Ladies and Gentlemen

Actually on a concert tour in Europe, I can't be with you and thank Mr. Hoege for reading my brief message to you.

First of all, I want to thank you very much for electing me an honorary member of the International Association of Empirical Aesthetics. I feel especially honoured since it acknowledges my interest in and work on research on musical acoustics. It is true that the creation of the Institute for research and coordination of music and acoustics (IRCAM), is a very important issue in my life.

The evolution of IRCAM is closely tied to the evolution of computer technology. When in the stage of planning IRCAM, in the early 1970s, I was in New York in contact with Max Matthews of the Bell Laboratories who made me aware that having a room for computer was very important. Therefore its initial structure, beside one department dedicated to the "natural" sound of instrument and voice and one to the artificial electro-acoustic sound, had a department dedicated to computers. In the beginning I was careful not to give everything to the computer. But progressively, and much more quickly than we had ever thought, the computer invaded everything, from the analysis to the synthesis of sound to the manipulation of instruments. It's a very general tool which can be used in many different ways.

During my first contact with electronic technology, back in the 1950s I had had myself bad experiences with it. If you composed something electronic, you had it on tape. Then you had to follow the tape; you were absolutely squeezed into coincidence with the tape. It was completely detrimental to the performance. Therefore, I pushed the
research in IRCAM towards live electronics and live computer systems, so that the computer would have an instant response to the performer and be geared towards the concertsituation.

The question was how to coordinate the performance of the soloist with that of the computer.

In my composition Répons (1981-1986) this coordination is done manually with the computer operator following the score and conductor and starting the appropriate program at the right time. In ...explosante/fixe...(1991-1993) the coordination is completely automatic using what is called a score follower. With this approach the computer listens to the soloist and compares what the soloist is playing with the score (stored in its memory) in order to establish the precise moment for triggering modifications of the sound, using modules which affect pitch, timbre, timing and spatial location of what is played be the soloist.. Therefore, in the preparatory work for my latest composition involving electronics, Anthèmes II, a number of experiments were made to establish the different musical parameters of the violin (pitch, dynamics, time, etc.) which could be detected for use in the score following.

Then followed a large number of sketches aimed at choosing the types of interaction that could exist between the violin and the computer. A natural consequence of this was that as the work advanced section by section, the original piece Anthèmes (for violin solo) was progressively re-written to varying degrees in order to take advantage of the new musical possibilities offered by the inclusion of the electronics. It soon became clear that the electronics would fulfil three roles: 1) to modify and extend the structure of the sound of the violin, 2) to modify and extend the structure of the families of musical writing mentioned above, and 3) to create a spatial element which enables the musical material to be projected in space.
I don't think that electronics change the way you perceive the music, it expands the perception, you have the sound in space, you have sounds which are not the usual sounds of instruments, there is an expansion in all the dimensions of the sound and the experience of the music.

The musical material faces a possibility of expansion still largely unexplored. The exploration started totally empirically and joined the proper musical reflection only little by little and not without difficulty of adaptation.

The last thirty years of technical development changed so much the data of the problem that it is useless to project the passed experience into the future. Nevertheless it is obvious that the developments of the material will continue to condition the thought, the invention as they always did.

This is an evident interaction between the proposals of the craftsmanship, the technology and the aesthetics, stylistics criterion, developed by the musical thinking: this interaction will certainly continue but, by now, we can't foresee the transformation that the reality of exchanges is likely or sure to suffer. Nevertheless, sound expansion and technology, if they encourage musical imagination, don't sum up the evolution of reflection and realisation. The composer's personality is the only factor capable, finally, to transform the unpredictable future in necessary past.

I thank you for your attention and wish you a successful congress.