Very Nervous System and the Benefit of Inexact Control. Interview with David Rokeby

By Roberto Simanowski

Abstract

The Canadian artist <u>David Rokeby</u> (1960) has been creating interactive sound and video installations since 1982. His work directly engages the human body or involves artificial perception systems and intends to explore time, perception, issues of digital surveillance and the relationships between humans and interactive machines. In 1982 Rokeby started developing *Very Nervous System*, a real time motion tracking system, which monitors the user's action via video camera, analyses the data in the computer and responds to the interactor's input. On the basis of this system - which is also used in music therapy applications and as an activity enabler for victims of Parkinson's Disease - Rokeby created several interactive installations with real-time feedback loops using video cameras, image processors, computers, synthesizers, and sound systems.
Rokeby has graduated with honours in Experimental Art from Ontario College of Art in 1984, he has exhibited and given talks in Canada, US, Mexico, Brazil, Germany, Austria, France, Italy, Belgium, Finland, Japan and Korea, including the Venice Biennale in 1986, Ars Electronica (Linz, Austria) in 1991 and 2002, the Mediale (Hamburg, Germany) in 1993, the Biennale di Firenze (Florence, Italy) in 1996 and the Venice Architecture Biennale in 2002. Rokeby was, among others, awarded the Petro Canada Media Arts Award (1988), the Prix Ars Electronica Award of Distinction for Interactive Art (1991 and 1997), and the Award for Interactive Art of the British Academy of Film and Television Arts (2000). Roberto Simanowski talked with him about "systems of inexact control" which reject the control fetish, about their pragmatic role in every day life, about the bastardization of aleatoric art, about interactivity as the decline of critical distance and about technology as a genre.

1. Interaction System as unfolding dialogue

dd: You are known as one of the pioneers of interactive art and as the creator of the worldwide used software *Very Nervous System*. How did the engineering and the artistic side of your activity meet?

DR: They were never really separate. I started programming when I was 15 (in 1976). In those days, the whole computer thing was very do-it-yourself. So in order to experiment with doing art on the computer, I had to program it. As things developed, I taught myself the technologies I needed to know in order to realize my projects. So the whole process is very needs-based and art driven. I have always had a mix of math/logic/science with my art/music/literature.

dd: In one of your first installations, *Body Language* from 1984, the movements of one's body is monitored and analyzed by a computer and create sound which finally informs the movement. In one of your recent pieces, *inter/face* at the Toronto *digifest 2002*, 3-D letters are projected on the theatre screen according to the facial expressions of the person sitting in the middle seat, monitored by a camera. In the same year at *UNPLUGGED - Ars Electronica 2002* you have exhibited *n-cha(n)t*: seven monitors hanging from the ceiling murmuring text based on the words picked up from the visitors in front of these monitors and accompanying microphones. What is the technology behind these pieces?

DR: Each of these pieces uses a different mix of technologies. I have been tracking movements of the audience for my work since 1982 (the beginnings of *Body Language / Very Nervous System*). I like to create systems of inexact control. I think that the computer is the result of a fetishization of control and so I like, in my contrary way, to work against that dominant paradigm. Control is over-rated... Or perhaps it is better to say that we need to learn how to balance control (which is very useful, i.e. in surgery or driving) with other sorts of engagements with other things and otherness that are looser than control relationships, where we allow ourselves to be open, engaged and willing to be surprised. Otherwise life is dead.

So in my interfaces for *Body Language / Very Nervous System* and *inter/face*, I have tried to create interfaces which require the use of complex systems, or perhaps, systems that have complicated and conflicted control mechanisms. The body and the face are used expressively all the time, but not usually consciously. The body is not simply an output device however. Our relationship with our bodies is very complex and layered with the social, physiological, and emotional. So our intent is never completely reflected in the resulting action. The action is less controlled, yet richer. Since interactive systems are (can be) rich feedback loops, including these more complicated parameters of human activity makes for a richer interaction than if (as with a mouse input) the interface is clearly defined, quantified and limited.

