Understanding electroacoustic music: analysis of narrative strategies in six early compositions

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Six historical electroacoustic compositions from the 1950s to the 1960s are analysed in search of a series of 'narrative strategies' whose validity can be extended to the electroacoustic repertoire. In this paper we propose some examples of the narrative elements, showing analogies and differences in their use by different composers and in the context of different studios of production.

1. ELECTROACOUSTIC MUSIC AND NARRATION

During the 1950s, electroacoustic music composers were searching for an autonomy both from an aesthetic and a linguistic point of view. The aim of this paper is to understand whether some types of strategies concerned with the musical narrative component were used in that kind of repertoire and whether they are verifiable through analysis. Such strategies are often derived from traditional compositional techniques but they can also show new original components linked to new means of production. We examine a series of short historical electroacoustic pieces composed from 1953 to 1961 and produced in the main studios of that period:

- K. Stockhausen, *Studie II* (1953), WDR Cologne
- B. Maderna, *Notturno* (1956), RAI Milan
- F. Evangelisti, *Incontri di fasce sonore* (1956/57), WDR Cologne
- P. Schaeffer, *Etude aux sons animés* (1958), RTF Paris
- G. Ligeti, *Artikulation* (1958), WDR Cologne
- J. Tenney, *Analog I – Noise study* (1961), BELL LAB, NJ, USA

Our definition of narrative processes within the field of electroacoustic music starts from an analysis carried out through aesthesic–cognitive methodology, developed by the authors and mainly based on perception (Giomi and Ligabue 1996a, b). Such a method allows the examination of the analytical object from several points of view, from the formal level to low-level signification units: starting from the level of the smallest elements – the sound events – we can proceed to the individuation of syntagmatic chains,[1] compositional and signification strategies and to the segmentation of the structural and formal framework of the piece. The study of narrative processes is based upon an interpretation of the different analytical levels through which we can assign to musical elements – as formal units, structural sections, syntagmatic chains, even as single events – specific functions of signification.

In figures 1 and 2 we show the formal and structural divisions of the pieces derived from the analysis procedure. The criteria used for such divisions (material, rhythmic–dynamic behaviour, coherence and particular events for the first; timbre-morphology, density, motion and tension for the second) are not discussed here: we use only their results as they relate to the narrative level[2] of composition.

Every creative process (in music, literature or whatever) develops its own type of narration, even independently of its creator's purpose.[3] This does not mean that we must find 'non-intentional narrative structures' when the author used an abstract compositional organisation (serial, for example) but, nevertheless, the composition can develop its own autonomous narrative path (perhaps even a random one), or it could include elements with a narrative character created by particular uses of the signification parameters (for example, through pitch or timbral ranges).

2. NARRATIVE STRATEGIES

The following strategies were firstly supposed and then verified from within the six compositions: they are the first elements of a wider set whose validity could be extended in the future to the more general

[1] By 'syntagm' we mean a generally sequential combination of sound events which have unity, autonomy and a sense of coherence. Sense is made possible through the individuation of 'musical phrasing' which can be articulated through several elements, such as, for example, sound parameters (timbral typology, pitch placing, dynamic, space placing), rhythm, accentuation, sound correspondences and more or less explicit references – on the semantic level – to perceptual attitudes.

[2] By 'narrative level' we mean one where the composer organises a series of strategies and artifices to develop the articulation of the musical discourse of the piece.

[3] For this kind of problem see Eco (1979).

Organised Sound **3**(1): 45–9 © 1998 Cambridge University Press. Printed in the United Kingdom.

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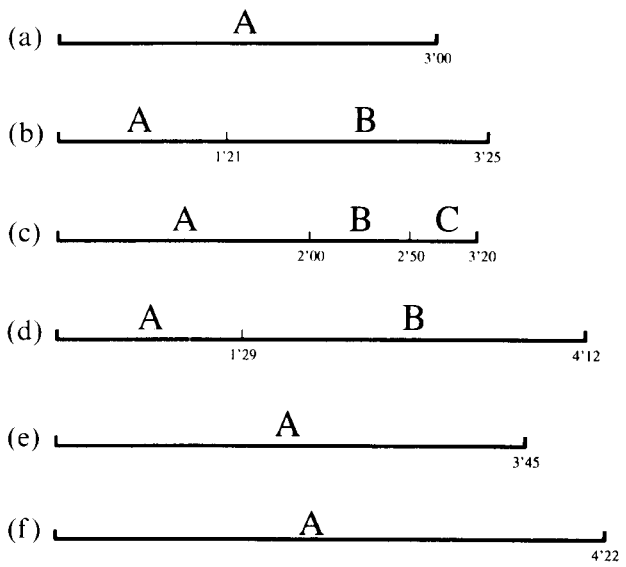

