



ROOSEGAARDE, A INTERACTIVE SUSTAINABLE WORLD

Txt: Silvia Scaravaggi

Daan Roosegaarde (1979) is a young sculptor/architect working in Rotterdam , the Netherlands. In 2006 he launched Studio Roosegaarde in which series of interactive artworks are created.

He studied at the Academie of Fine Arts AKI in Enschede and the Berlage Institute, a Postgraduate Laboratory of Architecture in Rotterdam. Roosegaarde's works explore the dynamic relation between architecture, people and new media. His sculptures are a collision of technology and the human body. In this interaction the sculptures create a situation where visitor and public space become one.

Roosegaarde's projects have been shown in exhibitions at NAI, V2 & Netherlands Media Art Institute and published in Items and NRC Handelsblad . His last work Flow 5.0 has been exhibiting at Ljubljana Triennale, Slovenia.



Silvia Scaravaggi: we can't say your projects and works go slowly...From 2001, starting with *22 Beds*, until 2007 with *Flow 5.0* at Ljubljana Triennale, you developed 11 works, 5 among them are interactive. You don't waste your time...

Daan Roosegaarde: you're right. Patience has never been one of my virtues!

Silvia Scaravaggi: I would like to understand how you developed your works, talking about 4D PIXEL, LIQUID 2.0, WIND 3.0 and DUNE 4.0, and FLOW 5.0 which are interactive works. Can you find a "red line" linking them together? Why did you start going on with technology and art research, how is it connect with your first works on sculpture and architecture?

Daan Roosegaarde: Just before I went to the academy of Fine Arts I made a journey through South Europe. Moving to the desert of Morocco I was fascinated with the landscape. Its horizon was always present as an abstract line which was continuously being influenced by the travelling nomads. I made a lot of sketches in this period. Back to the Netherlands I wanted to drag these drawings into a materiality; since this is your fascination as a sculptor. Based on the drawings I realized the sculpture '22 beds', made out of bedspirals which are heated into fluid forms as a dynamic landscape. Although the piece worked out well there was still something missing for me; almost if the format itself was restricting instead of activating.

Making art for me is like having a taste in your mouth of which you do not know the ingredients. It is from this point where you start to explore; to read, write, travel, talk- to find the required ingredients. I realized that the process of making with all its dynamics of drawing and building was one of the most important things to me. The static sculptures I made felt like wind in a glass bottle which is not wind anymore. So I started working on the idea that the visitor could become a part of the installation- realtime. Technology soon became a necessity. I am not a technical person but it was the consequence of this journey in which the making made me.



Silvia Scaravaggi: You said you're not a “technological person”, this is amazing to me!

Daan Roosegaarde: But that's true. I am really interested in human aspects of research: architecture and technology are interesting because strictly connected with generative and sensitive aspects of reality. Because of that I work with engineers and technicians who care about technological aspects.

Silvia Scaravaggi: We can say: the more human it is, the more you are closer to your deals...

Daan Roosegaarde: This exploration is the work and I have a masochistic pleasure of placing myself in a situation which I do not know. I am forced to create a new ABC, a new grammar in order to communicate. For example going from an academy of Fine art to the Berlage Institute (a postgraduate laboratory of architecture) is a change in grammar which doesn't make your life convenient but for sure helps you find your own parameters. I want to make sculptures which have the same type of diversity in appearance.

'Liquid construction' is a serie of interactive sculptures which react on the sounds and motion of the visitor. In this the main ingredient is the human interaction. They are connected in their titles in which there is something about the physical world (nature) and the virtual world (upgrades). www.studioroosegaarde.net/?project_id=6



4D-Pixel is a human- machine interface which reacts to your sounds; functioning as a 4d display for your voice but also can show letters.

(www.studioroosegaarde.net/?project_id=1; [www.studioroosegaarde.net/video/4D-Pixel%20\(640x480\).mov](http://www.studioroosegaarde.net/video/4D-Pixel%20(640x480).mov)). Liquid 2.0 is an interactive cocon which reacts to your sounds and motions; changing sounds, light and size according to the intensity of human behavior. It is an interactive animal . (www.studioroosegaarde.net/?project_id=5)

Wind 3.0 is a more sensual object where ventilators react to your voice and motion and trigger hundreds of fibers which follow you. Dune 4.0 is a true interactive landscape, where hundred of fibers react to your sound and motion as you walk through it.

