Narrativisation in Electroacoustic and Computer Music - Reflections on Empirical Research into Listeners’ Response

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Abstract

In some ways, electronic and computer music often seems to be more directly suggestive of pictorial imagery than other music, but there is ample evidence that many listeners find it disturbing and alienating. This paper explores this paradox in the light of the author’s research into listeners’ response, which has suggested that processes of musical communication and the engagement of listeners’ pleasurable interest are in several respects similar to processes of narrative as exemplified in literary and film genres, even to the extent that the surface structures of these different narrative manifestations may both relate equally to a deep narrative grammar, perhaps akin in some respects to Chomsky’s notion of deep structures in linguistic grammar.

It is notoriously hard to describe the experience of listening to music, but for the purpose of this paper, I am interested in considering music as an ambiguous or quasi-narrative - the spinning out of a context-free logical thread that becomes instead, in the interactive process of listening, with a generalised metaphorical significance that is all the more powerful precisely because it is both elusive and fluidary. In this model of musical communication, the listener’s engagement is in the nature of a hermeneutic quest, a continuum of three interlinked phases - perceptual > conceptual > emotional.

Before moving on to the substantive topic of this paper I need to sketch out this model of the musical process in a little more detail. At the broadest level, my interest is in what might be termed the rhetoric and structures of causality in time-based arts (music, dance, drama, film...) - in other words, the ways in which one thing apparently leads to another in a casual, or at least a coherent chain, in these art forms and the ways in which the resulting works acquire aesthetic, quasi-semantic and emotional significance. Like the thread leading through the minotaur’s maze, a narrative or a performance must in some way establish and maintain a strand of sequential, cumulative logic. This is not to say that its outcome or on-going development should be predictable. The opposite, of course, is the case. As Ricoeur [1980] points out, “the story’s conclusion is the pole of attraction of the entire development. There is no story if our attention is not moved along by a vast chain of contingencies. This is why a story has to be followed to its conclusion. So rather than being predictable, a conclusion must be acceptable.” Predictability is not required, then, but rather a cohesive chain between beginning and end that negotiates a course through or around multiple possibilities.

It has always seemed to me that this way of looking at music from the standpoint of the ordinary listener has been neglected. Partially, of course, this is because it can so easily lend to unquantifiable and banal assertions whilst other analytical approaches, usually supported by the reassuringly concrete ‘visual’ analogue of notation, can rapidly develop layers of verifiable complexity. However, my own experience of listening is far removed from those aspects of the art that are the traditional subject of the analysis and theoretical speculation. For me, to listen to music is, at least in part, to be involved in a process in time that closely parallels many aspects of my everyday experience - journeys, physical activity, the constant flux of mental and emotional

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life, the quest for a balance between novelty and stability. Adapting Marie Maclean's [1988] view of narrative to this field, the performance and appreciation of music "involves entropy, a marshalling of human resources against the seemingly random dispersion of our experience". Both the performing and visual arts do a good deal more than implied by this. I realise, but a quality of coming to terms with the elements of our existence arely lies at the heart of our fascination with all art.

This leads to an important insight arising from the narrative-based perspective that I have outlined. In his book *The Act of Creation*, Arthur Koestler [1976] convincingly argued that the essential mechanism of creativity lies in what he termed "biassociation", a process in which two apparently unrelated ideas collide like two points on the matrix of a graph, causing a moment of inspiration, illumination or even of humour. If Koestler was right about our innate need to seek significance and complex interrelationships in everything we perceive, and the creative and expressive power of this function of our brains, it is clearly reasonable to look for this process at the heart of listening to music. Many different interrelationships are involved - between elements of the musical texture itself, between thematic motifs, between sounds in the music and extra-musical sounds, between hearing and other senses, between time processes in the music and those of everyday life...

