

Collective Collaborations through Telematics

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Today **communication connectivity for work and social use** between humans is enhanced through speedy data flow, enabling live video transmission between people at a distance, even from within one's own home.

The opportunity to transmit as well as receive video data has been taken up en masse in social networking through the use of webcams and chat room-style video feeds. Video conferencing for business, live satellite uplinks for TV/entertainment industry, mobile phone live feeds and the evolution of real time meet ups in virtual worlds see many millions worldwide in instant connection. The use of online two way video streams for educational, professional development and medicinal purposes is extending by the day. Consequently the use of hybrid virtual / physical events are emerging in many sectors to supplement or even replace the physical gathering or conference event.

Telematics – a full bodied, online, gestural interface, extends our physical world, utilising the virtual to connect the local to the local, enabling a diverse range of opportunities. It can be used:

- as a tool for intercultural understanding, knowledge exchange, skills bartering and trust building
 - as a shared creative environment for community/public use through public realm interventions and crowdsourcing
 - as an excellent way to build quality debate and common understandings, through pre-event and post-event knowledge transfer
 - to evolve expression of self and others in co-creation processes

- to re-examine identity and 'live' presence, expanding the senses and tele-intuition
 - as a positive shift towards active (rather than passive) interaction, in opposition to the health/computer cautions i.e. for physical gaming, allowing a free flow of body movement no longer restricted by wires
 - as a positive, user led interaction with cameras (in opposition to the questioned ethics of surveillance cameras)
 - as 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)
 - as a distance bridge, dissolving boundaries, enabling less use of flights and a cleaner eco-footprint
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1969

'21ST July 1969: Man takes first steps on the Moon - American Neil Armstrong has become the first man to walk on the Moon. The astronaut stepped onto the Moon's surface, in the Sea of Tranquility, at 0256 GMT, nearly 20 minutes after first opening the hatch on the Eagle landing craft. As he put his left foot down first Armstrong declared: "That's one small step for man, one giant leap for mankind." The historic moments were captured on television cameras installed on the Eagle and turned on by Armstrong. He was joined by colleague Edwin "Buzz" Aldrin at 0315 GMT and the two collected data and performed various exercises - including jumping across the landscape - before planting the Stars and Stripes flag at 0341 GMT' Extract from BBC Online - On this Day series

My sister and I must have watched this first moon landing a hundred times on television, my father insistent every repeat, calling up the stairs or down the garden, that we viewed it again and again, that we must not miss or ever forget this historical moment! It was a very special event. I was six, open minded, wide eyed and fascinated by the fact we could see this 'really now' all the way from the moon, and amazed by the fact that so many people all around the world were watching it at the same time. We felt we belonged to the wider human race and this was the first consciousness that I had of an action that affected all beings.

My father (1904-1981) lived through many transformations in the technologies around him in his lifetime. He made me deeply aware of the speed of change and the advantages to the human condition that medicinal, communication, travel and recording technologies were making. He was fascinated by **the shift in understanding of time and distance across the 20th century**.

I was born to this technology-besotted father and to a science fiction obsessed mother, both artistic, both well travelled, both speaking fluent French, both with a global "network" of friends/colleagues. It is clear, looking back, that their joint influences have set my pathways in life. Dr Who was a must every weekend, hot sticky road trips around Europe to stay with our friends 'on the continent' was a summer holiday regular, science museum exhibitions featured as often as possible. Visitors from all over the world came to hang out at our home, artist friends of my mother, backpacker friends of my big sister, the house and garden were filled with multiple languages and diverse cultures all getting on together, communal style.

1985

My first full time job, project co-ordinator at Chisenhale Dance Space in East London, the UK home of new dance and contact improvisation. Here the space was run by a collective, which had international links. One of my first jobs was to make a mailing list including UK, USA, Dutch, Finnish and German names and addresses. There was a buzzy flow of teachers and practitioners between Chisenhale Dance Space and other new dance studios in Amsterdam, Berlin, Helsinki, Alice Springs, New York and Vermont.

Steve Paxton, Lisa Nelson, Juleyn Hamilton, Mary Prestidge, to name just a few of the dance and music improvisers, came and went, joining up for on-the-spot creation evenings - 'contact jams'.

