LEONARDO® THE INTERNATIONAL SOCIETY FOR THE ARTS. SCIENCES AND TECHNOLOGY





VOL 18 NO 3 VOLUME EDITORS LANFRANCO ACETI, JANIS JEFFERIES, IRINI PAPADIMITRIOU / EDITORS JONATHAN MUNRO AND ÖZDEN ŞAHİN *Touch and Go* is published in collaboration with Watermans and Goldsmiths College in occasion of the Watermans' International Festival of Digital Art, 2012, which coincides with the Olympics and Paralympics in London. The issue explores the impact of technology in art as well as the meaning, possibilities and issues around human interaction and engagement. *Touch and Go* investigates interactivity and participation, as well as light art and new media approaches to the public space as tools that foster engagement and shared forms of participation.

LEONARDO ELECTRONIC ALMANAC

TOUCH AND GO









Copyright 2012 ISAST Leonardo Electronic Almanac Volume 18 Issue 3 August 2012 ISSN 1071-4391 ISBN 978-1-906897-18-5 The ISBN is provided by Goldsmiths, University of London.

LEA PUBLISHING & SUBSCRIPTION INFORMATION

Editor in Chief

Lanfranco Aceti lanfranco.aceti@leoalmanac.org

Co-Editor Özden Şahin ozden.sahin@leoalmanac.org

Managing Editor

John Francescutti john.francescutti@leoalmanac.org

Art Director

Deniz Cem Önduygu deniz.onduygu@leoalmanac.org

Editorial Board

Peter J. Bentley, Ezequiel Di Paolo, Ernest Edmonds, Felice Frankel, Gabriella Giannachi, Gary Hall, Craig Harris, Sibel Irzık, Marina Jirotka, Beau Lotto, Roger Malina, Terrence Masson, Jon McCormack, Mark Nash, Sally Jane Norman, Christiane Paul, Simon Penny, Jane Prophet, Jeffrey Shaw, William Uricchio

Contributing Editors

Nina Czegledy, Susan Collins, Leonardo Da Vinci, Anna Dumitriu, Vince Dziekan, Darko Fritz, Marco Gillies, Davin Heckman, Saoirse Higgins, Jeremy Hight, Denisa Kera, Frieder Nake, Vinoba Vinayagamoorthy

Cover Image

Scenocosme

Editorial Address

Leonardo Electronic Almanac Sabanci University, Orhanli – Tuzla, 34956 Istanbul, Turkey

Email

info@leoalmanac.org

Web

- » www.leoalmanac.org
- » www.twitter.com/LEA_twitts
- » www.flickr.com/photos/lea_gallery
- » www.facebook.com/pages/Leonardo-Electronic-Almanac/209156896252

Copyright © 2012

Leonardo, the International Society for the Arts, Sciences and Technology

Leonardo Electronic Almanac is published by: Leonardo/ISAST 211 Sutter Street, suite 501 San Francisco, CA 94108

USA

Leonardo Electronic Almanac (LEA) is a project of Leonardo/ The International Society for the Arts, Sciences and Technology. For more information about Leonardo/ISAST's publications and programs, see http://www.leonardo.info or contact isast@leonardo.info.

Leonardo Electronic Almanac is produced by Passero Productions.

Reposting of this journal is prohibited without permission of Leonardo/ISAST, except for the posting of news and events listings which have been independently received.

The individual articles included in the issue are © 2012 ISAST.

LEONARDO ELECTRONIC ALMANAC, VOLUME 18 ISSUE 3 TOUCH and GO

VOLUME EDITORS

LANFRANCO ACETI, JANIS JEFFERIES, IRINI PAPADIMITRIOU

EDITORS JONATHAN MUNRO, ÖZDEN ŞAHİN

Watermans International Festival of Digital Art, 2012

Touch and Go is a title that I chose together with Irini Papadimitriou for this LEA special issue. On my part with this title I wanted to stress several aspects that characterize that branch of contemporary art in love with interaction, be it delivered by allowing the audience to touch the art object or by becoming part of a complex electronic sensory experience in which the artwork may somehow respond and touch back in return.

With the above statement, I wanted to deliberately avoid the terminology 'interactive art' in order to not fall in the trap of characterizing art that has an element of interaction as principally defined by the word interactive; as if this were the only way to describe contemporary art that elicits interactions and responses between the artist, the audience and the art objects.

