



Kònic Thtr, Nou_ID, 2006.

Modelling Inspiration

Kònic Thtr

Interviewed by Scott deLahunta and Stella Veciana

Begun on the occasion of the Absent Interfaces International Seminar organized by L'animal a l'esquena (Celrà, Spain) October 2008

Scott deLahunta: I remember when we met in May 2006 you showed me the *Tierra y Vida (Earth and Life)* software and we discussed its use in your creative process. Can you name what your inspiration was for developing this software?

Rosa Sánchez & Alain Baumann, Kònic Thtr: *Tierra y Vida* is an evolution of an interactive installation we developed in 2003-2004 called *e_motive*. At that time, we were searching for ways to create interactive installations and performances that could allow several performers or visitors to interact simultaneously, and collaboratively generate an evolving digital environment. By then, our work and most of the interactive art pieces that could be seen only allowed for a single inter-actor. We were keen to develop interactive artworks that could serve as means for communication between persons rather than focus on interaction between the computer and the body.

Scott deLahunta: Did you find references in the work of other artists or researchers?

Kònic Thtr: We were inspired by Leonel Moura's work with Vitorino Ramos, and his swarm paintings. Leonel Moura is an artist that works with Artificial Intelligence and robotics (<http://www.leonelmoura.com/>. Accessed 30.11.08). In 2003, he created his first swarm of 'Painting Robots', able to produce original artworks based on emergent behaviour. Vitorino Ramos, a computer scientist who was collaborating with Moura, unveiled emergence theory, how simple systems can create complexity, to us; and how he was using swarm intelligence to produce algorithmic artworks.

Scott deLahunta: It's interesting that you gathered this information from Ramos – the computer scientist working on the art project. As we have seen many times since the mid-1900s, when one is working in a technological medium, sometimes you need access to a particular expertise (engineering, programming, etc.) to realise the work.

Kònic Thtr: That's true. In 2004, we were invited by the gallery Metronom in Barcelona to participate in an art-science-technology program and had the opportunity to collaborate with the Research Institute in Artificial Intelligence of Barcelona of the CSIC (Higher Council for Scientific Research). There we met with Marti Sanchez, a mathematician researching problem optimisation using artificial intelligence. Marti Sanchez collaborated with us for the creation of *e_motive*, an installation we wanted to make that would reflect upon how our everyday actions slowly modify natural and urban environments. Our idea was to create an experience that would emulate or simulate

this influence of the human being on his or her surroundings: seemingly changing little, but actually having long lasting and permanent effects. For that purpose, we built several tangible wireless devices that the visitors could use in different ways; and these interactions would change the visual displays of 3D computer graphics and generative sound. We then started the exchange of ideas, and Marti Sanchez developed a piece of software that would analyse the inputs of these sensing devices, classify them, and then create a visual representation of this analysis based on simple elements.

Scott deLahunta: This reminds me that during the Absent Interfaces seminar we discussed the relationship between engineer Billy Klüver and artist Jean Tinguely, particularly his work on Tinguely's self-destroying machine in 1960 that set Klüver on the path to co-creating the Experiments in Art and Technology (E.A.T.) organisation. Klüver's accounts (easy to google) of working with Tinguely are informative and sometimes amusing descriptions of how an engineer perceives his working relationship with an artist. Now I'm not suggesting that your relationship with Marti Sanchez was like this, or maybe it was, but can you say something briefly about your working relationship with Marti? You talked about starting 'an exchange of ideas', but how did you do that? And were you the first artistic project Marti had worked on?

Kònic Thtr: When Marti started to work with us, it was his first collaboration with artists. We had been working with software programmers before, but were not familiar with the complexity and possibilities of working with Artificial Intelligence. This is when we realized that to start working together we had to define a common vocabulary. This first step of the development consisted of meetings, in which we would just talk and explain our artistic approach and what we hoped to realize. We looked for references and models which could give us a shared background. This is what we call the exchange of ideas, which consisted of understanding each other's world and the different meaning each of us would give to some of the same words. Only after several of these sessions, Marti started to develop some coding. We never asked Marti how he sees his collaboration with us or with other artists (he has since collaborated with more artists and has also developed works of his own), but we feel that the experience of working together has been enriching for both sides.