I learnt the essentiality of watching one another closely in real time improvised performance. I acknowledged deep in my being that there had to be a chain link, a constant connection, through my eyes and ears, my feel and my touch, to the other bodies around me. To know when to come in, when to leave the stage, **how to navigate the open space between bodies, when to contact**. The expert improvisers stood out from the messiness with their ability to GIVE space to others. This embodied experience proved hugely significant when, a decade later, I began to explore virtual / physical connected space.

I enjoyed that mailing list, I did not get to visit many of the other places at this time, but the sense of connection was imperative. There was a **local-to-local transference of embodied knowledge** happening through the bodies of those teachers and choreographers as they moved from workshop to performance, bringing with them artists from all over the world.

Here also I made my first Japanese friends, audience members who, having chosen to be in London for one or two years to learn English, always found their way to the edgy stuff in town. Ayako and Chie shifted my understanding of distance - they truly came from so far away, they were so different, the world they shared with me was unique - meals, music, style – it felt like another planet. When they left back to Japan they sobbed, saying they knew for sure they would never see me again. It was 1986 and to be honest few friends or colleagues had visited Japan, but I felt determined to engage further in their world.

I have been in Japan many times now, had numerous Japanese artists involved in our projects and we co-created telematic performances between London and Kyoto in 2001.

1988

I had a year out to travel (my first visit to Japan was part of this trip!) and one opportunity occurred which shifted my head into a far more open space, then and forever. I had the chance to attend Arts Councils of Australia Conference held in Alice Springs, and here I heard two lectures. The first was a top level input on Change Management – a concept in early stages of discussion at the time. The second was an input about the use of venue / company networks in Canada and the (pre-internet thus printed) information they had put together to pass between each other - stage plans, technical lists, company requirements - to help venues and companies to knowledge share prior to touring the large distances across Canada.

The third head shifter was the realisation that ideas, gestures and ways of being move and merge throughout the world in a constant time flow, one affecting another without anyone consciously knowing it. I watched a new dance piece by Australian choreographer Jilba Wallace in the middle of this desert town, using tiny gestures of the hands onto the face, strangely similar and eerily related to a short piece "Baby baby baby" that we had presented a few months before at Chisenhale Dance Space by a young group called the Chomondeleys. My understanding of the Butterfly Effect was born and it has fascinated me ever since

1989

shinkansen - sound and movement research came into being.

"Very early on we took the view that digital technologies needed to be used as a development by and for people, and we did not, in contrast to many live performance specialists, see it as a dehumanising, oppressive anti-presence to be avoided at all costs, and only the preserve of a select

group of techno-wizards. Technical expertise was essential, but it needed to be demystified and shared as openly as possible.

We had a strong sense that these new digital technologies should enable human endeavor and be used to empower us. Enhanced connectivity would facilitate knowledge exchange and therefore deepen understanding between us and those at a distance. Human connectivity must balance technology; so shinkansen set off on a route into the digital world that insisted on the consistent input of human presence into the evolutions of new technologies, based in a concern for the living emotional breathing human body." Extract from the shinkansen Collection essay British Library Archive 2006

Through working with Val Bourne from Dance Umbrella and Bonnie Bird at Laban I attended the platforms and premieres at the European dance festivals. Montpellier, Bagnolet, Valencia were amongst my first trips, meeting wonderful artists and producers. My networking nature came into its own – I felt opened up and challenged by the cultural differences, fascinated by the cultural similarities and I rapidly extended my brand new database. It felt clear to me that independent artists and producers based in the UK needed to find many more ways and means to link up and collaborate closely with our colleagues all over Europe.

1990

We connected to the **Informal European Theatre Meeting (IETM)**. Our first meeting was Lisbon, through the invitation of Gil Mendo, where we were introduced to various colleagues with whom we discovered we had similar concerns about professional development.