Figure 1. Graphic representation of the formal subdivision of the six pieces reached through the criteria of *sound material*, *dynamic–rhythmic behaviour*, *coherence* and *particular events*. (a) Stockhausen, *Studie II*; (b) Maderna, *Notturno*; (c) Evangelisti, *Incontri di fasce sonore*; (d) Schaeffer, *Etude aux sons animes*; (e) Ligeti, *Artikulation*; (f) Tenney, *Analog I – Noise study*.

field of electroacoustic composition. The proposed examples for each strategy concern, each time, only some of the six pieces, describing those cases we thought clearer and more interesting.

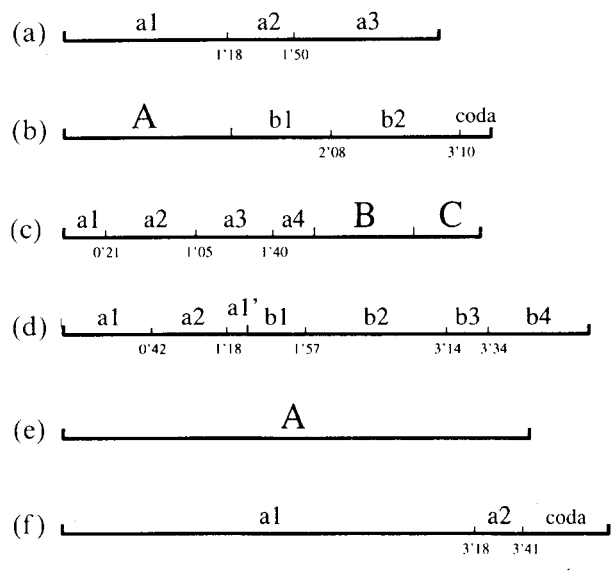

Figure 2. Graphic representation of the structural subdivision of the six pieces reached through the criteria of *timbre-morphology*, *density*, *motion* and *tension*. (a) Stockhausen, *Studie II*; (b) Maderna, *Notturno*; (c) Evangelisti, *Incontri di fasce sonore*; (d) Schaeffer, *Etude aux sons animes*; (e) Ligeti, *Artikulation*; (f) Tenney, *Analog I – Noise study*.

2.1. Introductory strategies

The aim here is to find a sort of 'organised beginning' which has a function of 'introduction' to the composition. We do not want to discuss how the composer starts his piece but whether the listener perceives the beginning as having a real introductory structure.

- Evangelisti. *Incontri di fasce sonore* is divided into three formal sections (figure 1); the first has four subsections (figure 2) characterised by different sound materials and organisations. The first subsection (a1) has a real introductory function organised through a presentation of the sound elements together with a condensed and articulated rhythmic motion. In this subsection we find the largest variety of material in the whole piece; the melodic–rhythmic profile supports the function of presentation alternating the different families of sound events.
- Maderna. The first formal section has only one part (figure 2). The organisational criteria are very different from the previous case: sound events develop into a series of phrases where the melodic and timbral exposition almost suggests the presence of one or more themes with a quasi-instrumental character, which is repeated and changed later in the second section. The introductory gestures are also helped by an arch-like morphology of the section as far as the musical atmosphere is concerned: it develops continuously coming back, at the end, to the starting point.
- Schaeffer. The initial narrative crescendo is built through the presence of two sound 'characters' following again an internal arch-like schema; the same two events, one with a melodic nature and the other noisier, conclude the first subsection (a1) and contribute to its autonomy. The whole subsection (figure 2) has an introductory role thanks to its character of presentation of the general atmosphere of the composition, announcing both the dialectic alternation between noisy and more musical elements and between continuously moving and static elements.

2.2. Ending strategies

The narrative ending is concerned not necessarily only with a section that formally concludes a composition, but also with the presence of a sort of *cadenza* able to suggest a sense of conclusion.

- Stockhausen. Following the chaotic and convulsive passage of events in the whole short composition, at the end we find a syntagm/event which seems to act as a *cadenza*: it is located in the low register, isolated and different from all the previous ones; moreover, it has an internal cycle with a strong

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decay. All these features make it act as an 'end-marker' of *Studie II*.