One objective of my long-term attempt to explore this approach has been to discover whether there are different characteristic listening responses to different musical genres, and if so to relate these within a taxonomy that could perhaps have useful implications for composition, teaching and analysis. Two specific investigations I have conducted have focused on electroacoustic music and have revealed evidence of a pattern of listener response that differs from that for other music, leading me to the view already outlined that the key identifying factor in this differentiation in response lies in this notion of a quasi-narrative function. More precisely, in the comparative lack of this function in this music. I will go on to describe my investigations and the view I have formed as a result.

The first investigation involved over 400 test subjects, children and adults, in the exploration of listeners' responses to a range of pieces in a variety of idioms, including electroacoustic music. Two distinct aspects of response were investigated - (1) associative imagery evoked by the work and (2) liking preferences, via a profile of associative responses produced by semantic differential scoring sheets, verbal descriptions etc. and a simple score of liking/disliking responses. Specific questions were devised and piloted and, following evaluation of their consistency and validity in statistical terms, were then incorporated into test sheets along with questions eliciting a profile of each test subject with respect to musical ability, taste, aptitude and experience as well as basic personal details. All resulting data were then coded and subjected to a sophisticated statistical analysis.

A particular issue I wanted to explore was the effect of increased familiarity on listeners' responses to electroacoustic music, especially with respect to the liking response, so sub-groups of those tested were retested after a programme of familiarisation. This took two forms - (1) opportunities simply to hear the pieces more often, and (2) opportunities to explore some technical aspects of the electroacoustic idiom in simple practical experiments. It has to be said that conclusions or, more accurately, indications were in many respects discouraging for those, like myself, who still hope to see electroacoustic and avant-garde music winning its way through more convincingly to a wider audience. For instance, it was quite apparent that a liking for this music does not correlate strongly with expertise in conventional music. Secondly, it was clear that electroacoustic music evokes strong, direct association and like/dislike responses more than conventional music. The first of these conclusions is especially interesting, I think, supporting my view that ambiguity is an essential part of music's metaphorical process. It seems that in effect there is a different aesthetic response to the two genres - a conclusion that relies fundamentally to the previous point about metaphor, with electroacoustic music tending firmly towards the metamorphic mode. I found that there was a different response profile in adults and children, with children generally responding more favourably to electroacoustic and avant-garde pieces. There was also a different pattern of response changes after familiarisation, with initial patterns tending to be reinforced, increasing rather than decreasing the divergence of response to different genres. One message of hope for the new electronic medium that emerged was that spatial modulation was found to evoke a positive response.

It is interesting to note that the pieces in the selected group that were disliked overall occupied,
respectively, positions of trust and most unanimity of associative response, supporting the view I have already mentioned that liking for a piece correlates with its capacity to suggest, but not delineate too plainly, associative references. In other words, to function as a fruitful source of metaphor, but with an element of ambiguity. A related issue that, for me, emerged clearly from the research project was the essential function of "singularity" in music; leading me to feel that much twentieth century music, including electroacoustic and computer music, has taken a brave, maybe a foolishly, step in jettisoning this fundamental human quality.

To sum up, this first investigation was concerned with listeners' responses to a range of musical idioms. The second investigation in many respects grew out of the earlier one, attempting in particular to delve further into expressive processes in electroacoustic music and, in the course of implementing this enquiry, into ways in which electroacoustic music can be subjected to some sort of analytical procedure that could serve as a tool for the task. Five electroacoustic pieces (by Berio, Cage, Ligeti, Stockhausen and Varèse) were selected, and in order to bring them into a common framework for discussion, dynamic level traces of them were produced that could be used as listening scores. The procedure adopted was that salient features and categories of event were determined in discussion by listener groups. Short sections of the works were played repeatedly in order to allow listeners to become familiar with each work's material and its deployment, gradually building up a total picture of the work and its main parameters. In view of the length of time taken in this process, it was not possible to maintain in this project the statistical controls of the first one. Following the profiling of salient features that emerged from discussion with groups of listeners, skeleton "scores" were annotated to show incidences of salient feature categories partly in order to pursue the research further, but partly in the course of teaching undergraduate courses in electroacoustic music.

