Towards New Lyrical Forms

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Abstract
Stating the general specifications of our interactive opera research project - specific spectator/composer, spectator/work, music/text relationships, specific kinematics, new graphical metaphors of musical entities, we initiate a multimedia creativity environment which should enable to free the spectator's emotion.

Foreword
Before recalling our research on new computer-aided forms of opera, we have to situate our aim with respect to the thought frame proposed by the philosopher Henri Bergson (1859-1941), while analysing emotions.

In the first chapter of his book "The two sources of ethics and religion" (Bergson 1932), Bergson distinguishes between two kinds of emotion:

the emotion is an affective movement of the soul, but the restless animation of the surface is very different from a movement which rises from the depths.

The former kind of emotion corresponds to "an image of an intellectual representation within the world of feelings". In the case of music this would mean that

the musician could not convey to us this emotion, by pure suggestion instead of direct action, unless we had experienced it in real life, produced by an object that Art should abstract.

In the latter case,

the emotion is not determined by a representation to be followed while the emotion remains distinct. With respect to the next intellectual condition, the emotion became a cause, rather than an effect - it contains the germs of representations, even if no one is fully constituted, but the representations can be completed with the emotion's substance, through a process of organic growth.

As far as music is concerned, Bergson explains that joy, sadness, pity, sympathy are words expressing a general and convenient framework used to translate musical experience; however, each new creation incorporates new feelings, created by this music itself and living within it, defined and delimited by the melody/symphony pattern, and having a unique character by itself.

This is a key-point in our research, devoted to new computer-supported lyrical forms. The work results from crossing musical composition, philosophy and computer-aided music - what we propose is based on a project of CD-ROM opera. In Bergson's terms, we do not try to arouse the spectator's feelings at crucial points of our work, using precise techniques inherited from narrative methods, which is often the case in such musical CD-ROMs as Peter Gabriel's "Eve" and Laurie Anderson's "Puppet Motel"; in spite of their high quality, these CD-ROMs suffer from a lack of originality in design, considering multimedia as an extension of cartoon techniques, especially the ability of scaling time and space, so that a detail becomes as important as the whole, in order to create suspense.

One of the main purposes of multimedia computing seems to directly address the perception using complex interfaces - even though it is still strongly based on two linguistic devices for purposes of articulation, menus and icons. In our opera, we assume that computer-aided music technology serves to set a viewpoint from musical and narrative contents. This especially regards the articulation, the form, which is often handled in multimedia on language levels.

Therefore, we pay particular attention to the singularity of each of the following formal aspects, stating specifications for each of them:

- a specific spectator/composer relationship,
- a specific spectator/work relationship,
- a specific music/text relationship,
- specific kinematics,
- new graphical metaphors of musical entities.
A Specific Spectator/Composer Relationship

The common point between the different approaches to multimedia computing is that they rely on the exploration of more and more sophisticated interfaces to capture the user's intention. The question is therefore to characterize what we imagine to be the user's intention in our opera:

- this intention does not strictly deal with formal and combinatory aspects; contrary to Kaija Saariaho's "Prisma" CD-ROM project, where the user can build several possible works, using parts of the original piece,

- this intention does not strictly belong to a play activity; contrary to Peter Gabriel's "Eve" and Laurie Anderson's "Puppet Motel" CD-ROMs, where the user's intention is the exploration of a realistic space, in a quest of musical objects,

- the user's intention is confronted to an object which is not a simulation of part of the real world. It is not a reproduction of an art work, as proposed by the CD-ROM edited by museums. The object is the work itself, that only exists in the privileged relationship created between the user and the computer,

- the user's intention is not to be the spectator of a narration,

- the user's intention is a creative one, and the composer's creativity serves to set a creativity environment, based on simple gestures such as the tempo control (as a conductor), the possibility of discovering one's own journey in the work, the idea of linking different levels of affects, as we explain further.

A Specific Spectator/Work Relationship

Let's assume that this lyrical work is produced for a unique listener-user (multi-listener network connection is excluded), who is facing towards his/her computer. This illustrates the intimate relationship desired by Morton Subotnick in his CD-ROM, "All Hummingbirds Have Alibis", subtitled "Chamber Music for CD-ROM".

The opera is no longer a ritual, a pilgrimage, as Franz Liszt presented Richard Wagner's "Tannhäuser" (Liszt 1995)

this religious principle, this Radiant Light, is represented in the overture by a theme which becomes in the opera a pilgrim's song. When listening to this song, during the moments where Spirit freely indulges in Illusion [...], this song reverberates like the whole Mankind's plaintive, hopeful and longing voice during the pilgrimage to Holy Rome.

Here, we are far from the case of classical opera, where public was viewed as a single entity with a sufficient "volume" (not only a sound volume, but also the combination of rich components relative to theatre, music, poetry, scenery, dance, lighting, etc.) - we take into account the loneliness of the modern spectator.

A Specific Music/Text Relationship

Besides, in this lyrical work, music is preferred to text, in particular to narrative contents. So, if the "Blue-Beard" digital opera project (CD-ROM and Internet) of Jean-Pierre Balpe, Alexandre Raskatov, and Michel Jaffrennou, is based on a text/narration generation engine allowing variations around a well-known pattern, our approach is completely different. We do not, obviously, reject the text, but we refuse its essential part in Western Opera, based on the chain: libretto->music->production.

In this context, some causality links, induced by classical narration procedures, have to be blurred and replaced, as Umberto Eco (Eco 1962) said

by a small universe which can be examined from various viewpoints, thus totally independent of Aristotle's poetical laws, and so, of the irreversible time flow through an homogeneous space.

