

I composed **En Ècho** at IRCAM in Paris, in 1993 and 1994, during my collaboration with the mathematician Miller Puckette. It was the first time in the history of electronic music that the vocal part of a composition was automatically followed by the computer which was making a real time analysis of sounds of the voice to be used in; creating the synthetic sounds. A large part of the synthetic sounds is not pre-composed, as it is the case in the traditional approach of electronic music, but it is deduced from the analysis of diverse aspects of the interpretation of the song. I have imagined and stipulated new rules of composition which are absolutely directed towards the real time situation, integrating live performance and electronics. My goal was to create a closer intimacy between the interpreter and the electronic music, as if the sounds diffused from the loudspeakers were a "mirror" of the soprano solo's voice.

The texts are written by Emmanuel Hocquart. I asked him to conceive some poems based on erotic situations. He wrote a series of poetic materials which I later reorganized according to what I wanted to express in this composition. This cycle is comprised of seven melodies which maintain, musically and poetically, various relations with one another. Each melody is focused on a specific place (a river, a garden ...) or on an object (photographs, a table ...) indicated by a specific concrete sound.

1- **A River**. Composed in large proportions, this melody is based on vocal noises (breathing, panting) integrated in the synthetic sounds. The soloist develops a slow progression ending on a climax where synthetic sounds are multiplied in proliferating streams. At the end the singer compares herself to "Lolita" (allusion to the Nabokov's novel).

2- **A Garden**. In this melody a cricket's sound is assimilated with to the virtual maracas. This sound is frequently used in interaction with the voice; it is triggered automatically as soon as the soprano sings a fricative consonant. A large part of the synthetic sounds is generated by the real time analysis of the voice : the harmonic material reproduces the pitches of the voice and the timbres are deduced from the analysis of the formants. In that case, the color of the synthetic sounds is modified by the way in which the soprano sings.

3 - **Broadway**. It is a "recitativo" based on different fragments included

in all the other melodies. An analysis of the pitches sung by the soloist controls the spatialization of the sounds : the high pitches are projected on the front and the low pitches on the back.

4 - **Mea Lux**. This is the central section of the cycle as well as the most complex and developed melody. The "character" is looking at a series of 6 photographs which refer to the situations displayed in the six other melodies. The "sound of reference" is, here, a noise of a camera which is treated in different ways, from the most concrete to the most abstract. The center of this melody is deduced from a vocal phrase played in loops in different harmonic and temporal contexts. After all these transformations, the vocal phrase is reconstructed entirely with synthetic sounds playing the same role as in the original one. The end of this melody is open : the computer generates various aspects of the camera's sound and "decides" autonomously, which appears with the original one, and if the piece may stop or not.

5 - **Betty**. This brief melody is composed of an aural fabric woven from vocal elements extracted from the last piece. With different transpositions, those elements become the harmonic background of the vocal line.

6 - **My face**. It is a small development of a poetic moment that issues from the first piece when the soloist sings : " draw slowly my head back". Here, the text is : "My face reversed towards the sky" . This is the continuation of the same image started in the beginning and developed here poetically and musically.

7 - **The table**. All the text is constructed from the first phrase : " the table was under the sun/Myself seated, knees in top". The various parts of this poem are the amplifications of this basic image which comes back in diverse expressions. All this melody comes from a series of poetic as well as musical developments of the first phrase.