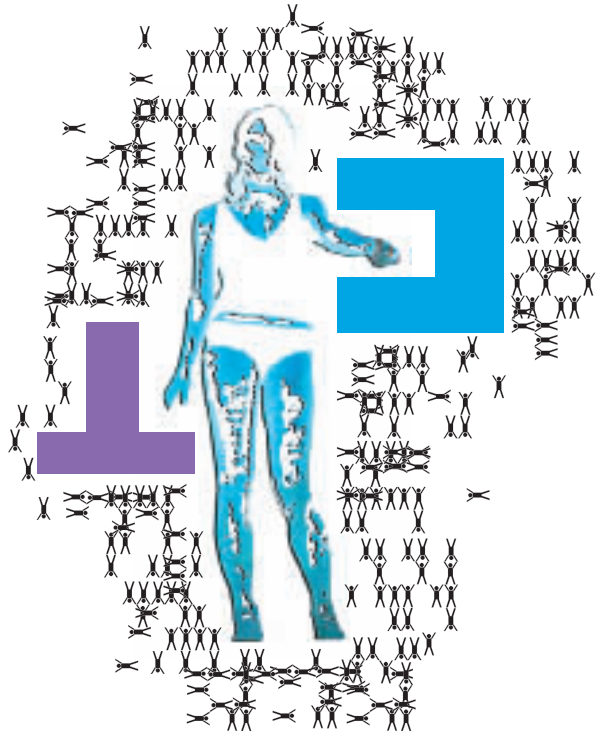
CYNETart_07encounter

Internationales Medienkunstfestival in Dresden, Festspielhaus Hellerau

16. - 24. November 2007



www.cynetart.de

Die Welt erfährt in den kybernetischen »Maschinen« und Netzen eine beispiellose Virtualisierung, so dass die Differenz zwischen Möglichem und Wirklichem, Realität und Simulation in der alltäglichen Wahrnehmung kaum mehr feststellbar ist. In vorliegendem Sammelband nähern sich Autoren unterschiedlichster Profession und Herkunft den global expandierenden kybernetischen »Möglichkeitsräumen« und beleuchten Risiken und Chancen insbesondere von vernetzten virtuellen Kommunikations- und Aktionsräumen. Hinter allem steht dabei die Frage, ob und wie die stattfindende telematische »Revolution« zu einem radikalen kulturellen Umbruch führt. Das Buch richtet sich an Künstler, Ingenieure, Pädagogen, Philosophen, Politiker und Soziologen und vor allem an diejenigen, die alltäglich mit den neuen Medientechnologien praktisch umgehen.

AutorInnen: Johannes Birringer, Ghislaine Boddington, Sonia Cillari, Scott deLahunta, Jo Fabian, Mick Grierson, Dave Griffiths, Friedrich Kirschner, Bojana Kunst, Michael Takeo Magruder, Maria Beatriz de Medeiros, Klaus Nicolai, Florian Rötzer, Detlev Schneider, F. Scott Taylor, Yukihiko Yoshida u. a.

ISBN 3-9810247-2-9
EUR 15

Die Welt als virtuelles Environment

TMA

Die Welt als virtuelles Environment

Herausgegeben von
Johannes Birringer, Thomas Dumke und Klaus Nicolai

Veranstalter:

TMA
Trans-Media-Akademie Hellerau e. V.

Kooperationspartner:

HELLERAU Europäisches Zentrum der Künste / European Centre for the Arts
Europäisches Zentrum der Künste Hellerau

Förderer:

SMWK kulturland.sachsen.de wissenschaftsland.sachsen.de
Sächsisches Staatsministerium für Wissenschaft und Kunst

Landeshauptstadt Dresden
Landeshauptstadt Dresden, Amt für Kultur und Denkmalschutz

mit freundlicher Unterstützung durch:

Koninkrijk der Nederlanden
Königliche Botschaft der Niederlande Berlin

Generalkonsulat der Vereinigten Staaten Leipzig

Australische Botschaft Berlin

NEUMANN&MÜLLER
Neumann & Müller Veranstaltungstechnik

T-Systems Multimedia Solutions

Baumer
Baumergroup

Partner:

Northeastern
Northeastern University Boston

King's Visualisation Lab
King´s Visualisation Lab, King´s Colllege London

Hochschule für Musik „Carl Maria von Weber"

Dresdner Innovationsfonds Kunst & Medientechnologie DIF
Dresdner Innovationsfonds für Kunst und Medientechnologie

BI TN ET
BitNet Productions, Norrköping

Computer New Musik Research Group, St. Petersburg

Die Welt als virtuelles Environment

Das Buch zur CYNETart_07encounter

Herausgegeben von
Johannes Birringer, Thomas Dumke und Klaus Nicolai
im Auftrag der Trans-Media-Akademie Hellerau

Impressum

CYNETart_07encounter

Veranstalter *Organisation* ::
Trans-Media-Akademie Hellerau e. V. und
Landeshauptstadt Dresden, Amt für Kultur und Denkmalschutz
in Kooperation mit dem Europäischen Zentrum der Künste Hellerau

Projektleiter *Project director* :: Thomas Dumke
Programmredaktion *Programme editors* :: Thomas Dumke, Klaus Nicolai
CYNETart Consultant :: Prof. Johannes Birringer
Assistenz *Assistants* :: Bianca Kliemann, Anzhelika Kobtseva,
Jacob Korn, Maritta Seifert, Andrada-Ioana Vaida, Hendrik Walcher
Finanzmanagement *Finances* :: Anja Dietel
PR, Kommunikation *PR, communication* :: Anett Herrmann
Technische Leitung *technical management* :: Andreas Lorenz
microscope session :: DS-X.org
Grafik/Layout *Graphic design/layout* :: Yvonne Bahr
CYNETart Logo :: Dorothea Kupsch
Web Design :: Matthias Härtig
Video Dokumentation *Video documentation* :: Christine Elmer,
SAEK Fernsehen, Harald Schluttig
Besonderer Dank an *special thanks to* :: Susanne Bochmann,
Katharina Dolleschel, Jana Frommhold, Michael Hoepfel,
Katja Knetschke, Daniel Mühne, Michael Piéc, Natalja Pomozowa,
Yulia Vashchenko, Wanda

Kontakt *Contact* :: Trans-Media-Akademie Hellerau e. V.
Karl-Liebknecht-Straße 56, 01109 Dresden, Germany
Tel. +49-351-8896665, Fax +49-351-8896667
Info :: dumke@body-bytes.de
Presse *PR* :: pr@body-bytes.de
http://www.cynetart.de, http://www.t-m-a.de

Herausgegeben von *Published by* :: Johannes Birringer, Thomas Dumke
und *and* Klaus Nicolai im Auftrag der *on behalf of* TMA Hellerau

Titelbild *Cover picture*: „Orbital“ (1995) aus der Reihe „Primo Tempore“
(1994-97), Michael Hoepfel, www.hoepfel.net

Lektorat *Copy editor* :: Anett Herrmann, Bianca Kliemann,
Cornelia Schupp

Druck *Printed by* :: Druckerei Wagner, Großschirma
Erhältlich bei *Distribution* :: http://shop.extended.org
ISBN :: 3-9810247-3-7

Inhalt

Kreatives (Computer-)Spielen

Audio-Visuelle Komposition und Live Coding

Anhang

Virtual Physical Bodies – Serious Play

Ghislaine Boddington

Performative Telematics – *the transmission of audio-visual data between different spaces in remote locations through use of the Internet.*

Performance pieces are created live in each space and simultaneously mixed and transmitted to the web.

body>data>space view the technological tools we use as enablers of human endeavour, empowering and enhancing our instinctive need for responsivity, interactivity and connectivity. We work from the basis that the human body and its needs must be the balancer of all technologies and our work is consistently informed by human presence first and foremost, with the merge of the virtual and the physical as the simultaneous imperative.

This approach comes from our understanding that digital processes have emerged as a reflection of the natural linking and connecting processes of human to human, of brain to brain, of body to body, of place to place, of time to time. So what the technology must do is to reflect what we, as humans, most naturally desire, and that is to exchange, respond and inter-connect.

Our exchange processes were evolved in the early 90s with shinkansen and its European networks of performing arts, Butterfly Effect Network and Sound Works Exchange.[1] This was prior to general public access to the World Wide Web. We modelled the methodology on the needs for artist mobility (physical and conceptual) in a new Europe. We had the digital in mind at all times as we were already working extensively with digital sound, visual and performance tools. As performing arts practioners we needed to work together in group environments and were frustrated by the fact we could not create other than when we physically gathered in one place. We yearned a »Beam me up Scottie« tool and telematics was the only equivalent that emerged.