We propose here to explore music by opening an imaginary world, in the spirit of the opera extracts from the videotape "Opéra Imaginaire", i.e. the potential of visual support/synthetic images is used to constitute a true dream-like journey, instead of an almost redundant illustration of the song texts.

Specific Kinematics

From the viewpoint of cinematic progress, we desire that the work owns a default flow - the opera can continue without any user's action, following a given pattern, very similar to that of a videotape. Gradually, the user understands that his/her desired intervention can interfere with the work.

This idea has two modalities:
- choice of open forms, and
- integration of computerised menus into the dramatic process.

As far as open lyrical forms are concerned, we shall underline the difference between the scene approach, like that of the composer Henri Pousseur in the opera "Your Faust" (1960-1968) and the one we propose today. As already stated, the interactivity is no longer a participation of the public in the spectacle's progress, but an individual, or even exclusive relationship between the listener and the computerised work.
For a listener/user of an interactive opera, the relationship with the work is always personal and variable - it is an object that has to be discovered each time. Furthermore, this relationship can have temporal characteristics, allowing a degree of work's appropriation by the listener. That's different from fifties and sixties open works (Pierre Boulez' third sonata for piano or André Boucourechliev's "Archipel IV"), which did not allow the public to appreciate a potential of renewal when they were played once or twice during a concert.

As far as computerised menus are concerned, we choose cinematic realisations different from those currently used in CD-ROMs, based on compulsory choices with a spatial organisation; in most cases, the menu choosing the next sequence takes the form of a waiting sequence (clumsily emphasised by a numerical loop), which lasts until the user finds out in the scenery the element allowing the access to the following episodes. This design introduces a dramatic discontinuity, which heavily influences the process, by favouring the game, and in particular the enigma, whose solution conditions the access to some sequences.

On the contrary, we think of animating the choices and integrating them as independent components of the dramaturgy. The deliberate absence of choice should be explicitly chosen. Furthermore, possible choices should be instantaneously available in both musical and narrative forms.

Towards Graphical Metaphors of Musical Entities

Since we want to animate musical contents where the user can express his/her preference, we need graphical representations of musical fragments in the framework of our interactive opera.

In a paper entitled "Exploring Musical Space by Means of Virtual Architecture", Gerhard Eckel, in the framework of the "CyberStage" project, addresses some virtual architectures where music is kept like a jewel in its casket. Music is placed in this imaginary space in a protective house whose rooms represent each one a musical situation. On the basis of well known symbols, this author defines spatial relationships inherent in music (e.g. proximity vs. distance, etc.), as well as possible solutions for the form's openness.

Our approach is more specifically devoted to musical contents. We have to distinguish here between two levels: that of the analytic internal representation - i.e. a dynamic trajectory through the musical space while music is listened to, and that of a synthetic external representation - i.e. the reduction of a musical fragment to an object having to represent it. Up to now, we limited our study to the first level of representation, where the listener really plunges into the musical space.

So, our initial research addressed the metaphors based on "corridors", where the user moves with a speed proportional to the music's tempo. It is possible to change this speed within a tempo area, centred either on a value given by the composer, or on a mean value extracted from several recordings of the piece of music concerned. We consider that the possible understanding of music through gestures attached to the tempo is very important - e.g. one of the first steps in studies on orchestra/choir direction is understanding the beat time, which establishes a relationship between the gesture and the musical result obtained. Here, on a more modest basis, we could imagine, as a second step, an interface driven by a simple device (mouse or joystick) allowing us to vary the tempo while moving through the corridors.

The ground of the corridors includes steps whose height varies depending on the bass line of the piece of music. The ceiling includes horizontal plates whose height varies depending on the highest note. The last geometric parameter is the corridor's breadth, depending on the vertical density of the discursive expression, i.e. the number of notes sounded at the same time - when this number rises, we feel that the spectrum is saturated, like a narrow corridor.

Let's consider a simple example: the first four bars of the Variations Diabelli theme, Beethoven's opus 120 (Henle's print):

To build the corridor's model, the first step is to reduce harmonically the piece of music. Here, the result is manually obtained by suppressing passage notes, embroideries and appoggiaturas, and by linking the identical chords which are repeated:

By taking into account density variations, we obtain the corridor shown below (for readability's sake, only the very beginning of the left-side temporal wall is drawn):
The piece of music begins at the left-hand top-side of the diagram. Ground steps follow the pattern: C3-G2-C3-G2-C3-E2-G2-C2, while the ceiling's pattern is: C5-G4-D5. Density successively takes the values of: 1, 2, 4, and finally 1. The next figure shows the whole corridor:

The user can be viewed as a character who moves through the corridor depending on the music's tempo. To complete the representation of musical parameters, we project the use of colour for the rectangular areas. So, in the previous example, harmonic reduction causes the total disappearance of the "ostinato" effect of C-E-G triads at the right hand. To represent the streaked aspect of this time slice, we could use bright areas intertwined with dark ones, to be compared with the scenery seen from a train running through an open work fence tunnel. Finally, in the framework of an opera, these rectangular areas could play a dramatic part, since they can support the text keywords, as well as images or icons.

Conclusion

Developing new possibilities of interaction through musical metaphors which underlie the contents and the non-linguistic articulation of this multimedia application, our aim is to free the spectator's creativity, which allows to experience new forms of emotion.

text translated from French by Daniel Arapu

References

Articles and Books


Videotapes


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