I remember when I was at Central Saint Martins writing a paper on the sub-distinctions within contemporary media arts and tracing the debates that distinguished between electronic art, robotic art, new media art, digital art, computer art, computer based art, internet art, web art... At some point of that analysis and argument I realized that the common thread that characterized all of these sub-genres of aesthetic representations was the word art and it did not matter (at least not that much in my opinion) if the manifestation was material or immaterial, conceptual or physical, electronic or painterly, analogue or digital.

I increasingly felt that this rejection of the technical component would be necessary in order for the electronic-robotic-new-media-digital-computer-basedinternet art object to re-gain entry within the field of fine art. Mine was a reaction to an hyper-fragmented and indeed extensive and in-depth taxonomy that seemed to have as its main effect that of pushing these experimental and innovative art forms – through the emphasis of their technological characterization – away from the fine arts and into a ghetto of isolation and self-reference. Steve Dietz's question – *Why Have There Been No Great Net Artists?* 1 – remains unanswered, but I believe that there are changes that are happening – albeit slowly – that will see the sensorial and technical elements become important parts of the aesthetic aspects of the art object as much as the brush technique of Vincent Willem van Gogh or the sculptural fluidity of Henry Moore.

Hence the substitution in the title of this special issue of the word interactivity with the word touch, with the desire of looking at the artwork as something that can be touched in material and immaterial ways, interfered with, interacted with and 'touched and reprocessed' with the help of media tools but that can also 'touch' us back in return, both individually and collectively. I also wanted to stress the fast interrelation between the art object and the consumer in a commodified relationship that is based on immediate engagement and fast disengagement, touch and go. But a fast food approach is perhaps incorrect if we consider as part of the interactivity equation the viewers' mediated processes of consumption and memorization of both the image and the public experience.

Nevertheless, the problems and issues that interactivity and its multiple definitions and interpretations in the 20th and 21st century raise cannot be overlooked, as much as cannot be dismissed the complex set of emotive and digital interactions that can be set in motion by artworks that reach and engage large groups of people within the public space. These interactions generate public shows in which the space of the city becomes the background to an experiential event that is characterized by impermanence and memorization. It is a process in which thousands of people engage, capture data, memorize and at times memorialize the event and re-process, mash-up, re-disseminate and re-contextualize the images within multiple media contexts.

The possibility of capturing, viewing and understanding the entire mass of data produced by these aesthetic sensory experiences becomes an impossible task due to easy access to an unprecedented amount of media and an unprecedented multiplication of data, as Lev Manovich argues.

In *Digital Baroque: New Media Art and Cinematic Folds* Timothy Murray writes that "the retrospective nature of repetition and digital coding—how initial images, forms, and narratives are refigured through their contemplative re-citation and re-presentation—consistently inscribes the new media in the memory and memorization of its antecedents, cinema and video."

The difference between memorization and memorialization may be one of the further aspects in which the interaction evolves – beyond the artwork but still linked to it. The memory of the event with its happening and performative elements, its traces and records both official and unofficial, the re-processing and mash-ups; all of these elements become part of and contribute to a collective narrative and pattern of engagement and interaction.

These are issues and problems that the artists and writers of this LEA special issue have analyzed from a variety of perspectives and backgrounds, offering to the reader the opportunity of a glimpse into the complexity of today's art interactions within the contemporary social and cultural media landscapes.

Touch and Go is one of those issues that are truly born from a collaborative effort and in which all editors have contributed and worked hard in order to deliver a documentation of contemporary art research, thought and aesthetic able to stand on the international scene.

For this reason I wish to thank Prof. Janis Jefferies and Irini Papadimitriou together with Jonathan Munro and Özden Şahin for their efforts. The design is by Deniz Cem Önduygu who as LEA's Art Director continues to deliver brilliantly designed issues.

Lanfranco Aceti Editor in Chief, Leonardo Electro, C Almanac Director, Kasa Gallery

1. "Nevertheless, there is this constant apparently inherent need to try and categorize and classify. In Beyond Interface, an exhibition I organized in 1998, I 'datamined' ten categories: net.art, storytelling, socio-cultural, biographical, tools, performance, analog-hybrid, interactive art, interfacers + artificers. David Ross, in his lecture here at the CAD-RE Laboratory for New Media, suggested 21 characteristics of net art. Stephen Wilson, a pioneering practitioner, has a virtual - albeit well-ordered - jungle of categories. Rhizome has developed a list of dozens of keyword categories for its ArtBase. Lev Manovich, in his Computing Culture: Defining New Media Genres symposium focused on the categories of database, interface, spatialization, and navigation. To my mind, there is no question that such categorization is useful, especially in a distributed system like the Internet. But, in truth, to paraphrase Barnett Newman, "ornithology is for the birds what categorization is for the artist." Perhaps especially at a time of rapid change and explosive growth of the underlying infrastructure and toolsets, it is critical that description follow practice and not vice versa." Steve Dietz, Why Have There Been No Great Net Artists? Web Walker Daily 28, April 4, 2000, http://bit.ly/QjEWIY (accessed July 1, 2012).