"All were concerned with advocating and supporting process. This viewpoint went against the grain of the times and the constant focus on product in most artistic exchange projects involving European artists. Butterfly Effect Network saw the need for artists to have a safe space to play, experiment and exchange without the pressure to produce or present product to an audience. A peer to peer exchange....." Extract from the shinkansen Collection essay British Library Archive 2006

1991

The **Butterfly Effect Network (BEN)** was born at the Geneva IETM meeting with member organisations from Austria, Belgium, Portugal, Slovenia and the UK. shinkansen, Stuc / Klapstuk, Vienna Acts / dieTheater Wein, Plesni Theater Ljubljana and Forum Danca were the key producing groups involved in the network. Other organisations supported artists to join the projects from Wales, Ireland, Romania and France.

Our first discussions were about how to work jointly into creation processes and workshops – distance was our problem. Time and travel cost money, we were all smaller organisations and independent units, how could we afford to be away from home to be able to work for weeks together on new productions? We discussed many ways to try and work at a distance – setting up rehearsal studios with telephone links, rapid mailing of video tapes from studio to studio, faxing 'end of day' notes and plans between studios, creating game playing rules for all to use the same day whether we were. Nowadays this all seems rather silly – but then we were proud of our fax machines and video cameras, and we were still a few years off being able to make our first website.

Unfortunately the "Beam me up Scottie !! " dream of our youth had not emerged from science and to truly exchange and create performances with each another we still had only one choice.....to get on a plane or a train and to meet physically.

1992

The first of five peer to peer group process laboratories took place. Co-produced by the Butterfly Effect Network producers, **European Choreographic Forum** at Dartington

International Summer School, Devon hosted sound and movement artists and producers in a two week, annual summer gathering. We had the good fortune of being at a venue that had numerous dance studios, built in the midst of wonderful nature and, most lucky of all, we had access to the burgeoning performance technology unit linked to the College.

Every summer we returned to a growing stack of new technologies, triggers and sensors, videos, mini-discs, theremins, computerised lighting boards, softwares. We projected into fog and water, set up fake telematics between studios with BNC cabling and video cameras, created connecting Theremins, projected the body onto the body. The ideas emerging were fluid and highly creative, Butterfly Effect Network and its participants advanced rapidly into creating what are now known as body reactive immersion environments. The experiments with navigation and orientation, with the use of the body in projected space were all a lead up to later online processes.

Contrary to the dance world stereotypes of this time, the level of articulation was also excellent - identity and gender issues, mobility of young professionals in the EU and, most importantly, creation processes. It was Butterfly Effect Network that set the impetus for an honest recognition of group ownership, and this network initiated and created the Group Process Brief, which, after small changes until 1996, is still used by many today. The acknowledgement of inter-authorship evolved as a natural response to the creation processes emerging from the inherent influences of the digital technologies.

Group Process Brief – a few key excerpts

- all participants will be creatives
- skills specialisation will be practised within collective working methodologies
- respect of experience + respect of topicality/freshness are given equal weighting
- all will learn and teach equally
- pooling of ideas
- continuous weaving / plaiting of content development, performance and technology
- chains of interaction between participants - deep collaboration



European Choreographic Forums – Dartington International Summer School 1992-96

The resulting connections between artists and producers in the Butterfly Effect Network led to some wonderful playfulness with identity and digital technologies – both the tools and the concepts. Choreographers Bert Van Gorp and Sean Tuan John linked up to make 'Fredericks First Kiss', Wayne McGregor extended his early solo 'Cyborg' for the Dance Umbrella Festival, Alain Platel brought along Koen Augustijnen to investigate joint ideas. Liz Aggiss, Daniel Ashwanden, Mateja Bucar, Francisco Camacho, Mark Jeffery, Iztok Kovac, Vera Mantero, Kaffe Matthews, Silvia Real, Nuno Rebelo, Marie Gabrielle Roti, Athina Vahia and many others excelled at European Choreographic Forum and onwards. Myself and producers Mark Deputter, Simon Kirby, Debbi Lander, Gil Mendo and Christian Pronay attended annually.