From 1999 we had the opportunity, through my Research Associateship at ResCen, Middlesex University, to create and direct several workshops involving the use of performative telematics. These workshops called CellBytes brought together dance, video, software and technical artists in two stage set ups at Arizona State University, Middlesex University and

1 For more details on shinkansen, Future Physical, Creative User Research and the network projects do visit the shinkansen collection archive portal at http://www.connectivity.org.uk. For more details on body>data>space please visit http://www.bodydataspace.net.

Lugar Commune outside Lisbon. Following on from this we delivered a series of telematic performances in clubs and theatres in the UK and internationally.[2]

For body>data>space, a new initiative started in 2005, I have linked up with architect and video artist Armand Terruli to take this work into deeper public realm environments. Our motivation is the human body, its interaction and its collective instincts, and we have an ongoing focus on telematics – the connection of remote bodies, real time, to each other within performance and installation space.

Telematics allows us to work in large groups, with interauthored methodologies, to link with other groups globally and to really work those networks. It is positive to see the rise in the awareness of how important telematics is to the future, with many more choreographers dealing today with the interactions of the virtual and the physical body.

We use telematic connectivity to explore the potentials and opportunities inherent in extended full body communications at a distance. We are fascinated by the potentials of tele-presence, virtual touch and tele-intuition and by the identity politics that come to the forefront instantly when you are face to face with someone from a different culture in a virtual realm. We are working with the connections between video, dance/performance, wearable computers, feedback sensors, spatial tracking systems, intelligent skins, media facades and real time connectivity.

It is already obvious that in the near future many of the younger generations around us will be working, as well as playing, daily in virtual worlds and be communicating extensively with their colleagues via telematics. Our work pushes telematics into the public realm, with performance and installation inserts into participatory set ups for ALL to be creatively within. One of our key aims is to tap into the tele-intuitions developing in these younger generations and enable that to be creatively used.

This collection of thoughts, comments and visions has been collated in summer 2007 at the request of Thomas Dumke (*CYNETart* Director). Having structured and set the themes I wanted to approach in this paper, I called for input into these themes from 25 artists and researchers who have been involved in performative telematic experiences. Many have been working, like ourselves, with the concepts and developing opportunities for remote body connectivity in virtual physical event space from the mid 1990s onwards. Several were the first out there in virtual space, representing the imperativeness of the presence of the body in networks dominated by information (data/code). Most, like myself, come from performing arts backgrounds, some from visual, computing and participation arts environments.

My call asked for responses relating to the experience of »being in« telematics. In terms of the discussions, experiences and writings in the last 15 years re-occurring words such as spiritual, magic, embracing, out of body, extended, disembodied, re-embodiment, transcendence, transformation, shared consciousness all come to mind. I placed these and several questions in front of my research group and below I share the responses.

2 To read more about these workshops and performances, and the methods and the structures used to run the shinkansen interauthorship processes please reference *The Weave* article, the Interauthorship Group Process Brief and the Pod Structure at http://www.mdx.ac.uk/rescen/Ghislaine_Boddington/theweave/index0.html.

Connectivity

Several people came back with very strong statements about their quotidian awareness of the real-time transference of day-to-day data within networked and distributed environments. Here the emphasis is on the understanding of »meeting place« rather than »event space«– exchange, sharing, and distribution networks as part of everyday life.

»I work every day for quite some time using technologies that seem (at least as I understand things) most pertinent to the questions. So, I'm talking about my computer (and/or mobile phone) and my broadband connection to the Internet. That's it really. So about change, what I know is that my daily connections across many countries and projects amount to a subset of ›expectations‹ about telecommunication that are certainly different from when all of this first began (...). I think I sent my first email in 1989. This means I know how to work with it quite well and it is a part of my daily rhythm. I plan and set up many social relations around it. It's familiar (...). I spend as much, if not more time than most connecting to other individuals in other parts of the world using this massive set of invisible linkages. So I must be practicing tele-presence.« (Scott deLahunta)

»I'm in Portugal as I write this because the composer I work with lives here. We've known each other for years and spend a fair deal of time writing emails and speaking on the phone, but there's no substitute for having a drink with each other while brainstorming ideas. We also had extremely good conversations while driving across the Portuguese countryside. Without taking the time to come here in person, none of this would be possible. I find remote conversations extremely helpful when we have a set goal to accomplish and need to exchange pertinent information, but I have never experienced transcendent interchange from a telematic environment.« (Kirk Woolford)

»I make more and more work that is in the landscape, with human beings I can touch and smell. I fly to distant places to engage with artists and thinkers in my extended community and find those meetings to be most gratifying. Often someone tells me a story in person that wrenches my gut in ways not possible in the telematic embrace.« (Doug Rosenberg)

»At present, the growth of the Social Web (Web 2.0) would lead one to believe that it's all about connecting to other people, but this massive tide of interest in sociality will recede with the same speed as it set upon us.« (Nick Stedman)

However the use of telephone has not receded, but evolved into new hyper social uses. Voice and text transmission through mobile phones has become a vital part of many people's daily lives and yet, in its time, it had similar issues.

»At the age of five I experienced telematics for the first time. It was when I held a telephone receiver for the first time and got terribly frightened when I heard the voice from inside the receiver. For a long time I had problems to pick up the phone. Maybe my behaviour was a quite natural, since a

Figure 1: cyberSM, a project by Kirk Woolford and Stahl Stenslie between Paris and Cologne 1993.

human voice in a very substantial way reflects something belonging to another person. Usually this would be associated with the body, with physical presence. At that moment this was an extraordinary experience for me, and it did have something to do with the fact that something ›unearthly‹ was happening there.« (Klaus Nicolai)

For others the fact that the potential of the transmission of visual as well as audio data through local to local connectivity extends us naturally into the usage for the physical and social.

»Telematic experience is about connection. Although based on virtual processes, I still think that, peculiarly enough, it is about physical connection. The need we have to see and hear someone is a physical need, we cannot touch this person in a direct way, but we are still trying to engage in a physical connection.« (Sophia Lycouris)

»We are a group of people with a history of working together in telematic space. We have some shared social codes and an almost intuitive sense of communicating across time zones and bandwidths.« (Amanda Steggell about her early experiences working with online band NOOD)

»Translocal exchange in the non-place of the mediating network can be highly charged, amplified by the temporal intensities of riding a Möbius strip circuit without landmarks. When the peri-personal space of the body is the space of interaction, the affective intensities are heightened. Though I have entered this ›zone‹ and witnessed others inhabiting this ›zone‹ many times in performative situations, I still believe it is not the normative functioning of telematic experience. Rather, it is the potential of the translocal event.« (Sher Doruff)

Identity and Presence

The multi-identity mode of modern living – of existing in the real and the virtual in many forms – is gradually dissolving any boundaries between the real and the virtual. With the evolution of mass interaction on the web through social networks and virtual environments, the opportunity (with web access) to re-present oneself in avatar form in virtual environments today has exploded beyond all expectation.

A fluid sense of self is becoming an accepted part of the psychology of the 21st century and any adverse reaction to this is hard to justify today. In 1995 Sherry Turkle (Life on Screen) quoted a »dedicated MUD (Multi-User Domain) player and IRC (Internet Relay Chat) user [who says] ›why grant such superior status to the self that has the [real life] body when the selves that don't have bodies are able to have different kinds of experiences?‹ When people can play at having different genders and different lives, it isn't surprising that for some this play has become as real as what we conventionally think of as their lives, although for them this is no longer a valid distinction.« (Turkle 1995)

It is clear 12 years on, with online avatar making tools simple enough for the most of us to use, we have moved into a generation of easy representation of the multiple self through virtual bodies, thereby expanding ourselves into many selves.

As with avatar creation, performative telematics (where you re-present your real self as streamed video data) intrinsically deals us all with a complex identity card (...) how have we used this and what has it bought to us all? Travelling through personal space, working with community in distant space and being globally aware at the same time is an intricate place for the body/mind to inhabit and to orientate itself within. Your baseline somatic knowledge knows that you are encapsulating a new you, even though it is you.

I asked my research group the questions – What was it like for you in your first experiences in telematic space? What were your feelings and thoughts? Does it still feel the same for you now? This brought interesting responses as for most of us the experience has totally shifted the way we exist in the real world today, the way we make relationships and the way we understand the concept of ›presence‹.

