

# **Collaborative Communicative Creative Clothing (CCCC)**

## **– urban thought and performative play**

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**Abstract:** This paper intends to present CC (Costume Choreography) the most recent project developed by DIFFUS DESIGN within the framework of CCCC (Collaborative Communicative Creative Clothing). At DIFFUS, we have been working with the combination of digital media and body, architecture, design objects and landscape. With CCcc the idea is to investigate the relationship between one of our oldest technologies; textiles and one of the newest; sensor technology. Computer technology can be integrated so seamlessly into textile that it is possible to make them interactive to an extent that they can change character. This means that textile patterns can change shape and colour according to modifications in the surrounding environment. We work with wireless communication devices to retrieve data from the surrounding environment as well as from the audience. Those data will through change of colour and texture create a visual impact on the costume. With CC, and through this paper, we try to investigate and understand what consequences, possibilities and limitations new technology based on interactive textiles have for the scenic expression. We use the scenic environment because it is an easier controllable space, but it is thought as a study before trying to implement it in urban space where everyday clothes and architectural or sculptural forms will be bases of information.

### **1) Introduction**

To pursue our research in digital interactions embodied into a physical context, we decided to work with textile as the "substance to achieve embodiment". Textile is a versatile material, allowing applications stretching from those of traditional clothing to applications, which get designed and crafted for satisfying sophisticated needs and performances. Performances ranging from bullet proof surfaces to structural elements for the construction of high-rise buildings. In other words properties usually not expected from textiles.

Because of the complex fabrication technology involved, product-applications have mostly been developed by engineers and little has been done by designers and design based researchers to further explore their properties. Electronic textiles (also called E-textiles) have obvious application potentials as a soft support for information display, but as designers we also have to make new proposals for applications based on experiences and knowledge accumulated through "alternative" design based research.

Our hypotheses is that communication technology combined with specific embodied interactions (in this case E-textiles) have the ability to reinforce and supplement existing social and behavioural structures that allows a deeper resonances between the “immaterial” and the “material”. In this respect, we would argue that they have the ability to stimulate the emergence of new social relationships in which the design of embodied interfaces could perform in supporting new social forms of communication.

Clearly, such tangible interface raises issues like how tangible computing have an impact upon how a group perceives itself and the relation to each other as well as to people outside the group. At the same time, this type of interaction design would make a clear statement concerning the nomadic condition in our post-modern society.

## **2) The Urban nomad**

From the beginning we expected the CCCC project to appeal to a contemporary, global and increasingly mobile society and therefore we focused on a type of nomadic lifestyle, which is voluntary, as it is the case of people travelling for professional purpose or people who have chosen a mobile lifestyle at some moment in their life. This nomadic lifestyle implies a certain socio-economic surplus in order to sustain a suitable degree of choice and freedom. This requires normally dependency upon specific products and technologies like mobile phone, laptop, credit cards and wireless access to the global information system of the Internet. On top of that urban nomadism also requires an emotional and psychological environment in correlation with the underlying lifestyle. This develops a new type of elite who is able to adapt to specific situations and places of elitist character.

What separates elites from non-elites is their relationship to space and time, according to the Polish sociologist Zygmunt Bauman (Bauman 2000) Elites tend to be globally mobile; just like capital itself they are not tied to place. Capital and elites have liquidity in common and both traverse national borders with ease. Elites are equipped with the technologies of mobility and this nomadic lifestyle is supported by industry, entertainment, culture and institutional structures like online services and wireless access to the internet (hotspots) in airports, leading hotel chains, train stations, cafes etc. As a contradiction, non-elites are tied to the local – tied to communities, relatives, work, land, and to the immobility of economic scarcity. The elite, as introduced in Manuel Castells' *The Rise of the Network Society* (Castells 1996), does not operate in places, but in spaces of flows. By this one could say that flows of capital, information, technology, organisational interaction, networks, sounds,

symbols, images etc. are controlled and initiated by people with an ability to adapt and who believe in the spirit of mobility and the power of information. 'Armed' with technology, the globe-spanning nomadic elite is able to enter what Marc Augé describes as the 'non-place' of supermodernity:

*If a place can be defined as relational, historical and concerned with identity, then a space which cannot be defined as relational, or historical, or concerned with identity will be a non-place. The hypothesis advanced here is that supermodernity produces non-places, meaning spaces which are not themselves anthropological places and which, [...], do not integrate the earlier places: instead these are listed, classified, promoted to the status of 'places of memory', and assigned to a circumscribed and specific position. (Augé 1995)*

A similar kind of nomad is the digital one who in a sense, is someone who is *here, there, and everywhere* or really *nowhere*, constantly connecting and de-connecting to the internet and other networks. Being *nowhere* or with Augé *no-place* make the digital nomad easy to reach but difficult to track. This implies limited ability, will or need to comply with rules, social regulations, tax paying and other participations in social conditions. In difference from other nomads, the digital nomad is a rather atomised individual who do not appear in groups, constantly travelling in cyberspace, but also in geographical space – between cities, and people, without investing the whole of their identity in anything, sweeping the stage everywhere they go.