(www.studioroosegaarde.net ; www.studioroosegaarde.net/video/Dune_4.0_Studio_Roosegaarde.mov)



Silvia Scaravaggi: This last work and Flow 5.0 too are *site-specific* . With *Dune 4.0* you reached the selected audience of Montevideo . What could happen if you decide to put your sculptures in a whatever public place, as a square?

Daan Roosegaarde: Dune 4.0 has born for Montevideo – the Netherland Media Art Institute of Amsterdam – and as all other sculptures, has been exhibited in the Netherlands and abroad, but also further developed at Studio Roosegaarde for

implementation into public space. I am extremely interested in scale, in the relation between your body and the surroundings. We would have a completely different conversation if the ceiling would be 10cm or 10 meters above our heads. Main question in my work became how to use this parameter to personalize space for the visitor. Being an artist is for me juggling with balls; artistically, financially, conceptually. In the tuning of these elements lays your artisticness and your authenticity. Each context in which the work is placed (from concert hall to museum) triggers different qualities of the work, to become more sensual, more adaptive and yes, more dangerous.

Silvia Scaravaggi: Isn't there a thin line separating audience involvement, interaction and manipulation, and the freedom of interactivity and the technical order of a programmed work?

Daan Roosegaarde: Yes, there's a subtle border between a free interaction and a kind of manipulated use of your audience. Think about art and commerce: although they have similar elements such as the will to engage there is a difference in goal. Art tries to explore, to re-invent its grammar- always change a winning formula- while commerce is aiming at an emotional assurance within the clients environment. But yes, there is a thin balance when it comes to participation and manipulating of the visitor which I am extremely interested in. When do we make a choice or when do we follow what is already present? The visitor intuitively engage this question while being in the artworks.



Silvia Scaravaggi: How many different layers of meanings can you recognize in your experience with visitors interaction?

Daan Roosegaarde: The work reacts to your sounds and motion. According to this input the developed software regulates and triggers different moods- so for example when people are moving hectically the artwork will react in a similar way. At the same time the artwork has its own will; seducing the visitor to participate. Here you have different type of people; 1 sec, 1 min and 10 minutes. We always try to give all these people something to work with. So if you clap with your hands loudly you will get a clear effect. A few people will notice that if they clap several times the work will react differently to it- since the software recognizes the patterns. Others will see that it reacts differently whether there alone or with more people. It is all about creating a diverse environment for human explorations

Silvia Scaravaggi: Is it interactivity able to change our visitor "status" into something

different? Is it interactivity a new way to build up a dialogue between work-space-audience-environment, considering design, commercial, new way of living spaces, houses, and public spaces?

Daan Roosegaarde: For me this is the best part of making these kind of installations; the interaction with the visitors. There is a hard construction (the materials, the present architecture) and a soft construction (the software and the human behavior). Where they meet form begins to arise. While watching how people react on the work I realized this: the main ingredient is the human interaction itself. There is a moment of 'glitch'; where the visitor enters towards the artwork, looks and start realizing that what it sees is actually connected to their behavior. This is interaction; You walk the walk and the walk walks you. I would like to invite the visitor to become a participant instead of an observer. But with an installation such as Dune 4.0 it goes one step further; the visitor becomes a performer. But here the audience becomes an essential element of the identity of the work itself. All this happens in a supernatural environment; you are walking through a corridor. It is here that all the technology merges with your body, as a realtime extension of your skin -feeling like an 'Alice in Technoland'. We are living in age where virtual and physical world are colliding, billboards will disappear and you will get much more personal information which is broadcasted through technology, embedded with your human body. I see my sculptures as a second layer of personal experience and information over the existing architecture; as a dynamic interface.

Presence is relative. In a time where (public) space continuously is in a flux I want to create an environment which is personally yours for the time that you are there. Also it reacts differently when you are together with other people. So in its best case the work becomes a mediator between people; a place for communication by human interaction.