Scott deLahunta: You said you built several tangible wireless devices for *e_motive* that the visitors could use in different ways to interact with the piece. What were the devices and were there specific types of interaction they were meant to inspire?

Kònic Thtr: The devices we built were three elements with which the visitors could directly

interact with the real time 3D environment, in a rather direct and playful manner. Two of the elements were very tactile, one of them we called the sphere, was the shape of a small ball, and soft. The audience was invited to play with this element and allowed to throw it on the floor, or on two kinds of targets that would take the 3D environment to another step. Another element was used to navigate in the 3D visual environment, acting in a similar fashion to a wireless joystick based on the inclination of the device. We chose an element such as the sphere because of its intuitive use, and also the diversity in the possible actions it could stimulate. The joystick is also a rather big element, and very tactile. Both of them allow a physical and intuitive involvement of the interactor with the piece. A third element was using camera-based Augmented Reality to interact with the environment (two patterns could be recognised). All these elements appeal to playful direct interaction, and they also encourage visitors to interact with each other. And of course they had a direct influence on the visual and aural environment.

Scott deLahunta: To analyze the data coming from these three elements is where Marti Sanchez's software was used, right? (For the reader interested in more information about Marti's computer science research, his website is: <http://www2.iiia.csic.es/~marti/>. Accessed 30.11.08.)

Kònic Thtr: Yes, that's right. The analysis software extracts information about 'intentionality' in the use of the interactive elements. In this case, the software looks for patterns specific to the interactive elements, like the sphere rolling on the floor and other particular actions, or the intensity in the use of the elements, compared to some 'standard' uses that were pre-defined. These actions and their intensities are converted by the software into simple agents, visualised as small coloured cubes, which inherit their colour from the interpretation of the interaction at the time of their creation. The agents can be of four different colours, indicating four different interpretations of the 'intentionality' of the user(s). The visualisation of this analysis is projected in the installation space. One can see four horizontal graphs, each of them corresponding to one of the interactive elements and showing the direct action of each element (the sphere, the navigator and the two patterns that were recognized by the camera). One can also see the agents being created and falling onto a grid.

The agents' objective is to gather into groups of the same kind, and the largest group in size influences the colour and the images appearing in the 3D environment that is projected onto the main screen of the installation.

Scott deLahunta: Can you just say something more about this, why the three different types

of visualisation, the graphs, the grid and the 3D environment?

Kònic Thtr: As we already mentioned, we wanted to make a work that reflected on how our environment slowly changes as a result of our everyday actions. So, our interest was that the human actions or interventions within the installation would change the environment of the installation over time. And to bring the visitor closer to this central idea of the piece, we needed them to be able to make the choice of the direction of their influence, which could include collaboration with each other, on this synthetic environment. And we needed to create a model that would not only simulate, but also represent this emerging behaviour back to the visitor or interactor. The objective to show the analysis (the graphs and grid) is to give the audience a possibility to change the direction of the interaction and the intention of their actions through the observation of what they are producing in this visualisation. The visitors can decide to collaboratively change the type of agent that is being created at any time and directly influence and build and change the 3D environment in which they are immersed.

Scott deLahunta: This is interesting, this idea of showing the analysis to the installation visitors. My guess is that they don't need to understand exactly how the computation part of the analysis is happening (the programming Marti did), nor would some of this really be explainable to someone who is not specialising in that. But the idea of showing this visualisation to help them understand, something about their own behaviour in the space makes more sense. Can you say more about this? How do you know what sort of meaning this visualisation has for your visitors?

Kònic Thtr: When we generate an interactive installation, we want the visitors to have the possibility through observation of the piece, or of others interacting, or interacting together with others, to have an understanding of what they are producing. And we prefer to imagine the visitor as someone who is curious to observe and find out about how the piece works, and even to make his or her own conclusions about what he or she is experimenting with. Now, in the case of *e_motive*, the visualisation shows quite clearly the graphs that you produce as you move one of the elements of the installation and you can see the colour of these graphs change as you change the way these elements are handled. However, we realised that it might take some time to relate the graphical visualisation to one's behaviour in the space; so, as with other installations we have made, there are always guides who can help you by explaining the piece and the way it is supposed to work.