»When I first started entering into networked, telematic situations, I was most intrigued and enamoured by the distribution of my ›self‹ and of the many places and ways that I could simultaneously ›dwell‹. This drives my daily experiences in perception and embodiment to this day. I exist in a permanent state of hybridity.« (Michelle Teran)

»Certainly a new type of post physical experience of our fellow human beings has crept up upon us. It doesn't necessarily invalidate the real time real space communing but is of a different quality and intensity. It has different conventions and a different quality of intimacy- perhaps a more disposable kind? We are also learning a radically different kind of integrity in our relationships.« (Shobana Jeyasingh)

»Telematics has brought me to experience many things like a ›double presence‹. A presence that you have to have for the public in front of you and also another presence that you have to develop and send to the other space if you want them to experience a real presence mediated.« (Isabelle Choinière)

»My experience of telematics has always been that of a reduced, discreet, simulated experience of embodied presence. Telematics works on specific ways of using discrete verbal and non-verbal communication. Telematics relies on standard technologies, such as determined uses of the camera

and microphone within a context of communication, in which the range of non-verbal expression tends to be ›reduced‹ as compared to situations of ›physical‹ presence.« (Jaime del Val)

For many of these early adopters the communication was effected by lag and by confusion. I remember working with a 7 second lag in one of our early experiences, all of us counting in and counting out together as part of a structured improvisation. Everyone was working and thinking into three spaces (two physical and one virtual, the mix being sent out real time as a web stream) and the intensity of concentration was literally visible like a cloud in the air, a thread of concentration linking dancers to camera people to the technical desks in all places simultaneously.

Add to this the audience at both ends and the web audience, and it makes the pattern even more complex. This creates an emergent dynamic of thinking – a mind-pool of creation patterns begins to emerge between all the participants allowing the live flow to keep in motion.

»My first experiences were with CU-SeeMe video teleconferencing in 1995. It was like standing on the edge of the technological Stone Age. Of living out a science fiction, particularly when there was a two-way communication with the space station Mir. It was almost impossible to believe that it was happening. To be honest, I have never really been sure about this. I mean, how could I really know if the pixilated video images and text exchanges were really coming from Mir? But at the end of the day, it was the desire to believe that kept me online for almost two weeks, until the two-way communication was closed and I could only peer in. Without feedback there is no sense of being present. It is like being paralyzed, where you can sense what's going on, but not respond.« (Amanda Steggell)

»It took us two days to set up the computer so that the web cast was possible (...) the feeling during the performance was very strange, I had no idea about what was going on exactly, it was like doing a ›regular‹ performance with a live audience (which was the known part of the experience!), but I also had an ›awareness‹ of the other performers (a group of musicians working from a remote location with whom we were collaborating) and the other audience (those who were watching us in front of their computer screens). This ›awareness‹ can only be described as the unknown part of the experience, I could just not hold in my head what was happening and how this was working.« (Sophia Lycouris)

»The most extreme [experience] was our live web cast from Bangalore [to London] which was magical. I had to ›dress‹ my dancer in Bangalore via my mobile on screen. When she kept insisting that she had taken off her waistcoat, when I could plainly see that she still had it on, it was spooky! Then of course the 7 seconds lapse kicked in and it all became clear! We could see that it was nighttime in India and hear the cars screeching in the background while we were sipping our afternoon tea! The collision of geographical realities was astounding and also the feeling that we had triumphed over geography in some way! Exciting!« (Shobana Jeyasingh)

As performers in telematics both the dance and theatre practitioner and the camera people are fully involved. In a way there is more of a similarity to live television than theatre as the camera movement is as imperative as the performers and the duet between the two has to be acknowledged. The response to how different it feels to the regular theatre show varies.

»My first experience was with Susan Kozel in 1997 in ›Ghosts and Astronauts‹. I had an awareness of her doing/dancing/responding in a similar way to me in a different space simultaneously, but I think I was preoccupied with what the performance was like in my space, my own interaction and the appearance of that interaction to the audience. I did not have any sense of bodily extension or any kind of magic whatsoever. At the time it was something new, and I felt the audience interested by that possibility, but my own experience was quite pragmatically a concern with performing ›as usual‹.« (Anne Matos as a dancer in telematics)

»Dancing in telematics is a very extended and enhanced experience (...) in order to ›touch‹ your remote dancers, it requires you to imagine yourself in the ›other‹ space and physically elongate and stretch movements to ›reach‹ another dancer, who may be 500 miles away but in your conscience they are merely the other side of a projection screen. This same screen becomes a virtual doorway to another time and place, but through which you can demonstrate real live connections and make simultaneous performances.« (Leanne Bird as a dancer in telematics)

»I was searching and discovering moments of physical disorientation which I recall as gliding and swinging sensations – spirals (...) I have a strong memory of this as a physical/visual memory but I am sure that I may have lost the intricacy of the experience over time.« (Gretchen Schiller as a video camerawoman in telematics)

The navigation and orientation aspects of multi-site work also come to the forefront immediately, showing how clearly spatial and gestural motion state intent and display so much about our identity. At the Lisbon workshop Corpos Online, which I directed with our interauthorship process, the group naturally formed a very clear conceptual construct as a common base to work from. Rather than approaching the distance between the locations as separate image canvases mixed to enable interaction, these young Portuguese artists saw the projection screens as transparent walls of an unknown fluid, through which they could transport themselves from one space to another. The resulting eight small pieces were affected by this joint vision, in terms of aesthetic and intent. A very special set of work emerged dealing with passing of objects and gestures through the virtual space to each other in a fluid and watery way.

»My first experience was in 1996 (...) the students I was working with in the separate sites felt strange at first when asked to ›touch‹ their bodies virtually. It then became playful to mix, overlap them and connect in various unusual ways. Overcoming the playful first encounter was a task in itself to push the students to imagine something else. I felt that dance has a lot to do with this sort of virtual ›in between‹ time and space. Therefore telematics offer a ›third‹ space of encounter, open to artistic themes which

Figure 2: Digi-ID Telematic workshop directed by Ghislaine Boddington for Akademi, London July 2002.

question presence/absence, identity/artificial self, real space/imaginary space.« (Jean Marc Matos)

»You realise, how sensitively the other person responds to you. I think it was someone called Julia who was in the system then. It was great fun to feel that the other one receives the impulses you send, for example acoustically, with his or her own sensitiveness and responds accordingly.« (Klaus Nicolai)

Watching the audience participate in a telematic set up also gives a set of feedback to the maker of the work, opening authorship beyond the original artists as the creativity of the participant pushes the boundaries of the systems. Participatory telematics challenge us to use the strength that lies in the combined work of specialists, including the public participant, in collective processes, yet this is a hard shift for many artists as the cult of the individual author is so emphasised in our society and sustained through the cult of stardom. One has to let the work go, meaning another identity shift has taken place.

One of the first participatory telematics projects was in 1980 when Kit Galloway and Sherrie Rabinowitz created *Hole-in-Space* between New York and Los Angeles. Suddenly head-to-toe, life-sized, television images of the people on the opposite coast appeared. They could now see, hear, and speak with each other as if encountering each other on the same sidewalk. No signs, sponsor logos, or credits were posted – no explanation at all was offered. No self-view video monitors to distract from the phenomena of this life-size encounter. Self-view video monitors would have degraded the situation into a self-conscience videoconference. If you have ever had the opportunity to see what the award winning video documentation captured then you would have laughed and cried at the amazing human drama and events that were played out over the evolution of the three evenings. *Hole-in-Space* suddenly severed the distance between both cities and created an outrageous pedestrian intersection. There was the evening of discovery, followed by the evening of intentional word-of-mouth *rendez-vous*, followed by a mass migration of families and trans-continental loved ones, some of which had not seen each other for over twenty years.[3]

3 For further information on Kit Galloway and Sherrie Rabinowitz's *Hole-in-Space* (1980), see: http://www.ecafe.com/getty/HIS/

»The feeling of occupying and exploring a shared space is highly defined, and audience members who enter the blue screen space intuitively adapt to the space and their virtual partners within it. They become absorbed by the media mise-en-scène and compose themselves spatially within the projected locations and landscapes, like actors ›blocking‹ a scene on stage; and where background scenographies delineate, for example, land and water, they scurry to position themselves on terra firma. The human communication and interaction within these spaces is very much the same as in the quotidian world, using speech, body language, and proxemic relationships. The key human sense missing is touch, although ironically it is one that is frequently explored, as participants seek to shake hands, embrace, push, physically fight with, or caress the sisters.« (Steve Dixon)

»Telematics is bringing you to a structure (choreographic, presence, etc) that is like a matrix as all layers are intertwined. So it brings a lot of complexity and if you want it to work you have to approach it as an interconnectivity model. This is what I have done intuitively before I knew the theory of it!« (Isabelle Choinière)

»Our first encounters in telepresence were haunting and challenging experiences of disembodiment which led us to questions: What interfaces and artistic propositions will we develop? How to create and establish visual communication over distance? – and to explorations of creative potential for establishing and defining artistic expression, a total new aesthetic field (...).« (kondition pluriel)

»Through the cyberSM projects in the early '90s, I experienced intriguing forms of co-presence in virtual environments. With the original version of cyberSM I was aware of a physical connection to another person which I've never felt from a phone conversation or online chat. I explored this remote physical connection through the Wind Walker project by using fans to blow air against participants' exposed midriffs. It was extremely interesting to experience a virtually, but not physically, present person through something as tangible and simultaneously immaterial as wind. However, rather than feeling this technology enabled a new form of consciousness, every participant in the project said it made them re-evaluate the types of connections which already exist between us.« (Kirk Woolford)

However some artists have found the final outputs disappointing.