- Tenney. In the final part of *Noise Study* the sound material is very homogeneous. After a process of accumulation, a long final coda appears (figure 2); it is possible to focus upon it at a structural level thanks to a sudden dynamic drop, realised through a removal of the low continuous events. The coda proceeds with a progressive decrescendo which leads the piece to its natural conclusion.
- Schaeffer. There is here a very short coda that includes one of the timbral elements of the beginning. The sense of conclusion is suggested by a fast dynamic decay and by the strong reverberation of an event that, not by chance, has appeared previously in a partial version (with the resonance but without attack) and then in its complete version. This process, thanks to its brevity, gives a fast deceleration to the composition leading it to the conclusion in a very short time.

2.3. Use of analepsis and prolepsis

At several levels of the musical discourse we find procedures we can identify as narrative repeat (analepsis) and narrative anticipation (prolepsis). Some elements of narration are anticipated or repeated inside the general development of the sound text; this can happen at different levels, clearly at the level of events and syntagms, but also for whole sections or for the musical realisation of some sound parameters. The prominence of a phenomenon and its modalities differentiate the first strategy from the second one.

- Evangelisti. A particular sound event appears and proceeds in the central part of the composition; for its morphological features we called it 'coin' (a purely conventional term useful to label the event). Such an event characterises in a relevant way the central section and it leads its development on a dynamical–rhythmic level, thanks to its importance and to the iterative process it generates. The 'coin' event appears again isolated and moved away in the last C section (figures 1 and 2), with a completely different sound atmosphere, leading to the idea of an analepsis procedure. At the structural level, there is also a prolepsis of the a3 subsections (the third of the four subsections of the first section) in respect of the C section. Such a prolepsis is created anew by the use of similar typologies of events (continuous sounds and groups) and by the proposition of the same type of sequential organisation of material.
- Maderna. In *Notturno* there is the presence of a prolepsis procedure, albeit on the plane of the work's phraseological structure. We can find a sort of melodic–timbral exposition of some phrases in the very first part of the work; such phrases are then represented, extended and developed in a narrative sense during the central core of the piece. For example, this happens in a strong manner for the 'flute' syntagms, where Maderna uses an electronic timbre very similar to that acoustic instrument. Such procedures, together with the use of techniques of 'orchestral' organisation of the electronic material (see below), show clearly Maderna's instrumental vocation.

2.4. Semantic associations

Semantic associations are developed mainly on two planes, often intersecting each other:

2.4.1. Musical and extra-musical psychological associations

A musical element is produced (event, syntagm or other) in such a way or in such a form that it allows a more or less direct association – either as a whole or through its traits (morphology, motion, etc.) – with an aspect of the acoustic imagery of the real world or with another musical element.

- Evangelisti. We have a case of semantic association with the 'coin' event and/or its related syntagms. Its special morphology (iterative make-up) and its dynamic–rhythmic profile recall the throwing and the rolling of a rotating metallic object. It is not important here that the listener identifies exactly the type of the object but that it creates immediately an association with an element peculiar to his/her daily life.
- Maderna. Semantic associations are developed from both a timbral and syntactic point of view. In the first case the composer seems to connect many of the electronic timbres with hypothetical acoustic instruments. The analogies of some events with the flute, the bassoon and the horn are very evident from the very first seconds of the composition; such analogies are realised not only through the timbral domain but also through the presence of gestures and intervals typical of their use in the orchestra. The syntactic organisation of several musical elements gives the impression of a structure which follows the modalities peculiar to orchestration.
- Ligeti. The process of building extra-musical psychological associations is developed very cunningly, involving globally the compositional level of the piece and without using voice timbres. The structure hints at the prosodic passage of a verbal conversation in its different registers: syntagmic sound and organisation imitate a series of hypothetical dialogues setting their characteristics of morphology and rhythmic plot. The composition

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plays entirely on this plane, using the semantic association as its central element, with an appreciable sense of irony.

2.4.2 Metaphorical associations

Here an expressive element, capable of activating a process of symbolic transposition with another experiential element, is introduced into the composition. Where the proper term is reconstructed at the mental level, the figurative analogy is perceptual.

- Evangelisti. An example of the strategy is the use of expressive 'reverberation' in the third section (figures 1 and 2). In connection with the 'coin' event/syntagm, reverberation creates a situation of virtual space and of 'distancing' from the musical text in the foreground. This distancing actually reinforces the idea of 'memory' of the event/syntagm, already heard in the central section. There is a symbolic transposition of the axis of time with the axis of space, in order to give further weight to the mnemonic component of the narrative situation.
- Ligeti. The composer tries to act a metaphor of a possible series of conversations taking place in different spaces and with different feelings. This process is carried out through the rhythmic organisation, the accumulation, the reverberation and the stereophonic imagery of the sound syntagms. All these technical–musical procedures are a sort of bridge from those syntagms to their complex symbolic representation (the arising verbal articulation). The first and last parts of the composition are also characterised by a light global reverberation and by a process of dynamic variation (approaching/crescendo and moving-away/decrescendo): these procedures seem to strengthen the narrative path, imitating possible motions in the physical space both in a directional and dimensional sense.
- Tenney. The morphological features of sound events are here used as figurative terms of a metaphor which refer to the process of 'travel'; long sound bundles (filtered noise) have a dynamic profile which gives the idea of a continuous, slow and extended set of movements. The increase in density and acceleration of the central zone and the whole structural organisation of the piece work together along this direction, contributing to strengthen the global sense of travelling.