A mixture of the two described kinds of nomads is whom we want to work with. One who has the habit of connecting and de-connecting to networks on the fly, but also one who is adapting to the specified place and situation. Thereby we combine the mobility and adaptability towards the urban with the ability to connect and de-connect to the network. The development of the mobile phone with all the different possibilities, fashion accessories and individual adaptations makes this kind of normadity possible. It is no longer necessary to be 'outside sociality' to connect to the internet. The connection can be made on the fly.

In this respect, our research into reactive textiles will ultimately be motivated by the exploration of the social and collaborative design issues raised by the use of this technology.

### **3) CC the project**

In order to make very specific experiments with the technologic performance of the textiles

we contacted the Danish theatre *Kanonhallen* who is in the making of a theatre production laboratory. This way we can work in an easier controllable space where clothing and electronic circuits can be objects of research. As an extra issue the theatre context gives the possibility to investigate the *participating spectator*.

An important inspiration for our costume choreography is Oscar Schlemmer, who was the leader of the Bauhaus scene in the Weimar-republic, Germany from 1924 till 1929. In his performances he focused on the costume design and made with his "Das Triadishe Ballett" from 1923 almost a ballet for costumes. With playful elegance Schlemmer explored aspects of the art of theatre that until then only had a supporting role. It is this tradition we would like to build upon striving to investigate and understand what consequences, possibilities and limitations new technology have for the scenic expression. With the help of ultra thin optical fibres and luminescent wires, thin luminescent surfaces, textile print with the ability to change colour according to temperature connected to digitally controlled input-circuits, we work with costumes and scenography, which is able to change using digital and wireless communication.

Schlemmer reduced form and motion to geometric shapes and movements, and focused on the repetition and precision of is the mechanics. With CC we focus on the complex flux of energies and data in space generated by the body in motion. We work with a simple narrative with three people sharing a certain amount of energy visible in the costumes. Different situations of giving and taking energy evolve in a form of triangular drama. The costumes pulsate in complex patterns expressing the energy level. A web cam will analyse the proximity, speed and vertical position of the three actors and this becomes a system that the actors has to perform in order to express the narrative. This way the performance acts upon the premises of the costumes rather than the expression of the actors.

#### **4) The Participating Spectator**

As mentioned the theatre context gives us the possibility to investigate the position of the spectator. Spectatorship and observation has almost disappeared from the vocabulary of art, performances and theories where *new media* somehow is related. Instead words as user experience and participation seem to overflow these phenomena. The interaction between artist and audience or between actor and spactator in computer-aided phenomena involves co-evolutionary relationships based around shared control, choice, influence, intervention

and participation. This transformation from viewer to user entails corresponding shifts in authority, ranging from passive spectatorship to performative co-author. Such redistribution of power relations raises the question of how interactive interfaces in computerised spaces are affecting artist-audience relations.

There seems not to be any obvious answers to that question but in my view it is an important issue. Somehow we are just taking for granted that interactivity – as in reciprocate and conscious interaction between artist and audience – is what we want in theatre, in art galleries, in weblogs and journals on the internet. In CC we want to draw attention to the participating spectator, and thereby raise other questions as do we want to participate as a spectator, where are the limits of participation, can we stay private and anonymous as a participating spectator and will we experience an opposite relation between artist and spectator so that it no longer will be the actor offending the spectator but the spectator offending the actor – given the control.

One setup of CC will obviously be about the onstage communication between the costumes and the actor's possibilities to interact with the costumes. Another setup is dealing with the possibility of encouraging interactions from the audience ideally with text-messages from mobile phones, but in the first setup to be shown in January 2007 the audience interaction will be that of placing arms and legs within the range of the recording web cam. This way the idea is that the spectators can displace the narrative elements of the costumes. Yet another setup will involve the spectators in a more active way. With the web cam system working as a motion capture system movements will be registered. If there is no movement the costumes will fade away and die. Movement will make the costumes 'burn out' and die. The spectators will decide how to kill the costumes, and how long it will take. But no matter what they will be the puppet masters - only they will be as bound to the computerised space as a marionette to its strings.