- This link to a Google+ conversation is an example of this argument on massive data and multiple media engagements across diverse platforms: http://bit.ly/pGgDsS (accessed July 1, 2012).
- Timothy Murray, Digital Baroque: New Media Art and Cinematic Folds (Minneapolis: University of Minnesota Press, 2008), 138.

Touch and Go: The Magic Touch Of Contemporary Art

It is with some excitement that I write this preface to Watermans International Festival of Digital Art, 2012. It has been a monumental achievement by the curator Irini Papadimitriou to pull together 6 groundbreaking installations exploring interactivity, viewer participation, collaboration and the use or importance of new and emerging technologies in Media and Digital Art.

From an initial call in December 2010 over 500 submissions arrived in our inboxes in March 2011. It was rather an overwhelming and daunting task to review, look and encounter a diverse range of submissions that were additionally asked to reflect on the London 2012 Olympic and Paralympic Games. Submissions came from all over the world, from Africa and Korea. Austria and Australia, China and the UK, Latvia and Canada and ranged from the spectacularly complicated to the imaginatively humorous. Of course each selector, me, onedotzero, London's leading digital media innovation organization, the curatorial team at Athens Video Art Festival and Irini herself, had particular favorites and attachments but the final grouping I believe does reflect a sense of the challenges and opportunities that such an open competition offers. It is though a significant move on behalf of the curator that each work is given the Watermans space for 6 weeks which enables people to take part in the cultural activities surrounding each installation, fulfilling, promoting and incorporating the Cultural Olympiad themes and values 'inspiration, participation and creativity.

Some, like Gail Pearce's *Going with the Flow* was made because rowing at the 2012 Olympics will be held near Egham and it was an opportunity to respond and create an installation offering the public a more interactive way of rowing, while remaining on dry land, not only watching but also participating and having an effect on the images by their actions. On the other hand, Michele Barker and Anna Munster's collaborative Hocus Pocus will be a 3-screen interactive artwork that uses illusionistic and performative aspects of magical tricks to explore human perception, senses and movement. As they have suggested, "Magic – like interactivity - relies on shifting the perceptual relations between vision and movement, focusing and diverting attention at key moments. Participants will become aware of this relation as their perception catches up with the audiovisual illusion(s)" (artists statement, February 2011). Ugochukwu-Smooth Nzewi and Emeka Ogboh are artists who also work collaboratively and working under name of One-Room Shack. **UNITY** is built like a navigable labyrinth to reflect the idea of unity in diversity that the Games signify. In an increasingly globalized world they are interested in the ways in which the discourse of globalization opens up and closes off discursive space whereas Suguru Goto is a musician who creates real spaces that are both metaphysical and spiritual. Cymatics is a kinetic sculpture and sound installation. Wave patterns are created on liquid as a result of sound vibrations generated by visitors. Another sound work is Phoebe Hui's Granular Graph, a sound

Audiences are invited to become a living pendulum. The apparatus itself can create geometric images to represent harmonies and intervals in musical scales. Finally, Joseph Farbrook's **Strata-caster** explores the topography of power, prestige, and position through an art installation, which exists in the virtual world of Second Life, a place populated by over 50,000 people at any given moment.

Goldsmiths, as the leading academic partner, has been working closely with Watermans in developing a series of seminars and events to coincide with the 2012 Festival. I am the artistic director of Goldsmiths Digital Studios (GDS), which is dedicated to multi-disciplinary research and practice across arts, technologies and cultural studies. GDs engages in a number of research projects and provides its own postgraduate teaching through the PhD in Arts and Computational Technology, the MFA in Computational Studio Arts and the MA in Computational Art. Irini is also an alumni of the MFA in *Curating* (Goldsmiths, University of London) and it has been an exceptional pleasure working with her generating ideas and platforms that can form an artistic legacy long after the Games and the Festival have ended. The catalogue and detailed blogging/ documentation and social networking will be one of our responsibilities but another of mine is to is to ensure that the next generation of practitioners test the conventions of the white cube gallery, reconsider and revaluate artistic productions, their information structure and significance; engage in the museum sector whilst at the same time challenging the spaces for the reception of 'public' art. In addition those who wish to increase an audience's interaction and enjoyment of their work have a firm grounding in artistic practice and computing skills.