Looking back we all **enabled each other to shift territories**. The exchanges and the resulting co-productions made us re-conceive ourselves and realise that we were the mobile professional Europeans we were discussing, that we were able to work with new processes and that traditional theatre methods were altering day by day, alongside these evolving digital technologies we had access to. Our **sense of identity as connected beings** in a global environment grew as a strong trust network developed within

Butterfly Effect. It lasted for six years and a good few of the network members are still regularly in touch and working onwards together, exchanging interns, co-producing projects.

In the last few years through body>data>space we have had a massive renewed interest in the group / inter-authorship process and many professionals from diverse sectors eagerly engage in this co-ownership process having downloaded it from the site.

1994

Butterfly Effect was one of the first artist led networks in Europe. The European dimension and network component of the project enabled EC Kaleidoscope (now Culture 2000) funding to be gained for the annual workshop (1993) and EC DGV Task Force Funding for the network (1994). The network was featured as a European case study in the EC DGV funded ADLE II project on serial employment in the cultural sector.

shinkansen evolved this networked group process into a series of other projects including a sound art gathering called the **Sound Works Exchange**, supported by the Goethe Institut and British Council across five years. We began using telematics between night club rooms in a project called **Club Research**, using VJs, DJs and sound artists. Made up of multiple spaces, club environments were perfect for jigsawing together multiple fragments of live music, dance and video. Each night 60 plus people would gather and make it happen, all interacting and linking as they went along. These nights went international into Essen, Helsinki and Paris.

1995

First website made at European Choreographic Forum 4 by Andrew Ward (shinkansen) – a series of text based pages giving a daily report on the workshop. After this we used e-groups to pre-engage all workshop participants, creating a hybrid process of virtual / physical / virtual connectivity that we have extended and used up into present day. Nowadays some workshop attendees are only online, others only physical, others join in both ways.

1995

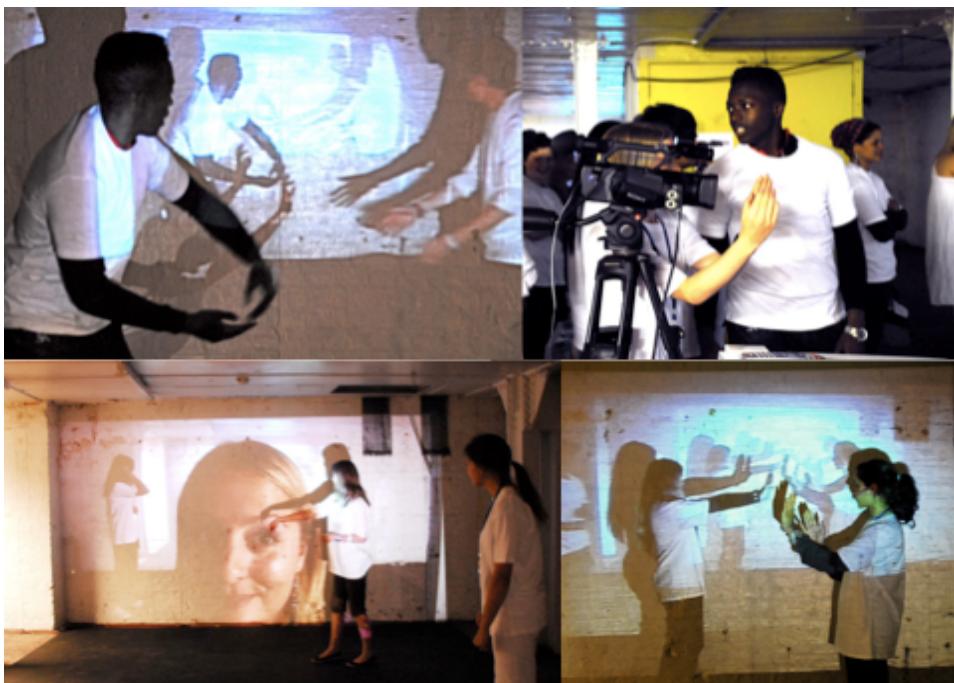
I was invited to give the **final reflection for the IETM Open Forum in Bergen on new technologies, culture and performing arts**. Now a seemingly obvious keynote, then, amongst the European theatre and dance scene, it was the **“fear of the loss of live presence”** that was at the heart of the debate about digital technologies.

