Found Sound - Found Structure

Summary

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Abstract

The development of technological resources for sound recording and processing has introduced a host of issues which relate to musical structure and meaning. Composers have been recording and processing sounds for several years now in the 20th Century, exploring ways to incorporate live recorded or found sounds into the fabric of their compositions, using an increasing collection of resources for composition design and implementation. This raises important issues regarding the musical meaning of these recorded sounds, and the means by which they can be organized into musically sensible structures. This presentation explores aspects of found sound in relation to compositional structure, and includes views into sonic characteristics, context, content, environment, and character. Connections within and between sound materials are examined in the context of usage in the composition InDelicate Balance.

Introduction

From the early music concrete compositions which utilized analog electronic recording and processing systems (Shaeffer, Henri; Varèse, Stockhausen, Berio), to the current digital software and sampling systems (Harris, Stone, Reich, Austin), composers have been exploring ways to incorporate live recorded or found sounds into the fabric of their compositions. This raises important issues regarding the musical meaning of these recorded sounds, and the means by which they can be organized into musically sensible structures. This presentation explores aspects of found sound in relation to compositional structure, and includes views into sonic characteristics, context, content, environment, and character. Connections within and between sound materials are examined in the context of usage in the composition InDelicate Balance.

InDelicate Balance was realized using a combination of digital software processing and mixing techniques, and real-time sampling, processing, and mixing systems. The vast majority of the found sounds used in InDelicate Balance exist as unique entities - as individual tones or as sound complexes. Mapping sounds across a scale for the purpose of creating a pitch-based instrument of transposed tones was not a concern in this work. Sounds were processed in ways which would reinforce various presentations for the material itself and relationships with other material in the work.

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1InDelicate Balance is available in its entirety through the SEAMUS Archive project. Somewhere between is available on CD through DIFFUSION I MéDIA, Montreal, Quebec. Room Views is available on CD through the Leonardo Music Journal.
Sound Materials and Processes

Development of musically sensible structures using sound materials requires a close examination of sound materials as unique entities, and as members of sound complexes. This reveals connections between surface details and structure, between specific instances and abstract principles. Understanding these issues contributes to the formulation of the composition’s structure, creating the circumstances for the interaction of the sound material. The composition results from the composer’s perception, perspective and intent in collating and organizing the materials, in designing the scores and processes which create the sound complexes and gestures, and in designing the computer instrument that performs the material.

Whether the sound material is traditional Western tonal music, music of other cultures, or sounds of the city, country, or sea, there are definable characteristics relating to sonic and structural components, as well as subjective aspects of character and impression. In the case where a traditionally musical sound is used, it may be the entire content of an event, or it may be merely an entity within a more complex sound event which incorporates additional musical or extra-musical sound objects. An investigation into the nature of sound objects must delve with clarity into such questions as:

- What constitutes a musical motive, phrase, gesture, and structure in a sound object?
- What is a beginning, transition, and ending for a sound object?
- What abstract principles govern the criteria for creating motion - tension/relaxation criteria?
- What are similarities and differences between musical examples and those which incorporate recorded material from extra-musical sources?
- How does one extrapolate fundamental principles and characteristics of a sound object and relate them to a different sound object?
- How are connections built within and between levels as one traverses the structure?

In the composition InDelicate Balance, and for the purpose of this presentation, the following assumptions and basic principles apply:

- A sound object has form. It is an entity which exists at the micro and macro levels.
- A sound object has content - the musical and extra-musical materials.
- A sound object exists in a context, making a distinction between the content and the setting or circumstances in which it is found.
- An environment exists in which a sound object is portrayed.
- A sound object has character which operates in a vast range from the subjective to the objective.
- All of the above aspects of a sound object can be used separately or in combination as part of the materials of the composition.

The structure of the work, and the means by which tension and relaxation operates, grow out of perceived relationships among the specific sound material, programmatic connections, personal relationships with the material, perceptions of similarity and difference, and the character of the presentation. Sounds are used in and out of context, character and content are transformed, and environments mutate as relationships are developed at both micro- and macrocosm.
inDelicate Balance
Specific aspects of found sound - found structure are addressed in each movement of the composition, offering a series of perspectives into detail, structure and relationships, and following a progression of processes which incorporates aspects from preceding movements. A brief description of specific sound material, processes, and relationships illustrates main considerations.

Cloud
Cloud is an overture of sources, where material is presented in raw states, and relationships are presented overtly. This movement initializes the sound fabric of the composition using primarily three found sound complexes, hanging on a hierarchical structure which relates both detail and structure within and between the complexes.