Consequently, I am particularly excited that the 2012 Festival Watermans will introduce a mentoring scheme for students interested in participatory interactive digital / new media work. The mentoring scheme involves video interviews with the 6 selected artists and their work, briefly introduced earlier in this preface, and discussions initiated by the student. As so often debated in our seminars at Goldsmiths and elsewhere, what are the expectations of the audience, the viewer, the spectator, and the engager? How do exhibitions and festival celebrations revisit the traditional roles of performer/artist and audiences? Can they facilitate collaborative approaches to creativity? How do sound works get curated in exhibitions that include interactive objects, physical performances and screens? What are the issues around technical support? How are the ways of working online and off, including collaboration and social networking, affecting physical forms of display and publishing?

As I write this in Wollongong during the wettest New South Wales summer for 50 years, I want to end with a quote used by the Australia, Sydney based conjurers Michele Barker and Anna Munster

Illusions occur when the physical reality does not match the perception.

The world is upside down in so many alarming ways but perhaps 2012 at Watermans will offer some momentary ideas of unity in diversity that the Games signify and **UNITY** proposes. Such anticipation and such promise!

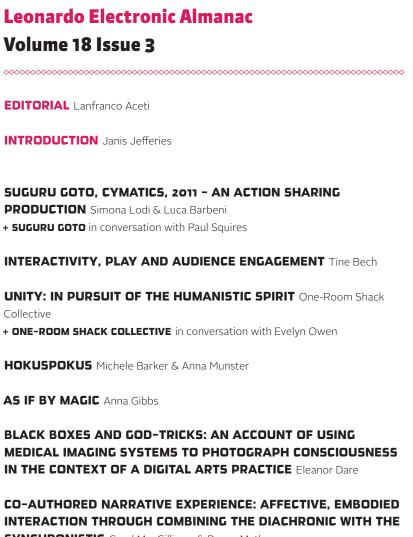
Janis Jefferies

Professor of Visual Arts Goldsmiths University of London, UK

23rd Dec 2011, University of Wollongong, NSW, Australia

instrument about musical gesture and its notation.

Stephen L. Malnik and Susana Martinez-Conde, Sleights of Mind: What the Neuroscience of Magic Reveals about our Everyday Deceptions (New York: Henry Holt and Company, 2010), 8.





6

44 UNITY: IN PURSUIT OF THE HUMANISTIC SPIRIT One-Room Shack Collective

+ **ONE-ROOM SHACK COLLECTIVE** in conversation with Evelyn Owen



- AS IF BY MAGIC Anna Gibbs
- 60
- **BLACK BOXES AND GOD-TRICKS: AN ACCOUNT OF USING** MEDICAL IMAGING SYSTEMS TO PHOTOGRAPH CONSCIOUSNESS



CO-AUTHORED NARRATIVE EXPERIENCE: AFFECTIVE, EMBODIED INTERACTION THROUGH COMBINING THE DIACHRONIC WITH THE SYNCHRONISTIC Carol MacGillivray & Bruno Mathez

- 84 **UNTITLED** Phoebe Hui + PHOEBE HUI in conversation with Jonathan Munro
- **8 GOING WITH THE FLOW GAIL PEARCE** in conversation with Jonathan Munro



THE SWEET SPOT Graeme Crowley in collaboration with The Mustard and Blood Orchestra

108 STRATA-CASTER: AN EXPLORATION INTO THE TOPOGRAPHY OF POWER, PRESTIGE, AND POSITION Joseph Farbrook + **JOSEPH FARBROOK** in conversation with Emilie Giles



WHERE IS LOURENÇO MARQUES?: A MOSAIC OF VOICES IN A 3D VIRTUAL WORLD Rui Filipe Antunes



GEOMETRY

FÉLICIE D'ESTIENNE D'ORVES in conversation with Claire Le Gouellec

- 130
 - THE EMPOWERING POTENTIAL OF RE-STAGING Birgitta Cappelen & Anders-Petter Andersson



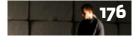
SCENOCOSME: BODY AND CLOUDS Grégory Lasserre & Anaïs met den Ancxt



154 LIGHT, DATA, AND PUBLIC PARTICIPATION Dave Colangelo & Patricio Davila



INCARNATED SOUND IN MUSIC FOR FLESH II: DEFINING GESTURE IN BIOLOGICALLY INFORMED MUSICAL PERFORMANCE Marco Donnarumma



THE STORY OF PARCIVAL: DESIGNING INTERACTION FOR AN **INTERDISCIPLINARY DANCE PERFORMANCE** Gesa Friederichs-Büttner & Benjamin Walther-Franks