Some aspects of the methodology and resulting conclusions have already been presented in an earlier article (Bridger, 1989), so I will not dwell on these occasions, except to say that the categorisation of important parameters of the works, bringing a very diverse group into a shared framework for comparison, was very fruitful, highlighting a wide range of specific issues on that comparative basis and also generating illuminating analyses of the individual works.

More general conclusions included:

- a number of shared concerns were evident in the pieces, despite their apparent heterogeneity — with spatial and timbral modulation, broadening of dynamic fields, a radical rejection of other musical languages and grammars...
- links were apparent with concerns in other arts - a shared Zeitgeist with respect to material, arenas of performance, challenge to the audience, redefining of form and process - all those characteristics of confusion and radical iconoclasm that were in the air as modernism shifted to postmodernism
- there was a positive response to spatial modulation
- diagrammatic scores were found to be a useful aid in teaching/discussion
- some relevance was found in semiotic methodology and other related perspectives - the codes of Barthes spelled out in S/Z (1973), his use of a semiotic analysis of Balzac's short story; also Meyer's (1973) codification of conformant, hierarchic and implicative functions; Eisenstein's (1943) theories of film montage; Jakobson's (1960) work on the twin polarities of language, elaborating the metaphor/metonymy axes, but these were not pursued in detail at that stage in view of my decision to work empirically, which made it seem inappropriate to import ready-made analytical strategies
- preoccupation was evident with syntagm, interaction and duality
- the predominant mode of expression nevertheless appeared to be metonymic rather than metaphoric
- listener alienation was clearly a problematic issue

Although the purpose of this research was to put a group of works into an analytical and critical frame rather than specifically to diagnose characteristics of listener response, the salient unanswered question for me remained that of a hypothetical quasi-narrative function, or malfunction in this music and I have subsequently continued to investigate
listener response to pieces composed using digital processes with this question in mind. This third investigation is still in progress, so it would be inappropriate to report detailed findings or to make extravagant claims at this stage, but it may be of interest to me to describe the methodology adopted and to give a preliminary indication of its emerging results.

Building on the experience of the two projects I have described, two parallel procedures are involved. In one of these, individual listeners complete a simple questionnaire, in the other, groups of listeners form consensus views about their response to the music in short discussion sessions. The thrust of the two approaches is to examine (1) whether associative responses to computer music are as strong and diffuse as to other music and (2) whether computer music is perceived as being as potent a quasi-narrative vehicle as other music. In both cases examples of conventional orchestral music are taken as a reference point. As more results are collected it will be possible to compare outcomes between the two methods employed and to diagnose whether there really is evidence of a radically different mode of response to computer music. If this hypothesis is eventually supported, there could be profound implications for all musicians in this field.

At this preliminary stage, my feeling is that persuasive evidence is accumulating of a three-way correlation between richness and ambiguity of associative response, quasi-narrative suggestion and favourable overall judgment by listeners. If this is the case, it highlights the need for electroacoustic and computer music to develop a non-semantic quasi-grammar, equivalent to that of the tonal system, which can draw a listener into a network of associative and metaphorical, rather than metonymic suggestions. It may be that the freedom to explore a new world of sound unrestricted by the limitations of conventional instrumental music is not always the advantage it seems, since the rich vein of expressiveness opened up by the tonal system emerged because of the physical and technical limitations of available instruments. Who would have predicted that so much great art could be produced from just twelve pitches? At the moment it is hard to imagine what form an intrinsic grammar of electroacoustic and computer music might take, but such a development will, I think, be crucial to the long-term success of the genre.

Moving back to the more global level on which this paper started, it is tempting to speculate that if evidence emerges for some quasi-narrative function in music this may link with broader mental processes, encompassing narrative structures in a wide range of perceptual fields, perhaps relating to each other at a deep level akin to that proposed by Chomsky for linguistic capability. But this must remain no more than an interesting hypothesis for the moment.

In the meantime, I hope to continue my exploration of this fascinating but problematic area of musical response and, before too long, to present findings in detail. Comments and suggestions would be welcomed from others interested in this or related topics.

REFERENCES