»I must admit, as an artist curious about the inner workings of technology I find telematics uninteresting. Why? Telematics wears its process on it's sleeve. An action here causes an equivalent action in some distant place. We may translate and transmit different gestures, different features of our world, but the dynamics are obvious.« (Nick Stedman)

»My personal experience was that the efforts and resources required to make the work happen, were disproportionate to the value of the work.Though the researchers were all intent on creating a vital and compelling project, it felt as if we were encumbering ourselves with often insurmountable obstacles that in the end, conspired to topple our best intentions.« (Doug Rosenberg)

Expression of Self and Others

Where are you?

I am here and I am there
And I am already connected to you

I can feel your weight, sense your touch
I can see the flocking of your thoughts

Although there is no gravity here
The weight of time holds me to this virtual floor
While you wait for me to arrive in streamings of bits and bytes, zeros and ones
In real time, in lag time,

To arrive at the unstable matrix of my electroluminous skin
The screen is not a surface, but the reach of my extended touch

My body is pixcells .. My body is code
Hellen Sky

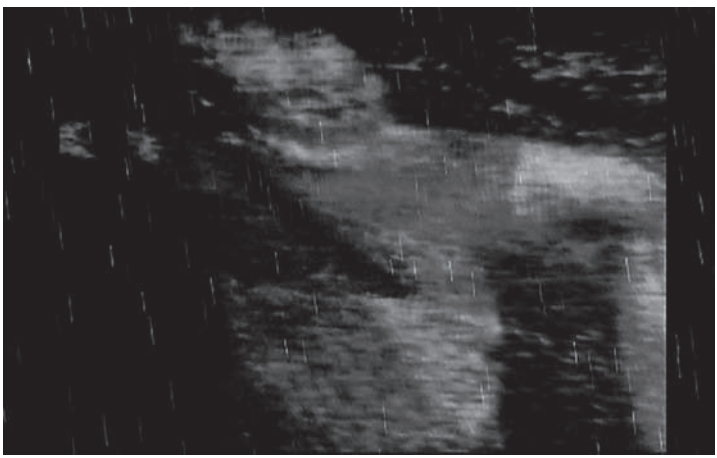


Figure 3: Hellen Sky in Making Light of Gravity – my body is pixcells my body is code 2006.

Hellen Sky is probably one of the earliest and one of the most experienced artists working in telematics. Previously with Company in Space, she and her company members displayed the potentials to us all. I first met Hellen in Arizona at the IDAT conference[4] in 1999 where she made a beautiful two-way link to her hometown Melbourne. Her poetic writing has inspired many.

4 Arizona State University and The Institute for the Studies in the Arts hosted the international IDAT99 (Interactive Dance and Technology) conference in 1999. See this site for archived information http://www.ephemeral-efforts.com/IDAT99site/index.html

Her expression of herself in cyberspace tells so much about the physical experience of the body and its reliance on the interface of the mind and kinetic responses. Others have outlined similar expressions from their movement into time and space. A deeper recognition of identity through gesture culture has been in development through these works, supported by the fact that even in the physical realm what we actually »voice« only accounts for 7 percent of our communication.

»It felt as if the tele-present musician was playing very near us but in a very fragile space that could be shattered (and was) at any second. Only small glimpses – frozen ones at that – of what we were doing in São Paulo was getting through to London. So time was standing still and moving on simultaneously – a strange experience. The physical presence of everyone in the theatre was very strong, but they were strangers to us, and we to them. Our physical presence has tangible feelings of intrusion, encounter, contact. The tele-present musician and London audience were tangible too, but in a completely different way – as if they were way in the past, or in the future. The fragility of the link was crucial in all of this.« (Barry Edwards)

»What was important was to use the restrictions of the technology creatively. Not to glorify it, but to show the low-tech reality of the super-hyped ›information super highway‹ and to make explicit the discreet connections, sensations and emotions felt with others online. It was an indescribable psychedelic, imagined and physical space-between-time-and-space experience – like being at a house party without having to go out. For the initiated and involved it was adrenalin kick of chaos and unpredictability. For others, the shows could be undecipherable and confusing.« (Amanda Steggell)

»When I first presented the work [Telematic Dreaming] and experienced it myself, it felt like an internal explosion – one hell of a huge buzz, which lasted for months, it seemed to encapsulate what everyone was talking about at the time (1992) and has continued to do so. I have shown the piece over 25 times since Finland and never tired of it, it will be in Singapore in November 2007 and it still continues to create those internal explosions of energy when people try it out – complex, embarrassing, emotional and embracing.« (Paul Sermon)

»The sense of virtual touch is something that delights Unheimlich participants, a sense of the body being extended in space, in McLuhane-sque fashion, by way of technology. This leads to some moments of real contact and intimacy across the networks, for example through the most delicate stroking of hair in one performance.« (Steve Dixon)

Kondition pluriel created a show that gives individual members of the public a chance to dance telematically with performers in a distant space. They noted immediate responses from their public participants after the experience.

»It is strange to be watched by performers and interact with them without being able to speak. It is almost like interacting with animals.«

»Where are you? How much of me can you see? What parts did you respond to? Where are you now? Here comes your next person. 10 minutes goes by so fast.«

Figure 4: Telematic Dreaming by Paul Sermon, 1992.

Again others question the expressive potentials and have found telematics lacking intimacy and frustratingly expressionless as compared to real life meetings.

»Indeed, the vast majority of telematic projects I have observed and/or participated in, have felt flat and contrived, relying on representational elements to elicit a sense of connectedness that is rarely ›felt‹. They have been largely reactive variations on screen-based visual and audio cues. Nonetheless, the excitement of the experiment itself often filled the perceptual, sensory and aesthetic gaps.« (Sher Doruff)

»Intimacy or the lack thereof is what comes to mind when I think about both my own experience with telematics and the work of others in the field as well. Telematics and its attendant sub genres exist in a world of as if, rather than as is. That is to say, the myriad work done with the express idea of bringing people ›together‹ in cyberspace actually reifies distance in a most remarkable way. As if demonstrating light by taking one into the darkness, the telematic embrace is cold, distant and asexual. It is as if it could be inviting and erotic, as if it might be moving and profound, as if it has the potential to be full of love and spirituality, but it is as if antithetical to such possibilities.« (Doug Rosenberg)

Spirit and Essence

We cannot write about telematics without mentioning the huge input into this area from the 1970s onwards by Roy Ascott. Does telematics, as Roy Ascott in his extensive writings about the telematic embrace envisioned in 1990, provide »the very infrastructure for spiritual interchange that could lead to the harmonization and creative development of the whole planet.« (Ascott 2003: 245)

Roy Ascott has put this discussion on the table and for several of the artists in the research group this brings up both positive and negative thoughts around the re-conceptualization of the spirit, body and mind. Today many people fall in love, have relationships and have sex online. The first online wedding was actually in 1848 between Boston and New York. A telegraph office relayed the ceremony in Morse Code and the couple were wed at a distance.

