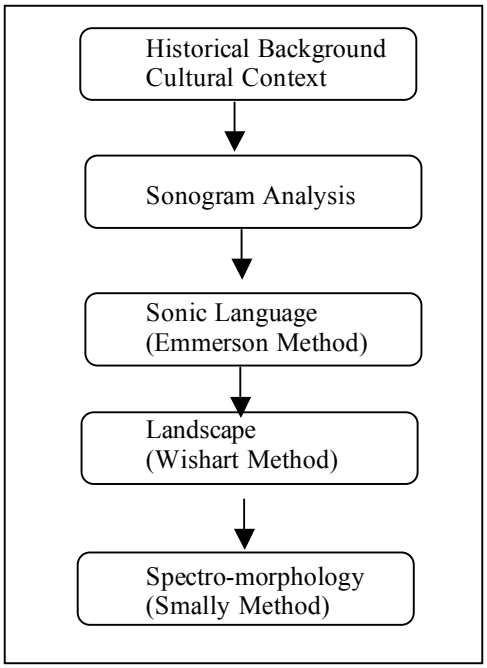

Figure 2. *Critical Analysis Model*

The subject matter that has been presented offers an informed historical perspective into electroacoustic music. A unified model has been revealed that creates a critical foundation of knowledge for future explorations. The next stage of this research is developing a contextualised model specifically relevant to Australian works.

References

Emmerson, S., & Smally, R. 2001. "Electro-acoustic music" *The new Grove dictionary of music and musicians*. London: Macmillan. 8. 59-67.

Emmerson, S. 1986. "The relation of language to materials" *The language of electroacoustic music*. ed, S. Emmerson. Basingstoke, UK: The Macmillan Press. 17-39.

Hirst, D. 2000. *Developing analysis criteria based on Dennis Smalley's timbre theories*. Melbourne: Teaching, Learning and Research Support Dept, University of Melbourne.

Licata, T. 2002. "Introduction" *Electroacoustic Music: Analytical perspectives*. ed, T. Licata. America: Greenwood Press.

Risset, J. 2002. "Foreword" *Electroacoustic Music: Analytical perspectives*. ed, T. Licata. America: Greenwood Press.

Smally, D. 1986. "Spectro-morphology and structuring processes" *The language of electroacoustic music*. ed, S. Emmerson. Basingstoke, UK: The Macmillan Press. 61-83.

Wishart, T. 1996. *On Sonic Art*. Amsterdam: Harwood Academic.

Wishart, T. 1986. "Sound symbols and landscapes" *The language of electroacoustic music*. ed, S. Emmerson. Basingstoke, UK: The Macmillan Press. 41-60.