A range of colleagues, younger and older, thoroughly and severely rejected everything I said and several senior IETM colleagues ended up having to defend me. One Dutch colleague introduced me to another saying “ Ghislaine here who did the reflection today, she is an excellent dance expert you know, a bit caught up in all this trendy technology stuff at the moment, but she’ll get over it! ” I remember this moment, keenly at the time (I was bewildered, I wanted to shout “NO I WILL NOT GET OVER IT!!!”). I recall it fondly today.

At the same time many colleagues loved the keynote and immediately booked shinkansen to deliver workshops, lectures and residencies. Our next five years was secured with work with forward thinking festival directors. We were invited to run workshops/debates/conferences on dance, new technologies and telematics in Hamburg (Woven Bodies Woven Cultures for ISTF International Summer Theatre Festival), Berlin (korper.technik//body.technology for Theater der Welt), Essen (Cross Fair: Navigating New Constellations for Tanzlandschaft Ruhr), Munich (Sound Works Exchange for the Goethe Institut) and Lisbon(Corpus Online for Clube Portugues de Artes e Ideias and Forum Danca) amongst others.

1996

The last **European Choreographic Forum 5** took place. By now the network had integrated movement artists with specialists in sound, vision, documentation and multi media. Across the five workshops themes had included: live presence, new technology and nature, the virtual pool, live versus virtual, the social potential of the artist, sampling, multi media and interactivity, sense enhancement, cyborgs and cyberspace, memory, morphing, virtual reality, online performance, future viewing and devising methods.



NESTA Ignite Talent Matters workshop with young people and telematics training

shinkansen started a professional development initiative **Connectivity** and the **Connectivity Online Forum** - a physical / virtual network linking diverse ideas, processes, people and products in a particular community. In this case the community was dance and digital artists. In collaboration with the pioneering media lounge, backspace in Clink Street, London Bridge we set up monthly debates with guest speakers on a variety of topics, many involving debate around tele-presence. The online element kept people in touch between the meet ups. The flow between giving and receiving from each source or node on the network generated multiple links for the benefit of each individual in professional development, employment and audience development. This was our first virtual /physical event series.

IETM/Gulliver Satellite Meeting in Sofia. Needs must list emerging from the working group on New Technologies led by Butterfly Effect members included:

- All arts workers must have a commitment to respond to and cultivate change
- Re-thinking and re-engineering of the body in space is essential
- The arts must seek to satisfy the deeper need (user) for interaction, participation and play
- Extending boundaries of creative control beyond the individual
- Redefining meaning of word artist and authorship
- Structural developments that access high tech resources for the arts

1999

I was awarded an **Artist Research Associateship at ResCen** (Centre for Creation Processes in the Performing Arts, Middlesex University) specifically to support my work into inter-authorship and telematics. The first output was to deliver **Virtual Physical Bodies symposium and workshop** in collaboration with Random Dance Company, to exploring the creation of cyber dancers. International artists Thecla Schiphorst and Yacov Sharir presented their work. Topics covered included participants and spectators in new media arts, consciousness, telematics/presence, methodologies of making, co-authorship and multi skilling.

Following this symposium and workshop we had the opportunity to create a range of larger scale projects – workshops, commissions, curations – all involving telematics research in some way. It was ResCen Middlesex University support of this research that enabled, from 1999 to 2005, the funding of 15 projects comprehensively exploring telematics and the inter-authorship process.

I have written about the integration of these processes as part of my research outputs for ResCen. The section on the ResCen web site is called the Weave and shows how the practice of group process in Butterfly Effect Network evolved into the collective collaboration practices at the base of telematics.

Inter-authorship is defined by shinkansen / body>data>space as a collaboration methodology where each individual involved in the process makes a creative contribution as an equal member of a group and shares ownership (in terms of Intellectual property rights and copyright) of the final product with all other creators.

Our growing confidence from our increased experience, and the extensive debates we had been involved in within the networks, led us to understand that the evolution of digital technologies had initiated a series of changes which had fundamentally altered, and would continue to alter, the ways in which art is made and received, as well as radically altering the relationships between the makers and the audience.