This is where the space becomes sticky and the spectator is brought in control but at the same time out of control because the computer do not have the ability to distinguish between deliberate actions and spasms or between pleasure in control and a desperate aim to escape. A moment of terror occurs which is a moment of unreleased fear – of 'does it happen?'. A fear that is connected to the end of things – to death. The moment of horror, which is a moment of fulfilment - 'it happens!!' do not occur in the setup. Only the end of the play or the spectator leaving the space will fulfil the terror.

This action is connected to the sublime, maybe not in the Kantian way but rather as Jeremy Gilbert-Rolfe suggests in his book 'Beauty and the Contemporary Sublime' as:

*... a contemporary sublime which is technological rather than natural. While driven by electricity rather than hydrogen and oxygen in combination the techno-sublime is sublime in the way that nature used to be: It is ungraspable because of its uncontrollable immensity...*(Gilbert-Rolfe 2000)

The sublime experience is connected to a lack of distance – thereby it becomes impossible to acknowledge the experience. This distance though has a very different relation to the sublime, than that developed by Kant. In the technological sublime as Gilbert-Rolfe is talking about, there is no longer a concern with the reestablishment of "self" in the face of the sublime event. Rather one could argue that there is a collapse of boundaries as "I" dissolve into the collective techno-experience. "I" becomes part of the sublime experience. Or as Barbara Bolt formulates it:

*What if the individual is not a detached observer, but rather is "in it"? I would argue, for example, that in the terrifyingly impressive experience of the rave party, the raver is "in" it, not distanced from it. Through dancing one may lose oneself in the music physically and mentally. In the clubbing experience dancing can be about losing control over one's body. Dancing fuses notions of 'inside' (emotions) and 'outside' (motions) as the internal becomes externalized and the external becomes internalised. (Bolt 2002)*

The sublime is torn between astonishment and fear and we are both being attracted and repulsed by the experience. The pleasure of the sublime involves fear in the face of the infinite; but it also involves a transcendence of fear. It involves terror and a recognition of that which could overwhelm and destroy the self, but also a simultaneous strengthening of the perceiving "I" by testing its strength against that which could obliterate it. In the rave parties described by Bolt and in the computerised space I have described it is the stickiness that becomes the terror. With all the smart systems controlled by computers and observed by cameras and sensors the infinite connectedness becomes so sticky that escape becomes difficult. In this understanding of the sublime the self is no longer an observer safe from immediate danger but becomes face-to-face with the terrifying thing itself. This way one could argue that the nature of the sublime has changed both in terms of its source and also

in terms of the human interaction or experience of it. The primary source of the sublime experience is no longer in nature, but rather in the forced participation and in technology.

This brings us back to the urban nomad who is also involved in this redefinition of the sublime. Specific for our case and to expand the project in a free, public space it would require that participants wearing the costumes are traced via GPS and using RFID tags, technologies already integrated in our everyday life, and thereby the project will enter the technologic everyday rave party.

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## **6) CV**

### **Michel Guglielmi**

Architect, graduated from the Architecture School of Strasbourg, France.

He is teacher at the Academy of Danish Design, institute for Digital interaction Design, where among other he organizes and teaches workshops related to topics like interactive spaces and tangible medias.

Previously, he was an assistant professor at Aalborg University, department of Computer Science and Engineering. At the section "Medialogy", an education for creativity and computer technology, he was responsible for a project classes called "Interactive systems and performance design."

With Hanne-Louise Johannesen, he is Co-founder of the Online magazine "**Diffus-magasin**" ([www.diffusmagasin.dk](http://www.diffusmagasin.dk)), a magazine about Digital art, design, technology and aesthetics and Co-founder of "**Diffus**" ([www.diffus.dk](http://www.diffus.dk)), a Design company allying experiments, events and workshops with a theoretical and experimental approach. Diffus is currently working with embodied medias and interactive textiles applied to choreographic settings as well as interactive textiles applied to commercial products and interior space.

**Hanne-Louise Johannesen:**

Mag. Art. in Art History and assistant professor in Visual Culture at Department of Cultural Studies and the Arts at University of Copenhagen. She is currently teaching in digital visibility in general, besides her research in space body relations connected to theories on the cyborg, identity, space and architecture. She is also a co-founder and director of the project group [diffus.dk](http://diffus.dk), which has the online magazine [diffusmagasin.dk](http://diffusmagasin.dk) connected to it. Besides that she has written several articles, arranged workshops at and in collaboration with the Danish School of Design and curated contemporary art exhibitions. The mixture of theory and practise is a goal for her in teaching, workshops and participation in different projects.

In 2008 the department of Art History is going to host the PSi # 14 conference (Performance Studies international) and Hanne-Louise Johannesen is one of the organisers taking care of webpages and organising events (panels, workshops and performances) addressing issues of urbanity and technology.