Complex 1: Tchaikovsky's Francesca di Rimini
This complex is based on an excerpt from Tchaikovsky's symphonic fantasia. Musical analysis reveals that surface melodic, rhythmic, and harmonic characteristics are directly related to the tonal and phrase design. The micro-element is a melodic motive based on a rising minor second interval, followed by a falling minor third interval. This is transposed up a minor third three times, forming a larger entity based on the diminished seventh chord. Larger structural units are formed by manipulating this entity, until finally it becomes a frame for the sound complex. The diminished seventh chord has a deep significance in Western tonal music, and its formal significance applies on a level of abstraction which is much deeper than its mere surface description or even the significance within the context of this composition or musical era. The chord transforms from its role reinforcing traditional tonic/dominant relationships in music of the 17th and 18th centuries, to a role reinforcing structural thirdrelationships prevalent in music of the 19th century. This exemplifies an instance of a similarity in formal construct, and a contextual difference between musical materials in different periods.

Complex 2: Threshold
An excerpt was selected from the introduction to the composition Threshold, for Chamber Ensemble and Computer-Generated Tape, by the author. Processed crotales present a sound complex which is based on combinations of the same pitch class collection as the orchestral example. An underlying foundation of swells created using live and processed cymbals and tam-tams performing similar material form a structure which connects the surface activity to the phrase and larger structural levels. Within its own sound realm, the material reinforces the transformation from a beginning state, to an altered state.

Complex 3: Film and Television Fragments
This sound complex contains recorded fragments from television commercials and film excerpts. There are references to beginnings, transformations, and a sense of arrival, as well as content and character relationships between different fragments. Textural references to babies and children, the brief cry of a baby which correlates tonally to the minor third motive in the other sound complexes, an underlying collection of conversation phrases, all combine to create a view into human activity in the environment of contemporary society.

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Clarity
In Clarity the focus is on recorded and processed piano sound, with the goal of exploring found sound - found structure utilizing limited source material. This segment probes the components of the piano tone, developing a structural design which is fundamentally connected to the sound source. The sonic/spectral character of a piano tone extends to the growth of melodic, rhythmic, and harmonic material, operating at the gesture level. Numerous versions and character settings of piano tones were recorded and classified to make up the source materials for the movement. A computer instrument was developed to perform the piano sounds, portions of these sounds, specific aspects of the sounds, and sound complexes comprised of their combination.

Somewhere between
Sound and score material from Clarity is absorbed and extended by incorporating motives, chords, progressions, and gestures as the atomic material, and applying their relationships towards larger structural entities. Continuity between these two movements is achieved on the surface and middle ground through similarity of piano source material. It is achieved at deeper levels by adapting the instrument and score design used in Clarity for use in this movement with transformed piano sources.

Room Talk
In Room Talk the principles were extended to one further level of abstraction, retaining the scores and structural design from the two previous movements, but altering the sound source itself. Test material replaces piano material, severing the connection between the sound source and the structure. The return of a textual and quasi-programmatic element establishes a connection with the first movement. Connections with a traditional musical framework are loosening, highlighting abstract relationships. The character of the sounds are exaggerated, and their meaning in context is profiled. The human voice articulates the structure, as the forms of phoneme, word, phrase, and sentence blend with the forms used to present the tone, motive, gesture, and phrase of the piano material. Many kinds of texts are used, classifying the material into styles and character - informative, explanatory, subjective, objective, sensitive, public, personal. The consistency resulting from incorporating familiar structures beneath the surface, creates the circumstances for the unfolding of the vocal material.

Room Views
Room Views magnifies forms, relationships between entities, and issues of closure. Material from Cloud returns, and is presented in different environments and contexts. The appearance of the conclusion from Dialogue for Two Grand Pianos by the author as one of the found sound complexes forms a structural edifice for the movement, retaining a connection with previous piano sounds. Environment and character are separated from the sources, and are imposed on other sound objects.

Assessment
A remarkable similarity exists among musical means and processes, regardless of the sound material, genre, style, and period. This includes consideration for multi-layered structural design, multiple planes of hearing, a complex web of melodic, rhythmic, harmonic, spectral, and structural relationships, methods for creating tension and relaxation, linkage between the absolutely musical and the programmatic, and the incorporation of dramatic elements. Composition with found sound requires a sensitivity to abstract forms to determine natural structures for relating complex and seemingly disparate materials. This creates the circumstances for the development of coherent musical works.