Scott deLahunta: You mention that the installation aims to emulate or simulate how we affect our environment through daily actions. So maybe the aim is to heighten the awareness of

what we are often unconscious of? But on the other hand, the environment is an artwork – it's completely artificial, isn't it? It is creating its own world out of a selection of daily type activities (play, navigation, etc.) and making it possible to interact with a data model of this world.

Kònic Thtr: Yes, of course, the environment is completely artificial. It is 3D architecture in which a set of about sixty short documentary video loops is to be seen. These clips were filmed in different urban and natural environments. The image content varies with the idea that some are positive, some are negative, harmonious or destructive, etc. As a whole, it does represent a small model of the real world. The idea of simulation is not so much about what this environment looks like or how this can be influenced, than the fact that this environment will change and that this change is the response to some simple actions that the visitors produce in this space, and that these actions can be classified in terms of 'intentionality'.

Scott deLahunta: After *e_motive*, what was your next step and did you continue to use the same software and the same idea of modelling or simulating?

Kònic Thtr: In the case of *e_motive*, our interest lay more in how the visitors, once they have an understanding of how they interact, have or do not have the incentive to change their way of interacting in order to consciously orient the direction in which the 'system' is going. But we felt there was a limitation to the complexity one can pretend to have in a piece because of this necessity to communicate in a very direct and intuitive way to the visitors. We also feel that with interactive installations in general, we are pushed to present pieces that are well received by the visitors, but may not be the best platform to get complex ideas across. So in 2005 we started a new process of development with the same department of the CSIC, and supported by the culture department of the Catalan government, which we called 'the augmented stage'. That research process focused on the development of interactive languages for dance, and the need to apply concepts of emergence to the augmentation of expressiveness of the body on stage. This experience lasted from 2005 to 2006 and resulted in a new piece in which the software that had been developed for *e_motive* was taken a little further and adapted to a dance-theatre piece called *Nou_ID (new ID)*. In this piece, we try to make a work about the concept of mobility or migration; the constant move of people around the globe, movements that usually respond to strong geographical and geopolitical attractors. In this process, we changed the visualisation of the software, taking as a representation the planet Earth onto which the agents created by the software are visualised, and gave the name to the software *Tierra y Vida (Earth and Life)*.

Scott deLahunta: When did you start to work with Stella Veciana on the idea that some of your art work can itself be used as an opportunity for scientific research?

Kònic Thtr: That would be in connection to *Mur.muros*, our latest installation in which we again try to work with the idea of the migration of people; their continuous mobility towards powerful geographic and geopolitical attractors. The installation consists of four microphones picking up the sounds generated by the visitors around the installation. This sound serves as an input to the software *Tierra y Vida*; and the resulting analysis is projected onto the floor inside the installation. But Stella should explain her perspective on the installation as an interesting context for her own research.

Stella Veciana: *Mur.muros* addresses political issues of migration using certain audiovisual metaphors related to the "entrance" to Europe aiming to increase the awareness of contemporary forms of inclusion and exclusion. The relationship between inclusion and exclusion is made explicit for the installation observer by means of an interactive exterior, capable of translating the outer sound to a projected responsive image within its protective interior. Similar investigations about the way the observed gets transformed by the observation of the observer have been frequently researched using different scientific theories and models of explanation. Within the intersection of art, science and technology, *Mur.muros* transforms these questions into a walk-through simulation model to be experienced and shared in real time. And specifically, this experimental approach of Kònic Thtr towards new interfaces that expand the understanding of scientific knowledge is where my interest and research connects with them.

Scott deLahunta: It seems this is one of the unique aspects of an arts practice that uses new media technologies as a main source of material and conceptual inspiration; that the relationship with science and scientific/engineering methods and metaphors is very close. There is one final question I have wanted to ask Alain and Rosa – how is the analysis software also a 'creative tool' for you?

Kònic Thtr: The analysis software is a creative tool for us to the extent that it helps us discover new ways of working; both through new opportunities for collaboration (e.g. with Marti Sanchez) and exploring new paradigms for interactivity in our work, using emergence and artificial intelligence. The whole process of the development of the software lasted two years and ran in parallel with the development of our artwork. It nurtured our artistic process and is an element that is integrated with other languages to create the artwork.

Scott deLahunta: Wonderful! Thank you very much and good luck with the next project and collaboration with Stella.