Several artists across time have used telematics and its dream like state as a reflection of emergent state of consciousness. The vision relates to the Tantric belief in the potential of all humans to expand beyond ourselves. Jung A Huh said,

»The artist has succeeded in filling the role of the shaman by constructing his own imaginary world. We can say that the universe, which is invoked and mediated by the shamans, and the imaginary universe created by the artists, are all predecessors of the cyberspace which has been created by computers. If we find common elements between the different genres of art, shamanism and cyberspace, it is because of the immateriality of the movements and the mediation of different states of universe. The spiritual displacements and movements of shamanism are similar to the fluid aspects of digital aesthetics.« (Huh 2005)

»Telematic space for me is another space totally. It is another way to relate to the other, another organicity, another physicality. The error for me is to compare it to the ›real‹. I think it is an error, it is a dualist way of approaching things, and it is very far from the interconnectivity that comes from the Asian philosophy (Taoist, etc). It has to be thought for what it is, something else that has its own logic. For me building a telematic piece was understanding all the new ways that I had to invent choreography in the 21st century. So it was very very far from the model that I had learnt. It was what has interested me.« (Isabelle Choinière)

»On stage I have always been fascinated by the different emotional impacts between live and virtual presence. The capacity of sheer scale to sometimes dominate physical presence but also the sheer ›nowness‹ of the person clearer and more sharply defined when pitted against the virtual.« (Shobana Jeyasingh)

»I would say that it is a physical memory for the people who experienced the telematic experience as well as an artefact (video material) which could elicit sensations of haptic visuality and empathy for those who watch in another generation.« (Gretchen Schiller)

»I do not believe there is love in the telematic embrace – I think there must be a great deal of drive to learn, patience, experience with networking and other technologies, willingness to do things differently in a moment's notice, ability to collaborate (which is not always a ›natural‹ tendency for some), skill with improvisation and directing.« (Lisa Nelson)

»Everything I reflect on or discuss in my writing is closely linked with my own experiences in this area [interactive space], but there are also proces-

ses preceding these experiences. This especially applies to the late 90s, when I intensely explored various methods of meditation and yoga, in a way. I still practice some of them, e.g. a meditation called the ›Seven Tibetans‹, which means whenever I, for example move in an interactive space, this experience would always be supported by my own background, my bodily sensation and my perception of the world. To me, this seems to be quite a basic and essential premise when reflecting on media. In this sense it is my opinion that the human body, one's own body is the basic medium that links us to the world and among each other within the world. Unfortunately, one's physicalness and bodily experience get repressed far too much. This process has been lasting for several centuries and drives us away from the authentic perception of the body that is associated especially with kinaesthesia, and also with chakras, with flows of energy, with breathing, with things that are taking place all the time, but are not perceived by us.

Figure 5: entre-deux, Liberté à la carte, Entrepôt public, Ville St.-Laurent, 2002, Performer: Marie-Claude Poulin, Courtoisie de kondition pluriel.

You can also find sort of transcendent things going on (...) So I have been in experiences that probably belong into the context of what Rupert Sheldrake refers to as semantic and morphogenetic fields. These are things that would easily be called esoteric, but which, in my opinion, are relevant to us. Maybe everything we strive for through our use of media will finally lead us back to a primal sensitiveness that possibly is still present in archaic societies. Thinking of the Aborigines and their practice of long-distance telecommunication without any technological aid, I can absolutely imagine that this could be a kind of human potential that is to be regained.« (Klaus Nicolai)

»As many commentators have noted in relation to the performing virtual body, there is a marked transference of psychic and bodily attention away from the real space and into the virtual space of the screen. In early discourses on the virtual body, this effect was argued to confirm techno-postmodernist theories of split-subjectivity, and was commonly hyperbolized and mythologized into Cartesian or quasi-spiritual narratives of disembodiment. But of course the performance does not involve ›an escape from the body, but the opportunity to observe oneself from a new perspective‹, as Stephen Wilson has observed in relation to Paul Sermon's earlier works (Wilson 2002: 520).« (Steve Dixon)

It is clear we need to recognise and start to engage with the topical and complex issue of the new reflectivity of ourselves on ourselves through the use of the virtual realm, and ultimately our abilities to deal with »the other« within the virtual. So again identity comes to the front of the debate. How does the telematic »you« expand and enhance the real »you«? How do our avatars in the virtual realm reflect on ourselves? What do they teach us about ourselves and how can we use that knowledge to extend our understanding of others?

The word avatar is a Sanskrit word implying re-incarnation. »In Hindu philosophy, an avatar (also spelled as avatara) (Sanskrit: अवतार, avatãra), most commonly refers to the incarnation (bodily manifestation) of a higher being (deva), or the Supreme Being (God) onto planet Earth. The Sanskrit word avatãra – literally means ›descent‹ (avatarati) and usually implies a deliberate descent into lower realms of existence for special purposes.«[5]

Future

In this section I explore several notions of the future of telematics.

Commercialisation

It is unavoidable but to start this section on the future with a look at the current state of telematics in terms of gathering commercial interest. At this time there is a constant and complex debate in the business sector about the development of Web 2.0, »the second generation of web-based communities and hosted services – such as social-networking sites, wikis and folksonomies – which aim to facilitate collaboration and sharing between users.«[6] Companies and brands struggle to (re) gain control of what is now a multi-faceted, multi-identity and multi-distributed client base.

5 http://en.wikipedia.org/wiki/Avatar
6 http://en.wikipedia.org/wiki/Web_2.0

Ian Hughes, working commercially to create a real time online reflection of Wimbledon Tennis Tournament said recently:

»Metaverses have opened up 3D, live online interaction and use of game style technology to a whole group of people who have never been near any of this. It is these people, who are not burdened with the pureness of gaming environments, or who do not use digital environments for escapism, that start to ask the questions about integration. How does this technology help my business? How does this social change alter my customer service? How can I get my existing business working in a virtual world? How can my virtual world presences fit into my existing business? Can I make my brand experience seamless across all channels?« (Hughes 2007)

Video conferencing has a history of limited usage outside of business and academic environments due to the equipment and set up needs. It is being used in a variety of contexts for education, distant learning and business negotiations and surprisingly extensively by activists, so called terrorist organizations, religious and spiritual communities. The main commercial use of telematics is for fleet management systems for road and sea transportation of goods. It is also used for the online pornographic industry.

For many of the artists this, after years for research and development work, is a depressing period of time and is already clearly disallowing the potentials of telematics to create artistic, social and positive interventions. There are fears and worries about the misuse of telematics for power, control and sex.

»The energised fascination with connectivity in the 90's, drawn by the power of new technologies and the sheer thrill of pioneering (all those time-zone mashups with players on disparate continents in every imaginable metabolic phase) has given us, in 2007, a Web 2.0 world: plug and play interfacing; corporately-hijacked content. Much of the creative promise of telematic (or what I prefer to distinguish as ›translocal‹) interplay, synchronous and asynchronous, drains unimaginatively into multi-national bank accounts. The dimensions of the playing field have shifted in a relatively short time. The stakes have been politicised. Zones of intimacy have become commodified. I find myself, after years of dedicated research practice, both outraged and/or bored.« (Sher Doruff)

»In particular in the current socio-political climate, it's hard to imagine any current infrastructure leading to harmonization on a large scale.« (Scott deLahunta)

»Everybody is struggling for their own survival. Idealism is dead dead dead and buried and the extreme neo-conservatism and capitalist liberalism sweeping the world is obviously having its strong impact on the arts. Who cares about spiritual interchange, harmonization and creative development? The entertainment industry has taken over. Arts has to have a black bottom line like everything else (...) the future for telematics is commercial uses only – black bottom line (...).« (Anne Matos)

»The research we have [all] been doing (...) has simply become assimilated into the mainstream. In the 1990s one of the joys was the sense of adventure in putting together cocktails of hard and software to simply be able to play

together across time/space zones. Today the real and the virtual worlds have become so interwoven that this is not really a challenge any more. But that's not really it. They are almost inseparable. The question is, who has control of the scripted spaces that facilitate online communities and distant communications, and the people who inhabit and communicate through them. What we possibly have to offer is (as ever) some kind of resistance to the default façades of software tools and scripted spaces that people inhabit.« (Amanda Steggell)

»Having the opportunity to see a live image of the person we are in conversation with adds a layer of physicality to this experience of communication. This is why this technology might lead to a ›mass way for human consciousness‹. It all depends on how it is used and abused. Therefore, I feel that artists are the ones to advocate the need for a ›human‹ use of this technology (...) telematics research should not be used to abuse human beings (as this has happened with other technologies), this is important and we artists should protect this technology from such detrimental developments.« (Sophia Lycouris)

Mediation

In a way some of Roy Ascott's vision has become true. One of the key needs of today's world – shared understanding, knowledge exchange, win/win negotiations, open source and citizens debate – are all being approached through the use of Web 2.0 with exceptional high levels of input by people from all walks of life. The chance to have your say, to start a debate, to exchange and share are being utilised by many. It is clear that this is why the commercial world is urgently trying to find its way into these arenas, yet of course the debate is shifted by the very nature of their forced entry.

I was recently interviewed by a young producer researching, amongst other things, the benefits or otherwise of streaming commercial advertising to our mobiles. He made use of his Facebook site to create an amazing debate between lots of people about their feelings on this. One day suddenly this debate was wiped out, his site existed no more, interestingly on a day that Facebook started to advertise the mobile applications under debate.

