Mind Shifting and Future Bodies: from Networks to Nanosystems

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Introduction

This talk is an attempt to shift the discourse around networks from the Internet specifically and extend into the complex web of technologically mediated social networks. That is the reason for this first slide of an elaborate pattern of Los Angeles freeways – a picture of a 20th century transportation system that defies any logic. In relation to Paris, there could not be a more different city space – Los Angeles is a vast, decentralized, architecturally non-coherent city, with a habit of erasing history. What we all share, whether in Paris or Los Angeles, is how more and more a lot of us extend our social network with technology, in our pockets. For instance, how many people here have a cell phone? Can you please raise your phones and turn them on? (Two thirds of the audience raises their arms with cell phones in their hands). If compelled to answer your phone while I am talking, do not hesitate. I will not take it personally. Indeed, I may have a call coming in later in my talk.

Background

Before I go further into the cellular systems of our communication networks, I think it is important to give you a little background of my work in the last few years. My investigation into social networks online began with a piece that I started in 1996 and pretty much completed by 1999, although the work is still online and actively growing. Even today someone created a body.

The title of the piece, ***Bodies– INCorporated*** is a play on words. "Bodies" is accompanied by a copyright symbol and "INCorporated" draws on the Latin root, "corpus," while alluding to a corporation –bodies are incorporated into the Internet and their information is copyrighted. The logo of the project is a bronze head with a copyright sign on its third eye, signifying the inherent contradiction of efforts to control information flow with New Age idealism of interconnectedness. [1]

Upon entering the main site, participants are invited to create their own bodies and become "members." They have a choice of twelve textures with attached meanings, which are a combination of alchemical properties and marketing strategies. The body parts are female, male, and infantile, left and right leg and arms, torso and head. The body themselves are wire frames that are 3-dimensional scans that are used for medical imaging. There are also twelve sounds to be attached to the body that can be viewed as an image as well. Although this work was completed in 1999, bodies are generated practically every day. I rarely go to the site, but each time I do, I am always surprised to find still more new bodies created. With this project came my fascination with the idea of a project that continues to change and grow without supervision of the artist. I now plan projects that have an open-ended architecture and no definitive end.

During the active phase that lasted from 1996-1999, much of the project was developed in response to the audience demands. The best example of this is –necropolis– which emerged out of a demand from people to delete the bodies they created. In response to one

member who threatened to sue unless his body was deleted, Necropolis was constructed. There are many different methods of death taken from the crime archives on the Internet, participants have to choose a method, write an obit, and construct a grave.

In the interest of time, I will not go into this project too much longer, but I do want to mention that the last, intriguing demand was for establishing a ﷺcommunityﷺ. I started researching online communities and wondered about the meaning of this. I realized that because of my own busy schedule, it was really difficult, even for me, to find the time to spend in these online spaces. All my colleagues and friends were equally busy and not able to participate, no matter how fascinated by the concept. This led me to think about time, or lack of, due to technology that was designed to save us time. I was also interested in exploring other ways to visualize the online body and started exploring ideas of networks beyond the Internet. At this time I became fascinated with tensegrity structures that were used by Kenneth Snelson in sculpture, Buckminster Fuller in architecture, and explored in relation to the human body by Donald Ingber [2].

I wondered if these same systems can be used in designing information spaces, and in my search on the Web discovered a programmer, Gerald de Jong, who was doing exactly that. When invited to do a site specific piece for an old mine in Germany, I decided to explore some of these ideas together with Gerald. We started working remotely and met only when the show was opening, which was an entirely new way of collaborating for me. The piece that resulted was ***Datamining Bodies*** This work was site specific and the first to explore ways to represent the human body online as an energetic geometry, and living database persona. [3]

n0time: Building a community of people with no time

Still thinking of networks, online communities and our relationship to time and technology, I continued to develop a concept that would actively engage the audience in a different time mode, depending on whether they occupied the physical or information spaces. Although I firmly believe that there is no separation between the virtual and the physical, I also recognize that these spaces create a very different experience of time, and ultimately believe that there is no time. There is only constant change. The constructed time we live in is not working very well for us at this point, as is seen by the number of stressed out individuals that do not exclude you and me. We have moved away too far from any biological / analog measurements of change to nanoseconds, and are overwhelmed with information, processed much faster than we ever are built to absorb.

As our bodies are reduced to large data-sets, we are entering into an entirely different age and need to start rebelling against the industrial / product(ive) time. Whether digital technologies can help us solve some of those mysteries is an open question. The project that explored these issues was called ***n0time (Building a Community of People with No Time)***. The physical installation was a collaboration with Gerald once again, along with David Beaudry and sculptor, Tim Quinn. Once again, as in virtual concrete, I found that the physical piece worked, but was not quite satisfied with the online aspect. Eventually it was reduce to a screensaver that would evolve while people were away from their desk. The information body would evolve in seconds, minutes, hours, months or years and in 1000 increments would explode from too much information. This is then sent to the entire ***n0time*** community. Having no time is transformed to n(space) zero time.