INTERACTION'S ROLE AS CATALYST OF SYNTHESIZED **INTELLIGENCE IN ART** Judson Wright



IN SEARCH OF A DIGITAL MASTERPIECE (OR TWO): STANZA Maria Chatzichristodoulou [aka Maria X]



TELEMATIC TOUCH AND GO Ellen Pearlman, Newman Lau & Kenny Lozowski

224 HAPTIC UNCONSCIOUS: A PREHISTORY OF AFFECTIVITY IN **MOHOLY-NAGY'S PEDAGOGY AT THE NEW BAUHAUS**

Charissa N. Terranova



THE GESTALT OF STREET TEAM: GUERRILLA TACTICS, GIFS, AND THE MUSEUM Charissa N. Terranova

240 BIOGRAPHIES



THE STORY OF **PARCIVAL**

Designing Interaction For An Interdisciplinary Dance Performance

A B S T R A C T

This article investigates the interdisciplinary practice of our performance Parcival XX-XI. It discusses the challenges and opportunities of designing audience participation and interaction in order to merge digital media, dance, and dramaturgy into one unique gesamtkunstwerk.

by

Gesa Friederichs-Büttner & Benjamin Walther-Franks

Researcher and Media Artists in the Research Group Digital Media University of Bremen / TZI http://dm.tzi.de/en/ friges@tzi.de (Gesa) and bwf@tzi.de (Benjamin)

HOLD ON TO THE GRAIL: ON A QUEST FOR UTOPIA

Parcival XX-XI is a collaborative production by the German dance Company urbanReflects and the University of Bremen. We aim toward the creation of a piece in which contemporary dance, digital images, interactive technology, audience participation, conceptual dramaturgy, and a minimal stage design setting of twelve Styrofoam cuboids are equally essential.

Referring to Hans-Thies Lehmann, who described the difference between conventional theatre and the new practices as a "de-hierarchisation / parataxis of means of theatre," 1 we understand digital media, such as the performer's body, voice/sound, stage design, light, etc., as one unique agent for designing *Parcival XX-XI*. Brenda Laurel noted likewise that the computer should not be seen as a tool but a form of theatre. 2

Figure 1. Dancers on a wall of Styrofoam cuboids and liveprojections during one of the showings of *Parcival XX-XI*, 2011. © urbanReflects. Photographer: Werner Gurlt.

Therefore digital media carries out a double role in our performance. On the one hand it is incorporated dramaturgically and aesthetically as e.g. live video sequences, and on the other hand it is used as a 'tool' to allow interaction between different theatrical means. In the latter case, Nintendo Wiimote controllers are used as an audience participation device. The rationale for this approach is described in detail in previous work. With the help of this tool, we break out of the very strict theatrical outlines, design participatory moments, and invite passive spectators to merge into active performers to collaborate in the play. We therefore point out that there is a difference between an active audience and a passive one, as also discussed in related research. Figure 2. Impressions from one of the showings of *Parcival* XX-XI. © urbanReflects. Photographer: Werner Gurlt.

The dramaturgic motif of our performance is roughly based on the myth of the Holy Grail: We are looking for a better world and illustrate how in the course of human history, homo sapiens buried different promises of salvation, such as communism with its postulate of equality on earth or fascism with its conception of a world supremacy of the super race. The new capitalism is also decoded as a 'wrong grail.' Furthermore, we create our own utopias and include the visitors' actual visions for a more human world order.

The performance is built as a non-linear collage of atmospheric tableaus and structured into three acts. The first act visualizes the breakdown of capitalism, the second act is a retrospective on totalitarian systems, and the third act envisions our very personal



Figure 3. Video projections, dance and Styrofoam cuboids in Parcival XX-XI, 2011. © urbanReflects. Photographer: Werner Gurlt.

utopias. In between the first and the second, and the second and the third act, the audience is invited to participate with the help of Nintendo Wiimote controllers. During these interactive experiences, the audience witnesses the limits and rules of the system in a very basic way. The required technical knowledge of how to use these tools is communicated before each showing during a pre-performance in the lobby of the theatre.