Many of the artists researched saw the potentials of full bodied telematic space being very important now to allowing a wider representational say in the debates of today's world. To set up and use fully the strong emergent dynamic of a porous network of highly active clusters of interaction is essential to the ways of being in the 21st century, so to make this a full bodied physical interface is only one step further and could make a key differences in the world. Speedier data transfer is allowing more and more people to use video as well as text and voice, from home web cams to office environments, yet this is not often approached through the use of the full body.

»For me, telematic performance via the Internet works best in times when there is a real urgency to get together. When real issues are at stake. Such as when a border has been closed, when other forms of communication have broken down and a situation demands a reaction of solidarity – a commitment to take part and take care of others taking part.« (Amanda Steggell)

»I am sure radical shifts in communicating will alter the way we perceive, experience and express ourselves. We may transcend the organs that we have historically used to deal with the world (which determine our methods of experiencing and therefore our consciousness) and become ›post human‹. Our ›settings‹ (visual, auditory, etc) are all we know now and our hardware only allows one setting (which we call normal). Technology, by stretching the capabilities of our organs to achieve new settings has the potential to deliver amazing and radical change.« (Shobana Jeyasingh)

»We need to find ways to share more. And share in different ways and at different levels: share technologies, resources, ideas, feelings (...) all these are equally important (...) looking continuously for the state-of-the-art without appropriate thinking, dialogue, and human consideration will not lead anywhere other than the destruction of the planet and other human beings and animals.« (Sophia Lycouris)

»The idea of a mass way for human consciousness exchange is a byproduct of techno positivist fictions of the universalism of language. Embodied communication occurs on the opposite extreme of the universal or the standard, i.e. in the absolute specificity of the here and now of this body and its specific context, that is, in a framework of absolute difference, as opposed to the absolute standard assumed by any idea of global consciousness.« (Jaime del Val)

»I foresee a future where artists will be inclined to ask themselves more and more how to develop a specific writing for the Internet space. How do I use this media, which prolongs my own body? How do I integrate that technology for a theatrical composition? What artistic project can I invent for genuine intercultural exchange?

How can you see this taking place and for what means? It is going to take a lot of time because art in general, contemporary art in particular, art using digital technology, and even more so contemporary artistic body expression using such technology has, unfortunately, still a lot to do to be properly considered, appreciated and supported. In the real world!« (Jean Marc Matos)

»Creating a collective memory bank to pass on to other generations (...).« (Gretchen Schiller)

»We believe that all artistic research leads to human consciousness exchange!« (kondition pluriel)

In 2006 body>data>space, through an architectural tender, designed (although not yet built) Digi-Meeting Stations – two mobile pods structure for 200 people each. They are living, breathing local-to-local interconnectors enabling physical users to generate, organise and jointly distribute their thoughts, creativity and ideas.

»Creating a physical and digital social network the Digi-Meeting Stations sanction an intercultural and inclusive dialogue extending well beyond itself, bridging geography and time to connect local communities across the

globe and animate them through this convivial debate arena. This people congregator enhances the voices and the imaginations of the communities it visits, to be heard, seen and responded to, whilst its feedback into the final decisions is a fluid and continuous loop. As a social network structure it interconnects micro-content, empowering end users to move data across networks. It is a people aggravator allowing the users to reach, receive and respond to the sounds and visions, views and opinions, creations and ideas of others worldwide.«[7]

In Digi-Meeting Stations the translocal connectivity is the key. It connects those with issues of a similar nature enabling a full-bodied engagement building trust through knowledge exchange.

»IF (and this is a formidable ›if‹) and WHEN there is imminent potential in telematic experience, in the creative interplay and intimacy of translocal interaction, it is generated by an affective topological shape shifting of the body's proprioceptive sense of the networked space it temporarily inhabits. This ›virtual‹ space can be hyper real, emerging as a shared relation between participating players, experienced as embodied, not disembodied.« (Sher Doruff)

AI and Machine Connectivity

Others are fascinated by the developments in the world of artificial intelligence and would like to see extended usage of telematics for human development alongside robotics and intelligent machines, research that they see as informing our understanding of consciousness, cognition, and the human person. As computers develop the potential to become more and more like us will there be some point in the near future where we will have to speak of computers as intelligent, conscious and personal?

»I am choosing instead [of performative telematics] to focus on creating an artificial, autonomous partner, to make the device itself the other in relationship. Certainly a touch-phone could be interesting to use, but from a creative perspective it is much more engaging and problematic to try to build something with its own impulses and gestures. This example reveals a quandary of technology. Do we have relationships through it, or with it?

Meanwhile, in universities, and R&D Labs, computer scientists continue to develop increasingly sophisticated machine learning techniques. These machines adapt to changing environments, to the unknown, and they employ all the resources of computation in so doing. They reveal something of how people function. And in developing their own autonomy,

7 body>data>space and Vector Special Projects submitted this proposal to the London International Festival of Theatre New Parliament competition. This design for LIFT responded to an urgent C21st call for the integration of citizen input into how our world proceeds into its future in a positive way. body>data>space created a mobile meeting place, which simply emerges out of into 2 x 20ft containers. It becomes a living, breathing local-to-local interconnector enables physical users to generate, organize and jointly distribute their thoughts, creativity and ideas through digital means (This is a quote from the tender pack). For images see http://www.bodydataspace.net and at the bottom of this newsletter: http://www.bodydataspace.net/newsletter/260706/bds_summer_newsletter_260706.html

they challenge our own, or at least our prioritization of our own.« (Nick Stedman)

»Much of my own work these days is in the realm of medical intervention, trauma and images created during the process of addressing illness and injury. In this milieu, people bleed, soil themselves, cry in pain, pray to god, beg for mercy. The pain is real, the intimacy excruciating and the smell of fear often evident. This is the world I crave, where we are brought closer by our suffering, more intimate in our joy. In this world of medicine, surgeons make use of robotic machines to cut into the flesh of humans.

The technology, while enabling a kind of surgery that is remarkably efficient, is metaphorically distant; the surgeon operates prosthetically, physically outside of the body, the relationship with the patient mediated by a technological interface. How different is that experience from the general practitioner who places his hands on your body and palpates your chest, or the Chinese acupuncturist who feels your two pulses at the wrist, then inserts needles in your body? These worlds exist simultaneously in much the same way that the utopian rhetoric of telematics co-exists with the realities of our corporeal lives.« (Doug Rosenberg)

Extended Worlds

Many of us have an extended vision of the virtual /physical mix for the future.

»I am interested in developing technologies that emphasise the specificity, multiplicity and contingency of embodied communication, as opposed to the fiction of a universal consciousness, which in the end I see as a crucial instrument of control in the context of bio politics in late capitalism. Such telematics would avoid any notion of universality and globality, and would attempt to articulate a space in which the irreducible aspects of embodied communication can expand in every direction, beyond the Cartesian grid of simulations, of contemporary accounts of the virtual in digital culture.

This would be a space for emergence of bodies, realities, affects, intensities, in which there would be no ›tele‹ for there would be no simulation, no division of »physical« and ›virtual‹ entities. There would be just presence, unfolded in dimensions of affect unknown at present.« (Jaime del Val)

»I do not see telematics as an ›embrace‹, rather, my experience tells me it is more of an emerging landscape – something that has ›live‹ and changing elements and if the project is going well, then those ›live‹ elements have potential to reach outward and extend into space to create a visual, conceptual and imaginary landscape.« (Lisa Naugle)

»›World‹ in the telepresence system only exists in one's imagination, and emerges by using interfaces, keyboard, mouse, eye, finger, body, space. Even our day-to-day understanding of the ›World‹ was captured with our physical body across the very long experiences of zero years old until your age today. One clear limitation we all have is our body. The body has physical limitation. Even the button should be big enough to suit the size of the human finger. This is crucial. Also our imagination and creativity emerged and were trained by our body and the physics of this planet.

The only exception can be found in the area of signs and symbols, a world constructed with abstracts. Abstraction is an important aspect of communication. If we could not do an abstraction, we could not talk, discuss, and exchange ideas.

A word, ›Apple‹ is pointing out an apple, if there is not a word ›Apple‹ we have to send a real apple. Perhaps, in a telepresence world, we can send a real apple. It means we do not have to have words. ›This‹, ›That‹, ›It‹ have very special function and are very important for communication with the others.

Telepresence should not have to mimic our concrete world, like Second Life. The challenge is to create another type of communication, shared spaces. The current problem is ›For what?‹ It cannot be just for the technical challenge.« (Masaki Fujihata)

Figure 6: Digi-Meeting Station, concept and design by body>data>space 2006.