Silvia Scaravaggi: How much does technology influence art, and art influence architecture, and new media? Is it technology just a medium to reach some more development in artwork and architecture, or is it also an independent structure to work with?

Daan Roosegaarde: Technology is a tool just as a piece of crayon is- it can inspire and communicate the same intrinsic values you want to use as an artist. The difference is that using technology in interactive artworks has a nice paradox. In my work it is more about letting the technology merge into the sculptures. But to be able to be merged it should function well, it should be tunable to the behaviour I want to give it. This was the starting

point of many collaborations with software engineers, material manufacturers and cultural foundations. My tools differ from welding machine till laptop – sometimes building my own prototypes, sometimes working with software engineers to make a very specific piece of software and other times outsourcing the development of electronic circuits. This is why I launched Studio Roosegaarde which functions as a laboratory for art & technology projects- to create a platform which incorporates this research.

I am a big believer of speed; since when things are in motion they have the capacity to change. The projects of liquid constructions function in a similar way; in a constant state of 'copy morph' they try to find their resembles and differences towards each other. I am obsessed with relations; how do things react on each other, why does something looks the way it does? In that way interaction is not only present between the visitor and the artwork but also during the making itself. It is a dynamic ingredient of the sculptures. This became for me beauty; the capacity to be several things at once.



Silvia Scaravaggi: Looking to external aspects of your works I also think about a big and important concept of these days: a sustainable development in art, architecture, and urbanity...What do you think about that?

Daan Roosegaarde: Yes, you are absolutely right and it is getting my attention more and more. Tuning your environment to the needs of that moment- that's what interactivity is about and for sure its ecological benefits will become an important factor in the near future. For me it is not about making expensive pavilions at a World Expo but adding a layer on a daily environments such as an ugly parking garage. Also cities will have to think about merging functions in public space since so many things already happen at the same time. What will be the function of nature in an urban setting? Hopefully not only trees and green houses but more an update of nature, a Nature 2.0.

Silvia Scaravaggi: These are very new themes and of a very strong impact on visitors opinion. Who do they deal with politics? Aren't attractive for some mechanisms of the art system?

Daan Roosegaarde: The Netherlands has a rich industry which tries to incorporate creativity into their business. For the interactive projects I make alliances with different partners. Companies in NL realize that they have to do more than buying and selling and actually start to enhance products. This helps me to research and produce high quality projects which can handle the (ab)use of visitors in an urban setting. I recently met an

electricity company that found attractive my works for their interactive qualities.

They thought to find some new solutions for security safety in some dark areas of the cities: someone closest to a sculpture can activate a light with his movement, and be recognizable. This could prevent some bad situations in parks, streets, dangerous quarters. And here we go back to question of use-abuse of audience...but anyway I do really think interactivity can help us to change and make better urban environments, if used in a correct way. Parts of the artworld though are more divided. Some are still making separations between a piece of crayon and a computer mouse. I think this is disturbing the artistic innovation which could be possible. It seems that countries with a blank and fresh history in technology such as Slovenia and South Korea have more potential into becoming rich, creative environments



Silvia Scaravaggi: Flow 5.0, is actually at Ljubljana Triennale. New places to explore? Which are your new aims for the future?

Daan Roosegaarde: with Flow 5.0 I thought about something really simple. A 20 meters wall with fans interacting with the environment. It should be something extremely ordinary and at the same time brand new: so easy, so simple, to seem very common. Flexibility is the idea at the basis of this new research, and its utility too. Flow 5.0 could be easily used in dance floors and places with heating problems, as Indian hospitals. I always look at future potentialities.

I am always looking for new spaces to manoeuvre; so in that way it will become an exciting new year. We are already talking to several parties; varying from a car manufacturer to a cultural foundation. Important for me is to keep it sharp; how does the context activate new ingredients of the work? Personally I want to move to a situation where I am not only creating interactive artworks for exhibitions but that they will be actually implemented into public space and architecture. The ordinary, the setting, the better, the work will perform. These are complex relational networks (since they are shared spaces) which I am diving in right now - in which the show 'Explorations in Art & Technology' on next 15th of February - will be a great tool to see how people interact and to discuss their functionality. I'll have my Dunes!

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