Foreplay

In order to make sure that the audience knows how to use the Nintendo Wiimote controllers during the show, we designed a pre-performance, which takes place about half an hour before the actual play starts. This event involves a 'Wii fairy,' a dancer on a diagonal wall, projections of clothing items, and the audience. Every five minutes a jingle 'time for intervention!' prompts the audience to pick up a controller. The Wii fairy demonstrates two simple gestures with different effects. For the pre-performance, a flinging gesture introduces a new virtual clothing item to the diagonal wall. The dancer 'gets dressed' by moving her body to fit the projection. The second pull gesture removes all items formerly applied. These two gestures reappear in the main performance, but with different outcomes. The same jingle also announces the two participatory scenarios in the actual play, and the Wii fairy invites, motivates, and accompanies the audience, and helps in case of technical doubts.

Celebrating the Breakdown of Capitalism

During the first act, improvised dance and pre-recorded video sequences merge into a mobile backdrop on stage. To catch the visuals, no canvases or screens are used but instead twelve Styrofoam cuboids $(1,5 \times 1,0)$ × 0,5 m). Because the dancers move the cuboids in all ways, the video sequences break apart and don't always form a complete image. This effect is additionally supported by the fact that we project the visuals from two different angles. One visitor was under the misapprehension that "the two projectors apparently could do three dimensional images" (interview 6, m).

Someone Always Stays Naked

The first participatory scenario is designed to be an unsolvable problem: four members of the audience are invited to step onto the stage, to their opposite stand four dancers, almost naked. Each member of the audience receives a controller and is asked to use the two gestures learned in the pre-performance. These two gestures dress or undress the dancer as-

signed who is in projected clothes of light: one gesture of the audience 'steals' someone else's clothing, the other gesture 'holds' the dancers clothes. In this way, we enable them to dress one avatar by undressing another one. But we provide only three items of digital clothes and therefore one avatar always remains naked. There is thus no true solution and individual ideas for solving the problem of too few clothing items are

Four members of the audience are invited to step on the stage, to their opposite stand four dancers, almost naked.

> required, such as giving away your own (real) jacket to cover a naked dancer. We here additionally work with text overlays, such as '3, 2, 1, go!' and 'steal,' or 'hold.' Figure 4 visualizes the setting of this scenario.

Figure 4. Audience Participation in Parcival XX-XI, 2011.



Retrospective on Totalitarian Systems

During the second act, we invoke impressions of failed political systems. One example is a soldier scene in which we relate to Fascism and the genocide of World War II. In interplay with the camera, the six dancers create a frightening image of multiple copies of themselves via live video capturing of the real setting on stage and additional time-shifts of the recorded material.

Revolution

In this second participatory scenario, three members of the audience are invited onto the stage. Each of them is in charge of controlling one avatar. All avatars fight against dancers. The two gestures allow the participants to either attack or defend the dancer or to self-defend from others' attacks. Although the four participants control their virtual avatar, the general role they have to take is pre-determined by the play. It is not the participants' choice on which side they fight. Again, additional text overlays, such as 'attack' or 'defend,' support the interaction.

YouTopia

The third act shows the individual utopian scenarios of the dancers, which range from relatively concrete images like a house, built with the Styrofoam cuboids, to fully abstract movements of others. Every performer can additionally flood the scene in various colors or abstract forms, by using the game controllers. Figure 6 shows how the dancers integrate their controller's gestures into their choreography.