2000 - 2001

Two key telematic workshops took place - **Cellbytes00** in Arizona State University and **CellBytes01** at Middlesex University and each has its own website. On the ResCen site we have uploaded all the tiny CellBytes experiments as a video archive of research outputs. The experimental CellBytes emerged, as multi-sourced, multi-sited 1-7 minute pieces of live dual stage performance transmitted real time through the internet. The CellBytes exist on the web beyond the life of the research project, as archival evidence of the live performance, with resonance of human presence in the moving images.

Initial research questions for the CellBytes workshops included:

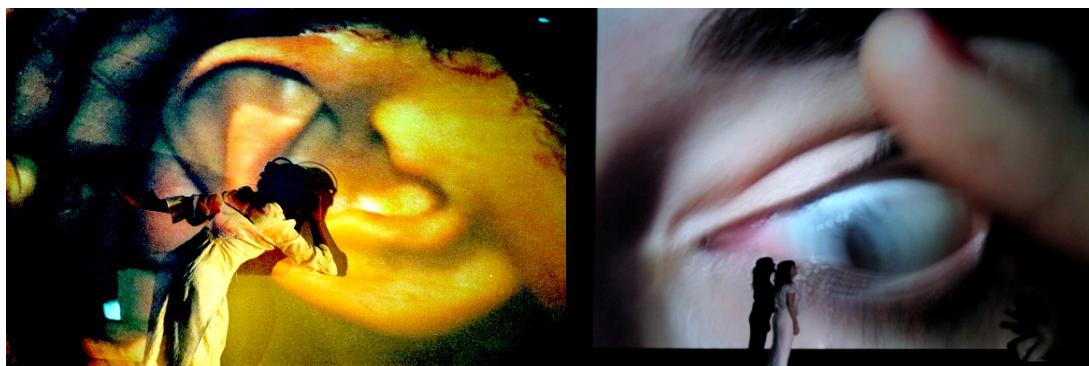
- How do projected forms of the body, that are recreated and transmitted through digital tools, change our relationship with others and ourselves?
- Can embodiment be extended into virtual realms whilst still maintaining a physically centered orientation?
- What connections can be made between the extended bodily sensations virtuality promises, and the body knowledge of the movement researcher?
- Can one inhabit multiple worlds through multiple identities?
- Is there an essence of "presence"?
- What evolutions of touch and intimacy, empathy and trust, are possible with communication through telepresence?

At this time many artists and researchers exploring telematics were talking from the point of view of a **dis-embodied experience** – for us the magic of the connection

bypassing distance, the potentials of virtual touch, the extensions we could see into future worlds of work and play meant we saw it as the opposite - **a hyper-embodied experience**.

2000

Many more artists and organisations were using digital tools as a stage connectors and audience enhancers and we co-created "**Virtual Incarnations**", a series of events as part of the Dance Umbrella Festival, which we co-curation with the Dance Umbrella team and the ICA (2000-2002). This brought some telematic work and body technology performances and installations into the public eye. We held debates with Merce Cunningham on his use of technologies and chance theory, we presented work by Riverbed, Thecla Schiphorst, Frederic Flamand, Company in Space and Kondition Pluriel amongst others.



Digi – ID Akademie/ British Council
- Connecting Flights workshop London 2005

Numero Festival – workshop Lisbon 2006

2002

shinkansen ran **Future Physical** between 2001-04 - a large scale programme of commissions and debates putting the body at the centre of digital interaction. At the launch event of the Future Physical programme we did our first three way live link up performance of dancers and sound artists between the ICA in London, Colchester Arts Centre and Norwich Arts Centre.

Future Physical also used live web casting to engage with its international community and network its debates throughout the UK. 800-1200 people worldwide watched each of the keynote speeches and panels throughout Future Physical, gaining the artist speakers a much wider reach, a virtual as well as a physical reception.

2004

In 2004-06 we archived shinkansen after 15 years of work on sound and movement research. All the extensive documentation from the telematic projects mentioned above is available at the **British Library** on request and details are online in the **shinkansen Collection**.