In a good interaction system (as opposed to a good interface for practical control), each action on the part of the user is as much a question as a statement. Each action is an experiment and is the next stage in an unfolding dialogue which neither the user nor the system is in complete control of the course of things.

dd: Your installations are examples of interactive art, which involves the viewer physically in creating and performing the work, thereby requiring them to reflect the consequences of their actions, to communicate with themselves much more directly than in the case of paintings and books. The audience of interactive art is part of the work and, like Bruce Nauman's *Corridor* as well as Joachim Sauter's and Dirk Lüsebrink's *Zerseher* (1992), show very clearly its actual subject matter. While "Corridor" allows the audience to understand what governs the interaction and to finally control it, many of your pieces deny such understanding and control. Thus interaction - not with other people but with technology - conveys the feeling of uncertainty, unpredictability, and disempowerment. In your description these "systems of inexact control" appear as a negation of the fetishization of control. Could you explain further the philosophical dimension behind your work?

DR: For the most part, sense of control is a dangerous illusion. Many people are unwilling to engage in situations where the locus of control is ambiguous (which includes virtually all life situations). I am trying to propose a different model. You might not be able to gain control over my systems, but you will almost certainly sense that your actions are highly significant to the outcome, and that the outcome does tangibly reflect your input. The fact that my neighbour does not always reply the same way when I say 'hello' does not mean that this is a disempowering experience. If we weed out of our lives those things that are uncertain, unpredictable and ambiguous, we will become a very sad species. The computer sets up the illusions that total control is possible. But the crux of this illusion is the fact that the control only functions effectively within the carefully constructed ambiguity vacuum of the computer. This is not to say that the computer is useless beyond its privileged interior realm, but that the computer is designed to carefully maintain an illusion, a fantasy of control that is not a useful paradigm got real-world encounters, except for dictators and other absolute rulers.

2. Aleatoric Art and Control

dd: A clever concept with a quite pragmatic intention: computer based art denying the fantasy of control instigated and maintained by the computer. Do you as the programmer at least keep control over the system?

DR: The programmer keeps control over the text of the program (usually). The biggest challenge for a programmer is to not keep control over the program itself.

Experiments in artificial life and artificial intelligence all imply a loss of control, because the system, to succeed, MUST transcend the control of the programmer. (This is both exciting and scary of course... for both the programmer and sometimes the user... There are times when absolute control is unambiguously desirable). If you look closely at the statements of interactive artists all the way back to the 60, you will find most artists expressing the desire to create system that surprise them. (This is less true now that many people have rushed into media art only because it is trendy.)

dd: Such desire for surprise can still be found in many examples of interactive art, which give control to the reader or to the software. In your essay *Transforming Mirrors* you emphasize that interactive art not only questions and transforms the role of the spectator but of the artist as well. With respect to painting, sculpture, and writing you state: "The act of realizing a work is a process of progressively narrowing the range of possibilities by a series of creative choices until one of the possible has been manifested in the finished work." In contrast to that "the interactive artist decides at some point in this process not to choose from among the remaining possibilities but to create some sort of audience-actuated choosing mechanism." You finally refer to John Cage's chance compositions. Do you see your own work in the tradition of aleatoric art?

DR: My work could be seen as a bastardization of the tradition of aleatoric art. One could simply say that I replace randomness or pseudo-randomness with the slightly more textured complexity of real-life. But the real heresy then is the feedback loop. While, like aleatoric artists, I use sources outside of my control to make decisions in the unfolding of my work, my sources tend to be sentient and capable of responding willfully to the results of their own actions. It is this feedback loop that most interests me in interaction.

It is probably important to point out that my creative process doubles as a personal critical inquiry into ideas of relationship and interaction and the ways that the explicit mechanical interactive relationships made possible by computers change, challenge, enlarge and diminish notions of relationship and interaction. Any interactive system must construct some sort of model of the user. It then in some way reflects this limited model of the user back to the user. As I have argued in "Transforming Mirrors", this effect is amplified by the feedback loop of the interaction. The whole system functions as a filter that reinforces some kinds of information and experience and inhibits others. If a person spends substantial time in direct interaction with such a system, their sense of self is substantially modified. For example, after 30 minutes of interaction with Very Nervous System, the user usually unconsciously relates the sounds in their environment to some aspect of their movements. Web-browsers turn people into 'he or she who clicks', since multiple choice clicking becomes the dominant mode of existence in that context. This paradigm is useful but it changes people and their relationship to knowledge

and information… it prioritizes a certain mode of connectedness and partially obscures others.