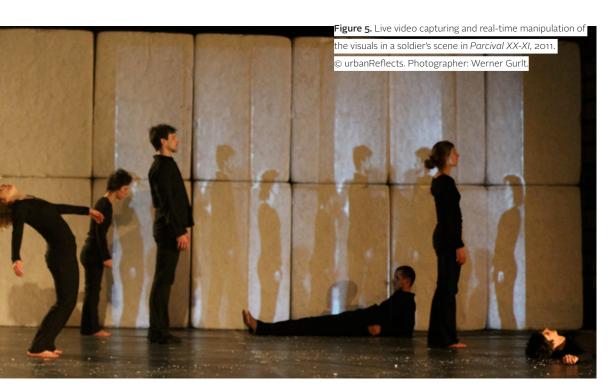


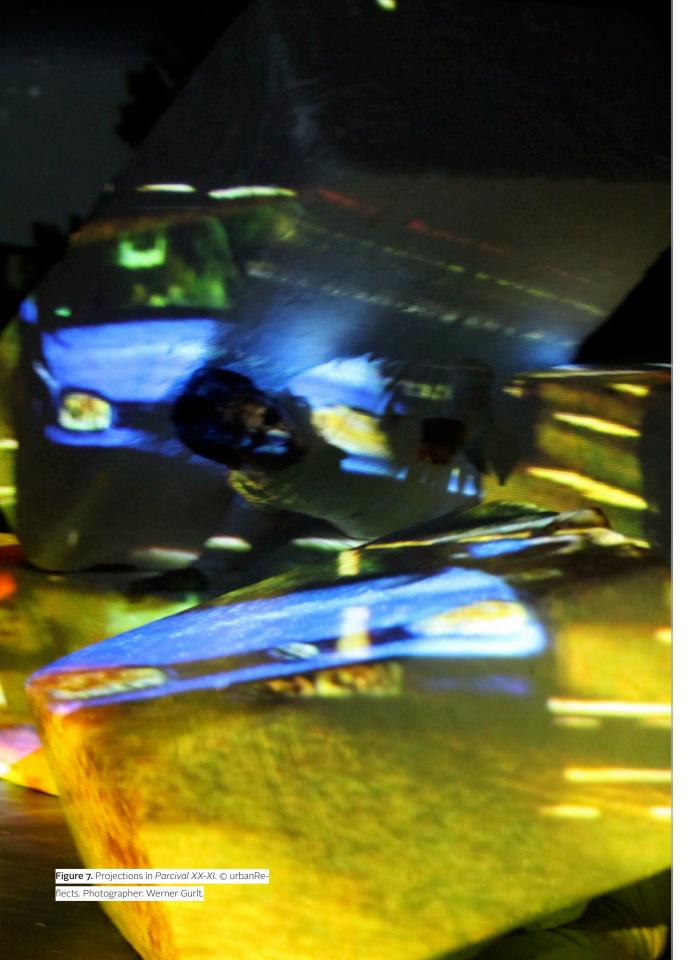


Figure 6. Dancers interact via Nintendo Wiimote controllers with the digital visuals in *Parcival XX-XI*, 2011. © urbanReflects. Photographer: Werner Gurlt.

QUESTION TIME

In order to evaluate the first experiment of *Parcival XX-XI*, we relied upon live observations and performed 30 qualitative interviews with the audience. We additionally organized two further opportunities to gain feedback from the audience. The first was an artist discussion after the performances, where the audience had the possibility to ask questions. For the secon we arranged an event called 'Künstlerbier' (German for 'artist's beer'), during which all involved players sat on parts of our mobile stage setting and the audience could go, sit and talk with any artist individually. These events enabled us to constantly evaluate the reception of the digital media elements, the participation, and the interaction design.

Although the overall goal of the interviews was to find out how the digital media elements in the play were received and whether the choice of the game controllers for the participative moments were appropriate, we started all interviews with one very general question: Which aspects caught your eye? This was to not only avoid biasing the interviewee but also to not miss fundamental input that we had not anticipated. In this way we gained interesting feedback and comments. Afterwards, we presented the results that focused on the audience's experiences with digital media and participation and which arose from the following two questions: 1) how did you perceive the use of digital media? and 2) how would you rate the use of Nintendo Wiimote controllers?



Styrofoam Cuboids Rule the Stage!

All people that we talked to were positively surprised by the use of the Styrofoam cuboids. The comments ranged from "the projections work very well with the white blocks" (interview 3), " (...) the Styrofoam cubes. To use them as projection surface and at the same time for constructional systems, things, that fall apart, to stand on it, surfing. This is very elegant and I have not seen that before" (interview 13), to "(...) the stage layout in combination with the (...) cuboids, from time to time created perspectives that were better visible from one side than from the other. That resulted in an insidious smile because one could see more than the other spectators or a jealous look, what the other could possibly see right now" (interview 25). The Styrofoam cuboids are thus one efficient and multifunctional method to merge digital media, dance, and dramaturgic means. Once the stage design with the cuboids was even described as "genial" (interview 17). The combination of video projections and the cuboids was received as "an aesthetic upgrade" (interview 9) and the meeting of dance and the cuboids as enhancing: "I found that due to the objects the dancers got even more options to deal with their bodies, with each other, (...) it was an interesting visual experience" (interview 14). In collaboration with the dancers, the cuboids created "a changeable setting" (interview 19) that can be used for various dramaturgic dodges. Summing up, the cuboids were appreciated by everyone - visually. From an aural perspective, feedback was more diverse. The descriptions regarding the sounds of moving cuboids reach from "a great background sound" (interview 6), "penetrating" (interview 16), "the sound reached the pain barrier" (interview 23), to "the noise set my teeth on edge" (interview 9).