How can we see this taking place and for what means? The merge between telematics, virtual worlds and gaming environments is the area of exploration at present and this offers some very exciting potentials. Yet what is the emerging psychology for each of us individually of our avatar creation, activity and presence in virtual worlds or in telematic environments?

3D multi-user landscapes allow us to navigate our representative avatars in spaces that are constructed by us, within communities that are created by us, through choices made by us. We the users are the creators. This all adds to public confidence in self-curation, and their ease with multiple selves. Talking about her early works in 1995 Amanda Steggell outlines the way she dealt with her identity in the virtual world whilst working within CU-SeeMe[8].

8 In computing, software that enables videoconferencing across the Internet. Developed by US computer scientist Richard Cogger. Early experiments with CU-SeeMe included broadcasts by the North American Space Agency (NASA) of live and prerecorded video footage of shuttle missions, New Year parties held at cyber cafés around the world, and live hook-ups between schools, http://encyclopedia.farlex.com/CU-SeeMe.

»I needed to create a persona who was a bit more brazen and bold than my offline self, using my background in dance and flare [?] for drama to do so. After spending much time online I became a medium for my persona. I would rarely appear online as my regular self. To dress up for each occasion with costume and make-up was a ritualistic preparation, or transition. I felt a strong sense of presence with those I met, and gradually, as my persona came to herself, a sense of new-found power.« (Amanda Steggell)

Choreographer Yacov Sharir has an extended history of working in live performance with virtual avatars reactive to his movements within the performance space itself. He has explored this through wearable devices used on his performers allowing them to generate cyber human counterparts in real time. These are projected around the performers, creating an environment of mutual co-existence.

»Following many years of this shared performance space, experience, and practice with several computerised cyber human characters, I have continually been experiencing/noticing the presence of a shared energy field in performance much similar to the energy shared between two physical human bodies as they interact in traditional dance partnering work, and as practiced in dance contact improvisation principles. Like in Contact Improvisation, the success of such physical, virtual and spiritual interaction ›necessitates mutual support and trust‹ (Joe Edelman), which is to say that there are many levels by which we are interacting over and beyond the range of our ability, experience, inhibition and electronic connection.« (Yacov Sharir)

This work with wearable devices attached to the dancers' bodies has been tested by several performance groups across the last decade and are, in my mind, precursor blue sky research projects towards what looks like a potential convergence of several virtual methodologies – a mixed realities approach being gradually merged into the mainstream.

At body>data>space we are working on several projects that advance mixed reality experiences using our joint experiences of interactive installations for public participation and intelligent architecture. We regard physical gaming as a key area for the future, attracting much attention at present as one solution to the passive interaction of the child stuck in front of a computer screen activating super fit virtual avatars whilst getting fat and unfit themselves.

Dr Alasdair Thin from the School of Life Sciences at Heriot-Watt University, Edinburgh researched how much physical exertion was involved in performing video games which

»involve the gamer controlling the game by waving their arms, kicking, or nodding their head in front of a movement detection camera, instead of using a joy pad. He measured the heart rate and oxygen consumption of young adults whilst performing 3 ten-minute aerobic bouts and 2 three-minute maximal exertion bouts.«

Dr Thin concludes:

»Further research is still needed into the long-term appeal of the game for players and the impact on exercise intensity as a player's skill increases. However, as excessive video game playing is so often blamed for increased childhood obesity, our research reveals some very positive results for body-movement controlled gaming.«[9]

Body>data>space are at mid stage development of Tele-Pods, a smaller zone or environment for 1-3 people to connect between distant spaces. This is a place for the integration of telematics, gaming, interactive sensors and virtual worlds. Enabled by the evolution of small wearable spatial tracking systems and the gaming sectors amazement of the high take up of the Nintendo Wii and Sony Eye Toy. The body>data>space Tele-Pod adds in full body representation and relativity through gestural communication. We could envision 500 worldwide interconnected and allowing people connectivity in the way that *Hole-in-Space* allowed a glimpse of in 1980.

Teleporting Avatars

Mass interest has taken place in the last year around the development of the *Second Life* Internet-based virtual world, which has 8.9 million registered accounts. Launched in 2003, developed by Linden it »enables its users, called ›Residents‹, to interact with each other through motional avatars, providing an advanced level of a social network service combined with general aspects of a metaverse. Residents can explore, meet other Residents, socialise, participate in individual and group activities, create and trade items (virtual property) and services from one another.«[10]

This is a user-defined world where the characters created by people »teleport« from location to location to meet each other and interact. Dance is a large part of this world with many objects to touch enabling your avatar to dance in multiple ways. My first few hours in *Second Life* where exhausting. I hit a dance-enabling object, had a wild time, but did not know how to stop dancing! I emerged feeling I had been clubbing for hours. The physical effect on my real body of the virtual dance of my avatar body stunned me. Choreographer Cosmin Manulescu had a similar experience when he first entered.

»I felt very strange looking to my body flying over virtual spaces. Later somebody taught me how my body can also ›dance‹ with other virtual bodies. I started to experience different types of dance such as salsa, tango, hip-hop (...) I was dancing and looking at my own body moving at the same time. I had very different sensations from dancing on real stage and in real life. But still it is a powerful sensation. It was real because I knew somebody else was there together with me, we were chatting, exchanging words about the experience. It was unreal because I was just alone in front of my computer.« (Cosmin Manulescu)

9 Coverage and press release on the growth of physical gaming and virtual exercise http://www.exercisebiology.hw.ac.uk/Thin_files/virtualExercise/AThin_VirtualExercise_July-2007_press-release.pdf; http://findarticles.com/p/articles/mi_qn4158/is_20070717/ai_n19369944

10 http://en.wikipedia.org/wiki/Second_Life

Second Life offers us a chance to start to examine the effect of hyper reality and reality transfer on us as individuals. You make a new you, the avatar creation being highly individualised, you can sample and appropriate, encapsulating any identity you may wish to present yourself as. In a sense you are travelling through personal space, re-trying out yourself in new ways, making a fresh start. You are safe in your virtual form and yet your feelings can be hurt when someone is not »nice« to you within these worlds. Trust is not implicit, there are as many developing rules and ways of being as in real life.

Are you entering your dreams? Does it alter your perceptions? Are you trying to make up for the loss of potentials in your real life? Are you reflecting on yourself within these worlds, discovering and enacting ways of your being that you did not know before, or that you were unable to try out before in the restricted behavioural modes of real life?
Powerful architectures buried in our subconscious come to the fore in worlds like *Second Life* and worldwide a series of artists are now making projects in this virtual environment.

As part of *CYNETart_07encounters* Professor Richard Beacham and Michael Takeo Magruder of Kings Visualisation Lab will present a mixed reality intervention that will simultaneously occur in the physical space of the Great Hall at Hellerau, and in the virtual Great Hall constructed in *Second Life*. This is a coming together of real time meeting place and virtual event space.[11]

Paul Sermon, famous for his early work with participatory telematics (*Telematic Dreaming*,1992), has also engaged with *Second Life* to create an online The SYLGRUT Centre for contemporary media art and critical theory. He offers a fully furnished artists-in-residency studio on the waterfront, 800m2 of gallery space and a Skylab, 7 kilometres above the SLYGRUT Centre as research space. All the works on show are developed at the center for the *Second Life* audience.[12]

Media Façades

The other area of potential future usage for telematics and for mixed reality environments is that of creative participation in the public realm through the use of new interactive media façades. Urban screens and new architectural builds with interactive claddings are a key topic of current debate and the potentials for use for live streaming are huge. Architects have been adding sensors and system controls into buildings to deal with solar glare, daylight lighting and cooling systems for a number of years, aiming at environmental responsivity to help deal with the needs and comfort of the occupants as well as the global need of green builds. These have started, in the last few years, to be used to affect the outward look of the build too. The Dexia Tower in Brussels[13] is one clear example where the public can, through a large on street console, shift the patterns and colours of the façade as if it was a computer screen.

11 To visit the virtual Festspielhaus Hellerau search Theatron in *Second Life* to get the landmark and then teleport to it and look around, inside and outside. See Michael Takeo Magruder, »Isolation to Population, Microcosm to Environment«, pp. 100–114.

12 To visit the SLYGRUT Centre in *Second Life* teleport to *Second Life* location: Capel (30, 4, 21), http://www.paulsermon.org/sylgrut/

13 The Dexia Tower in Brussels is created by Lab(au) and has commissioned works by audio-visual artists http://www.lab-au.com/v1/dexia/2006/touch/home.php.