Cellular trans_Actions

I began to experiment giving lectures about ***n0time*** while asking everyone to keep their cell phones on, as I did here at the beginning of this lecture. After experimenting with audiences at SIGGRAPH and the American Film Institute (AFI) last August, I created my first installation at the Edith Russ Media Haus in Oldenburg. I very quickly developed a piece as a response to September 11th, the day I arrived to Germany and my attention shifted to the importance of human voice and emotion, language and the influence of geographic proximity. I asked the audience to talk to each other about the tragedy in NY and eventually was completely cut off from the conversation. I consider the performance a success if I become irrelevant and can move away from the stage. (Roy Ascott's cell phone rings and he hands it to me. It is Andreas Broekmann who had to leave early and wanted to connect to the talk. I try to continue the lecture while talking to Andreas too, but eventually have to tell him that I have to go. The timing of his call was uncanny. He rang just as I was talking about cellular networks! I am sure many thought it was planned ahead. It wasn't. I try to carry on a conversation while talking, but eventually have to apologize and cut the call.)

I continued the project in Los Angeles by asking people with different backgrounds to leave a message about this tragic event in their native language. Recently I performed this work in San Francisco at an alternative space, the Lab. Phone numbers were collected and redistributed randomly to the audience asking them to call each other. Everything was going wrong with technology, all the power went down and when everyone started using their phones, the satellite system jammed too. After the event, I ended up with a list of cell phone numbers from the audience and I decided to extend the performance in time by calling after the fact and making a direct connection to people who were participating. A few people I called thought that the power outage and cellular jamming was planned as part of the performance!

I find cell phones interesting for a number of reasons, the first being that they really enact the decentralization of our communication networks and have a profound effect on our social interaction -- public and private spaces truly blur. But most of all, I am fascinated by the fact that the cell phone technological infrastructure is based on dividing our cities into hexagons ▯ the shape that repeatedly shows up in nature ▯ from beehives to molecules. The reason of course is not philosophical but simply because it is the most efficient system. [5]

zero@wavefunction : nano dreams & nightmares

Hexagons first fascinated me while studying Buckminster Fuller's structures, which led me to the story of the discovery of the c60 carbon molecule that was named the buckminsterfullerene.

Exploring issues of time in relation to human networks and our bodies as elaborate networks has naturally shifter my attention to the molecular level. Working with tensegrity made me think more in terms of emerging patterns in nature -- no matter how alienated we may become, we produce patterns that mirror the natural world. My work focused on making these far reaching connections between the social structures we unconsciously build and the ones that are inherently the building blocks of nature. Making the invisible traces of our connectivity and mirroring of nature visible is my long-term goal. Issues raised by such work are deeply philosophical and challenging, as they require us to reconsider our world and make significant shifts in our consciousness.

This work is a result of a sustained dialogue and work with a well-known nano scientist, Jim Gimzewski. [6] We are both interested in asking deeper, philosophical questions, no matter how difficult and uncomfortable they may be. And we agree that there needs to emerge

something in between art and science a new, third culture and this is what we are exploring together.

When we first started talking, I felt that it would be important to have Jim s lab accessible to the general public and he immediately responded to the idea and understood the reasoning. So we set up a series of video cameras -- one looking at his STM (scanning tunneling microscope), one seeing the molecules researchers look at and manipulate; one looking outside the window of Jim s office and one at in the hallway connecting the two labs he works in. Additionally we are planning to put cameras in the locations of the future California NanoSystems Institute (CNSI) buildings at UCLA and UCSB. All these cameras stream video live on the Internet, making it possible for anyone, anywhere, to enter this privileged and frequently mystified and misunderstood world. In fact, nano science is at the beginning stages of research and much of the work is daily, persistent search for data by trying many different possibilities.

With ***zerowave***, I wanted to stress scale and have the molecules projected on a monumental level, again to make the idea of manipulating the building blocks of nature accessible and not intimidating. Although I had easy access to visualizations and data, I decided it would be much more effective to work metaphorically but still base it on the actual behavior of buckyballs. Jim worked closely with Josh Nimoy, a recent graduate from our department who is a true software artist, to explain the behavior of molecules when he works with them. The projection is meant to connect the viewer to the idea of working on a molecular level, from a human point of view. Our shadows are those that move the molecules and manipulate their shapes We can influence behavior from a distance, with an immaterial shadow of our physical body. The next step is to immerse ourselves in the dreams and nightmares we project on this emerging science.

I believe that we live in an exciting time that is filled with danger and urgency. For artists working with emerging technologies, engaging social and cultural issues raised by the amazing innovations in science, this is a particularly challenging time. We have always played a role in introducing the general public to new ideas and helped shift the accepted perception of our collective reality. With so many huge paradigm shifts being introduced by scientific innovation at such speed, it is more important than ever for artists to envision possibilities, pose difficult questions and help understand the deeper meaning of these innovations.

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3 - http://notime.arts.ucla.edu/mining

4 - http://notime.arts.ucla.edu/

5 - http://notime.arts.ucla.edu/cellular

6 - http://www.chem.ucla.edu/dept/Faculty/gimzewski/

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