3. CONCLUSIONS

Fragments or more extended processes with a narrative nature are perceptible in almost all of the six compositions. A particular consideration can be made for Stockhausen's *Studie II*: even though the composer denies a narrative element in his serial plans for the piece, he seems to add a well-defined distinctive element as a conclusion. In *Notturno*, narration is developed on a strictly musical plane following ideas peculiar to the musical tradition to which Maderna is linked as composer and as conductor. We think it is important that the piece was realised in Milan at the RAI *Studio di Fonologia* where composers tried to bring French and German compositional languages into convergence. Three of the proposed compositions come from the WDR studios in Cologne: despite the homogeneity in the technical means used for production, narrative elements are distinguished and organised on different planes. Even though Stockhausen influenced Evangelisti in a more or less direct way (the scores of the two pieces, for example, have very strong analogies), the Italian composer does not follow serial procedures in a strict sense, often deviating from them; the use of narrative elements and structures contributes to give a less aleatory sense to the composition with the aim of reaching a sense of unity within the piece, confirming also the 'constructive' feeling we get at the perceptual level. Ligeti worked in the same compositional environment of the WDR but in a different way when compared to the other composers: the sense of narrative is developed both at the formal (even though only in a slightly alluded way with a spatial–dynamic characterisation of the beginning and the end) and the phraseological level; *Artikulation* is, from this point of view, one of the freshest and most significant works of that fruitful season. In Schaeffer's piece, the presence of narrative elements and the construction of the sense of 'story' are a typical inheritance of *musique concrete*, not only for the use of the materials but particularly for their 'listener-oriented' organisation. In a certain sense this is an approach more similar to textual narration: Schaeffer has already gone in that direction inserting literary excerpts (for example by Rabelais) inside his compositions. Tenney's composition is, even in the author's intentions, a sort of paraphrase of his frequent city travels: the work does not betray this statement and it plays around this theme: as we have already discussed, sound events follow an organisation supporting such an idea.

In the contemporary music of the 1950s, a radical change in the language is taking place: it involves both lexicon and syntax, newly achieveable with electroacoustic means. Composers seem to take into account the development of a series of strategies to give to the listener, disorientated by new timbres and pitch systems, some points of reference in order to understand better their compositions: such strategies are utilised with different means, following diverse

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aesthetic trends, different musical 'schools' and contrasting ideological approaches.

REFERENCES

Eco, U. 1979. *Lector in fabula*. Milano: Bompiani.

Giomi, F., and Ligabue, M. 1996a. L'esperienza elettroacustica di Franco Evangelisti: analisi di Incontri di fasce sonore (part I: Metodo estestico cognitivo e analisi della musica contemporanea; part II: Analisi dell'opera). *Sonus* **8**(1).

Giomi, F., and Ligabue, M. 1996b. Gli oggetti sonori incantati di Salvatore Sciarrino. Analisi estesico-cognitiva di *Come vengono prodotti gli incantesimi? Nuova Rivista Musicale Italiana*, No. 1/2.

DISCOGRAPHY

Evangelisti, F. 1992. *Incontri di fasce sonore*. In 'Cologne-WDR' (BVHAAST CD 9106).

Ligeti, G. 1992. *Artikulation*. In 'Cologne-WDR' (BVHAAST CD 9106).

Maderna, B. 1994. *Notturno*. In 'Musica Elettronica' (STRADIVARIUS STR 33349).

Stockhausen, K. 1991. *Studie II*. In 'Elektronische Musik 1952–1960' (STOCKHAUSEN Verlag CD 3).

Schaeffer, P. 1990. *Etude aux sons animes*. In 'Pierre Schaeffer. L'oeuvre musicale' (INA/GRM C1006 1009).

Tenney, J. 1992. *Analog I – Noise study*. In 'James Tenney. Selected works 1961–1969' (ARTIFACT RECORDINGS FP001/ART1007).

https://doi.org/10.1017/S1355771898009169 Published online by Cambridge University Press