2005 onwards

body>data>space was formed in 2005 to continue the weave of the human body into the digital domain. It is an interdisciplinary design collective, based in East London, with specialists from performance, architecture, new media and virtual worlds. We work with inter-authorship, connectivity and network creation. We blend the virtual / physical in all our events and debates. Our themed programmes aim at skills exchange and

knowledge transfer between culture, creative industries, education, architecture and the digital sector.



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Post Me_New ID "DARE WE DO IT REALTIME?" Premiere Kinetica Art Fair London Feb 2009 – EU Culture 2007-13 project with CIANT Prague, Kibla Maribor and CynetART/TMA Dresden. "In a topical world of blurred personal and public space and simultaneous local/global habitats lies the intricate place of virtual/physical orientation. The performers mimic chosen identities – morphing between avatar, cyborg, humanoid, robot, using the electronic, the bionic, the digitronic. Hyper-existence is all around them. In the interconnected, multi-nodal space of real and virtual, they need to be sharply connected and speedily responsive to "the others" – tele-intuition is learnt on the move."

Our work has telematics at the core of its being. The pathway is complete as the aims of my younger days are fulfillable. We look to future visions for 2020. It is from this telematic base that our **Virtual Physical Bodies exhibition** in CDA in Paris emerged – installations of **skintouchfeel** content, Tele-pods, Second Life installations and Ideasphere 3D data balls were created by the collective. Our recent EU project **Post Me_New ID** looked at identity and mobility of young Europeans in 2008-09 - ten years on from Butterfly Effect Network the scenario is very different with physical and data transfer a natural part of many young professionals' lives. Our architectural work involves telematic projects into media facades and urban screens, designs for mobile **Digi-Meeting stations** as future connected venues, telematic waterfalls transmitted onto tower blocks.

It is from this that our new programme **Robots and Avatars** is evolving. This project explores how young people will work and play with new representational forms of themselves and others in virtual and physical life in the next 10-15 years. It examines multi-identity evolutions of today's younger generations within the context of a world in which virtual and physical spaces are increasingly blended. This is where the years of action research have taken us.

Our partner NESTA advances the educational viewpoint, we simultaneously explore it within society at large. We focus on telematics, robotics and avatar creation with young

people today aiming to learn from them more about the **skills required for the future workplace**. As always we have many questions to be answered.

- What potential challenges does the education sector face in preparing young people with the right creative skills and attitudes for their future work environments?
- With new representational forms in virtual and physical life – robots and avatars – likely to be a part of everyday working life, what will the working day for future generations entail?
- What is the emerging psychology underlying robot / avatar creation within today's younger generations? What are the implications of this for how they learn?
- How do our robot and avatar creations reflect on ourselves and our identity? What can they teach us about ourselves?

Onwards we go - 3G/4G, GPS, locative medias, mobile technologies, wireless interactivity, holograms, 3D projection systems and expanding virtual worlds all hint at the next forms of representation of oneself and others. Multi-identity is part of today's world, and a mix of vis-à-vis engagement and tele-presence is an ongoing part of the world of work and play. Collective collaborations onwards will involve teams mixing live presence, tele-presence, avatars in virtual worlds and robots, all co-creating together.

So what happens when your avatar makes its own avatar, when your robot has a relationship with your avatar? Those are the next questions.....

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[Robots and Avatars](#)

Ghislaine Boddington (Creative Director, body>data>space) is an artist, researcher and curator specialising in the integration of performance, body responsive technologies and interactive interfaces. An expert in virtual/physical environments she holds in depth knowledge of the way the human user perceives, participates, moves, communicates and behaves within connected space. In 2005, after fifteen years work as Artistic Director of shinkansen / Future Physical, nearly 400 project documentations were invited for acquisition by the British Library creating the shinkansen Collection. Ghislaine now works with body>data>space, a design collective engaged in creating fascinating connections between performance, architecture, new media and virtual worlds. She is known internationally for her long term work on identity politics and intercultural relations, and on her evolution of acknowledged inter-authorship and collaborative creation processes. She holds an Artist Research Associateship at ResCen, Middlesex University, which supports her fascination with tele-kinetics, tele-presence and the evolution of tele-intuitive interfaces.

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