To put this in another way, interactive systems change the user's experience of 'being' and therefore their experience of self. This is particularly interesting and complicated if the system is quite transparent, because if the cause of the shift of being is not clearly evident, it is internalized… it becomes part of the user's self-definition.

Interactive art does not so much change the role of the artist or audience as much as it pushes those roles to one possible extreme of the range of artist/audience relationships. Duchamp imagined his work as mechanisms of signs put in motion by the perception of the viewer. Any work of art can be analyzed from the perspective of interaction if we allow perceived change of the artwork to be as valid as actual change in the artwork. What is perhaps different for some interactive artists is that the questions of open-ness and the role of the author become fundamental to the work and explicit rather than secondary (and implicit).

dd: In your essay you quote Cage concerning aleatoric art: "the highest purpose is to have no purpose at all." Is your purpose to give up the author's authority?

DR: Giving up the author's authority is an interesting constraint to apply to one's work. I do not really think that it is possible. (In fact, much of my writing has focussed dangers of the ILLUSION of the LACK of expressive, subjective author in commercial software.) But I feel so confident that I cannot disappear from my work that I enjoy pushing this to an extreme. It takes in a more playful aspect… it also allows me to take more pleasure in my own work, as it is always renovating itself and becoming fresh and surprising me. (Not that this is not possible for a painter, but I approach this with a more conscious intent).

I am very interested in the power play between language/formulation and possibility/potential. We trade away something when we formulate (I like Handke's comment in his diaries that formulation is the beginning of forgetting.) We gain immense power at the same time. It would be better to think of my game with authority as an exploration of this language / possibility relationship. It sometimes seems to be unsupportable to narrow a piece down to a linear narrative when there is such a rich field of possibility implied by the works conceptual basis. (Fixed narrative is great for story telling, but I am not really interested in story telling, at least not in this part of my work.)

3. Interaction and Entertainment

dd: Lets dwell on the aspect of participation as the considered advantage of interactive art and digital media. A buzzword since the late 80's, interactivity has been considered to empower the user, promote freedom of choice, and overcome the paradigm of passive consumption. As the devils advocate I may object that such participation undermines critical distance in favor of the intensities of direct sensual stimulation and the magic of technical effects. Hence, interactive art would just be another kind of entertainment, trading contemplation against involvement and immediacy, cognitive against physical engagement. The question, of course, is not only whether you agree but also whether an aesthetic of the sensual and magic effect - or an aesthetic of the spectacle - would necessarily be an impoverished aesthetic, or rather another kind of aesthetic, much more appropriate to the character of our time and of this technology than the meaning-centered approach of the 60's and 70's.

DR: Any buzzword must be eviscerated (have its stomach ripped out and be disemboweled). Interactivity is guilty of over-sensationalizing and diminishing critical distance. BUT that is mostly because artists have been willing to play it that way and promoters have reinforced this because they saw the hunger of the audience for such things. Very Nervous System bears its share of guilt. It was exciting, overwhelming, etc. This was not a problem in 1983, because the experience was so inexplicable that it could be a really transformative experience of body and space and sound. By 1988 when the hype machine around interactive was building steam, people were already developing weapons for the disarming of the experience. By being able to say "I read about this sort of thing in Wired Magazine", they were able to neutralize the rather disarming experience and make it comfortable and neat.

Secondly, *Very Nervous System* was intentionally created to subvert consciousness. Just as I object to an absence of critical distance, I object to a lack of experiential grounding which I think is as egregious as lack of critical distance. VNS was intended to suspend critical distance for a while in order to create an experiential base for critical distance. This aspect was not always successful, and my later work changed to more consciously create spaces for reflection and distance.

dd: Could you describe how you provide such spaces for distance, possibly with an example?

DR: The clearest example is the relationship between *Very Nervous System* and the *Giver of Names*. They are both systems that look out into the world, analyze what they see and comment on that using sound in some way. In VNS, the interaction is

constant and the feedback loop extremely fast. In GON, the interaction is the act of choosing and

placing objects on the pedestal, but this is a momentary act, and the feedback loop is stretched over 30 seconds to a minute (instead of 1/30 of a second). This extra time in the feedback loop is a space for reflection. For example, in GON, you watch the screen showing the computer's act of perceiving the object and simultaneously see the object through your own perception system, and there is time for this stereoscopic parallelism to unfold and be considered.