Several public realm projects have used self-generated information from the people using the neighbourhood such as motion reactive or bio reactive data, enabling dynamic flows of human information into the urban landscapes. For telematics however, we need screens to be full body height and at floor level. body>data>space are working on several public realm projects to look at the insertion of inexpensive demountable structures cum screens enabling many to many connectivity through open networked environments. The aim is social inclusion through creative use by the community.

At present this world is dominated by lighting designers and architects who supply clients with LED cladding showing, in addition to usage by advertisers, multiple dot graphic patterns. This is already feeling a little like the »musak« of the shopping centres, bland, mediocre and very similar all over the world.

With our work with body>data>space we hope to shift this into a more reflective environment by taking real time telematics into neighbourhoods and by integrating it, along with other virtualities, into building façades. We had coverage of our concepts around architecture and telematics in the architecture weekly *Building Design* in November 2006.

»Telematics also takes us close to the visionary Archigram notions of moving, talking, identity-shifting architecture. Buildings haven't yet learned to walk, but the arrival of broadband Internet connections and building-integrated LED allows them to receive and respond to data, and express themselves in color and sound.« (Knutt 2006) »You plug a roof into a laptop, press a button and your building has become a chameleon«, says Armand Terruli.[14]

Conclusion

Telematics today shows clear positive potentials for onwards usage in a number of ways

- as a tool for intercultural understanding, knowledge exchange and trust building
- as a creative environment for public use through public realm interventions e.g. for physical gaming, allowing a free flow of body movement no longer restricted by wires
- as a distance bridger that enables less use of flights, therefore a cleaner eco-footprint
- as a positive shift towards active (rather than passive) interaction, opposing the bad health issues
- as a positive interaction with cameras, in opposition to the questionable use of surveillance cameras

14 The article includes pictures of *Digi-Meeting Station* http://www.bdonline.co.uk/story.asp?storyType=80&sectioncode=453&storyCode=3076661 and a review on the article by Ruairi Glynn in »Interactive Architecture dot Org« including images of Waterfall, the telematic skyscraper project by body>data>space: http://www.interactivearchitecture.org/bodydataspace-ghislaine-boddington-and-armand-terruli.html, plus a web video for Channel 4 Design and Motion series of the body>data>space directors talking about telematics: http://www.channel4.com/4homes/advertorial/designandmotion

– as an instant real-time connectivity in our fullest form allowing us the right, as humans, to receive and transmit data representing ones full body (and that of others with agreed permission)

By accepting the inherent dynamic networking made possible by the World Wide Web as part of the creation and debate processes of today, we can enable the development of natural, intuitive, emergent patterns of social, creative interconnectedness to become full bodied. We can facilitate the acknowledgement of dispersed authorship and of the user as a creative being. We can aid reciprocity through interactivity. We as artists must ensure creativity is enabled in these environments.

Hyper existence is here. In a fully connected multi-nodal merged space of real and virtual, where the flow of change between that of real life and the virtual is dissolving, our intuitive need to be connected and to respond to connectivity evolves naturally into tele-intuition.

And yet what happens when your avatar can make its own avatar (...) or when one has a real space encounter with ones own avatars? Religious communities advocate this as the ultimate experience and advise us all to »prepare to meet thy maker«. This is serious play indeed.

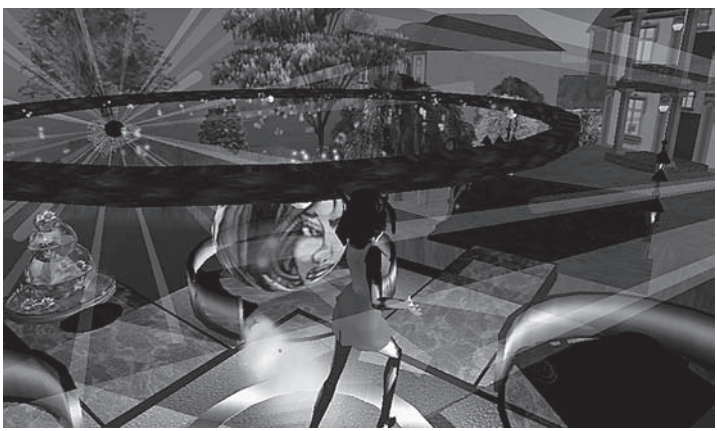


Figure 7: Ghislaine Boddington as Ghislaine Vella dancing at Angel Haven in Second Life 2007.

Bibliography

Ascott, Roy (2003), *Telematic Embrace: Visionary Theories of Art, Technology and Consciousness*, edited and with an essay by Edward A. Shanken, Berkeley.

Hughes, Ian (2007) »Augmented Mixed Reality – Real to virtual and back again«, http://terranova.blogs.com/terra_nova/2007/08/augmented-mixed.html; http://eightbar.co.uk/2007/07/08/wimbledon-2007-second-life-build-movie

Huh, Jung A. (2005), »Media and Art and Shamanistic Ritual: Nam June Paik and his successors«, abstract for the conference »Shaping Consciousness New Media, Spirituality and Identity«, Dallas 2005, http://www.nouspace.net/dene/shapingconsciousness.html

Knutt, Elaine (2006), »›Moving‹ buildings become a reality«, *Building Design* (November 2006).

Turkle, Sherry (1995), *Life on Screen: identity in the age of the internet*, New York.

Participating Artist-Researchers:

Leanne Bird
Artist / Team producer – body>data>space
London, UK, http://www.bodydataspace.net/

Isabelle Choinière
Artistic/General Director – Le Corps Indice
Québéc, Canada, http://www.corpsindice.com/

Scott deLahunta
Co-director Writing Research Associates, NL
Research Fellow Amsterdam School for the Arts/ Lectoraat
Berlin, Germany, http://www.sdela.dds.nl/

Steve Dixon
Professor – Head of School of Arts – Brunel University
London, UK, http://www.brunel.ac.uk/about/acad/sa

Sher Doruff
Researcher – Amsterdam School of the Arts
Amsterdam, Netherlands, http://spresearch.waag.org/

Barry Edwards
Artistic Director – OptikPerformance
London, UK, http://www.optik.tv/

Masaki Fujihata
Professor -The Graduate School of Film and New Media
Tokyo National University of Fine Arts and Music
Tokyo, Japan, http://www.fujihata.jp/

Martin Kusch and Marie Claude Poulin
kondition pluriel
Québéc, Canada/Berlin, Germany, http://www.konditionpluriel.org/
Shobana Jeyasingh
Artistic Director – Shobana Jeyasingh and Company
Research Associate – ResCen, Middlesex University
London, UK, http://www.shobanajeyasingh.co.uk/

Cosmin Manulescu
Choreographer/Arts Manager
Bucharest, Romania, http://www.dans.ro/

Jean-Marc Matos and Anne Matos
Artistic Directors – K. Danse
Toulouse, France, http://www.k-danse.net/

Lisa Naugle
Choreographer, Dance improviser, Interactive media performer,
Professor of Dance – University of California
Irvine, California USA, http://www.dance.arts.uci.edu/lnaugle

Klaus Nicolai
Founder of
Trans-Media-Akademie Hellerau
Dresden, Germany, http://www.t-m-a.de

Doug Rosenberg
Video Artist, Associate Professor of Art, University of Wisconsin
Director/Curator, Dancing For the Camera, American Dance Festival
Madison, USA, http://www.dvpg.net/, http://www.farmwork.org/

Gretchen Schiller
Artist, Choreographer and Lecturer
Brunel University
London, UK, http://www.mo-vi-da.org/
http://www.brunel.ac.uk/about/acad/sa

Paul Sermon
Professor of Creative Technology
The University of Salford Research Centre for Art & Design
Salford, UK, http://www.paulsermon.org/

Yacov Sharir
Choreographer/Professor Theatre and Dance
University of Texas at Austin
Austin Texas, US, http://www.finearts.utexas.edu/tad
http://www.sbdanceworks.org/company.html

Hellen Sky
Digital Choreographer/Performer
Director/Writer
Melbourne, Australia
Previous work at , http://www.companyinspace.com/

Nicholas Stedman
Artist
Toronto, Canada, http://nickstedman.banff.org/

Amanda Steggell
Artist – motherboard
Oslo, Norway, http://www.liveart.org/
http://www.notam02.no/motherboard/

Michelle Teran
ArtistBerlin, Germany, http://www.ubermatic.org/misha/Kirk Woolford
Lecturer in Digital Fine Arts
Lancaster Institute for the Contemporary Arts, Lancaster University
Lancaster, UK, http://www.bhaptic.net/

Jaime del Val
Artist, Writer, Activist
Madrid, Spain, http://www.reverso.org/

Figure 8: Digi-ID Telematic workshop directed by Ghislaine Boddington for Akademi, London July 2002.