In a work like *Watch*, you are subtly encouraged to spend extended quiet time in contemplation of the installation. Many people stay for more than 15 minutes, just watching, but I carefully designed hidden interactions and other events to draw people into staying for that long. I wanted to use the technology to create a space where issues could be considered more thoughtfully. The technology is so powerful that I figure I should be able to find a way to use it to create such space rather than to overwhelm my audience. By not playing to its natural power, but working towards my personal aim, I reduce the awe-inspiring nature of the work, but get closer to presenting the experience that I want to share, and give people more space to consider it on their own terms.

dd: You mention the audience's hunger for interactivity and the steam the hype machine around it is building. How do you see the role of the entertainment industry in this context and what would characterize engaged art?

DR: Well, the entertainment industry naturally wants to entertain people, and make money above all. So it would take an extraordinary person in the industry context to step away from intense entertainment and intense earning potential because of hard-to-define concerns they might have about the larger implications of their products. Everyone is on a tight deadline in a globally competitive marketplace, and there is no time to step away and think carefully. As an artist, it is part of my "job description" to regularly get interested in things that I can barely justify in hard and concrete terms, and to take very subtle ramifications seriously and follow them doggedly until I have a better sense of what might be going on. Now that (at least in America) most research institutions rely heavily on corporate support, there are very few people in a position to examine the long view and the less tangible implications, and this is a serious crisis for our culture.

4. Software as Genre

dd: Your installations are based on your software *Very Nervous System* and many of your works with this software are a close circuit installation where the monitored action of the user causes a reaction of the system, which finally may influence the

user's action (with the exception of works like *Watch*, *Guardian Angel*, *Taken*, or *Seen*). In your essay *The Construction of Experience: Interface as Content* you describe specific technologies like word processors or hypermedia as a means to provide a specific experience - like the freedom and burden of alternative navigation in hypermedia - regardless of the content. With reference to McLuhan one could say: the technology is the message. I wonder, whether one also could say: the technology is a genre, for it provides certain semantic and stylistic patterns. Is *Very Nervous System* its own genre?

DR: Yes, and I produced individual works in that genre. But in most people's hands, the technologies used in VNS do not produce a work in the Very Nervous System genre. Technology plus point-of-view might create a genre. Technology alone tends to create pattern and cliché.

dd: Would you not say that technology creates a specific paradigm of performance and interaction the way a genre establishes a frame of semantic and syntactical parameters?

DR: It really depends how narrowly you define genre. I guess I define it more narrowly than you do. For me, it implies a more coherent cultural texture than technology alone tends to impart.

dd: One last questions: You have been exhibiting your installations in galleries, trade shows, science museums, and public and private spaces. The Internet as the most accessible and least controlled exhibition space you have not used so far - probably because it does not provide the close circuit constellation your work requires and because it changes the setting of collective perception to individual perception in the audience's homes. On the other hand, this setting can create a collective audience over long distances and free an installation from local space to a global event. The outcome of such an installation can either be perceived within the Internet (as for example in Simon Biggs' "Babel," which monitors and visualizes all visitors of the website) or the result of the Internet setting itself takes place in real space (as in Rafael Lozano-Hemmer's Vectorial Elevation), which allowed user all over the world to control eighteen robotic searchlights placed around the Zocalo square in Mexico City via website to design the light sculpture around this square from December 26, 1999 to January 6, 2000). How do you see the future of the Internet as a venue for installations and exhibition?

DR: The Internet is a great venue for many artists. It is not so great for me. Physical presence and involvement, scale and sense of space, and real-timeness are factors that are often important in my work and hard to implement on the web. I dislike the mouse/keyboard/screen as a delivery / experiential medium. Put another way, the Internet inevitably promotes as side-effects most of the aspects of computer that I have spent most of my career fighting. I am not against the Internet but I am not interested in working within the current constraints. The size of audience, breadth

of reach is not worth the tradeoffs for me. This is a personal position... I have worked with communications systems and distance in my work since 1986 (when I linked *Very Nervous Systems* in New York State and Paris, for example), but again, these were not for mass on-line consumption.