Cold Atmosphere

The first three performances were shown in an old industrial place during the very cold winter 2010/2011 in the north of Germany. The heater could not really warm up the place and the audience was seated with additional blankets. We were surprised by the crowd's tolerance, who didn't complain about it too much. Some people referred to the cold during the interviews. One person described, "I was dedicated to the piece all the time, even though it was cold" (interview 14). Another interviewee placed the fact of freezing into the narrative motif of the play: "It was very cold. (...) But the play did not necessarily suffer from it. (...), it radiated coldness, too. (...) These corresponded relatively well. I mean, the cold that was shown on stage, thus the interpersonal cold, it was boosted by the actual cold in the room. That was such a catalysing effect. (...)" (interview 13).

ARTICLE

Projections Offline

During the first act, pre-recorded video projections that show slightly distorted images of skyscrapers, cars, shopping malls, and advertisements created a visualization of the here and now, or as one interviewee puts it: "(...) I understood it as criticism of the industrialisation and the materialization of the world" (interview 24). The projections were perceived as "beautiful" (interview 14), "exciting" (interview 28) and "enormous" (interview 24). The fragmentation of the images, however, sometimes resulted in comments, such as: an "exaggerated" usage of media in the beginning was not easy to "decode" and that it is "difficult when things fall apart in fragments" (interview 26). This interviewee generally was not comfortable with the non-linear design of the play and stated that "the whole play was very fragmentary and to create your own image out of it, is exhausting." Occasional clear images, such as that of cars (figure 7), only lasted for a couple of seconds on the pile of Styrofoam cuboids before it disassembled again. The visual moments in this scenario were in constant flux.

Grabbing It Live

The imagery that was directly captured from the existing setting through live video feeds was generally appreciated. In this way, live moments from the actual show were visually multiplied and temporally shifted (cf. soldiers' scene). With video recording and playback, the actors could interact with a representation of their past self. One interviewee described the soldier scene as "very impressive" because the war-re-

Figure 8. Sculpture of video projections and Styrofoam cuboids in *Parcival XX-XI*, 2011. © urbanReflects. Photographer: Werner Gurlt. lated motif of the scene was communicated, "without showing direct violence" (interview 29). Another person generally expressed that she liked "the projections of the dancers, the real dance actions (...) as if there were more dancers, like a mirror and one could see them over and over again" (interview 14).

Participation is Fun?

The invitation to actively participate in the creation of the piece in between the three acts resulted in manifold reactions, such as fun, fear, frustration, and *schadenfreude*. In previous research, we outlined these aspects in detail. ² We will give a short overview of the discussion here.

Comments like "I used to look away when [the Wii fairy] came around to find participants. And it worked out. I did not need to do it. She respected it" (interview 11) and "I am very happy that I did not need to act" (interview 5) highlight the fact that it is definitely not desirable for everyone to be asked to step on stage. We could also observe that some people were afraid to do something wrong, as this person explains, "I would probably have pressed the wrong button" (interview 5). Another interviewee described that being on stage and interacting with the figures was "fun." But he was not sure if he "did it right" (interview 6). From time to time, the effect of the audience's action was not clearly understood, which led to frustration, "it is very difficult to immediately understand the effect of my action in the spur-of-the-moment by moving the controller (...) and the understanding should be immediate, because this is what makes it interactive (interview 3)." In such cases, the participants could not create additional meaning for themselves and the play, and they lost the connection to the narration and the purpose of the scene.

We furthermore gathered many comments concerned with the Nintendo Wiimote controller as a tool. Some described that the controller in itself helped to understand the dramaturgic motif of the play, such as "(...) my circle of friends (...) probably would have said 'again, a Wii-project,' but for amateurs, it is a gamecontroller, first of all. If you want to highlight this fact, then it is good to use it (...). In this way, the theatregoer becomes a consumer. He or she consumes as he or she interacts. And to look at the controller helps to understand your role in the play" (interview 2). However, others suggested hiding the technology in a requisite that might fit: "I believe that a Wiimote controller is not the right tool. If you connected it to some sort of laser-gun, everyone would have known how to deal with it – without the need to explain it. Everyone knows how to use a gun from watching TV" (interview 11).

Watching Participation

One interviewee compared her individual experiences during the two participatory scenarios in the performance. While she actively participated on stage during the one scene, she followed the other scene from the distance. She concluded that it is easier from the perspective of a spectator to understand the effect of the participants' actions: "When I only watched the interaction of the others, I could better follow the complete image. It was much more thrilling than performing and giving impulses myself. I would not have expected it but after the event, I can say it" (interview 14).

Comments like "during this one scene, it felt like I was at a tennis match. You looked at the audience or at the projections (...). One could never follow (...)" (interview 12) or "it is very boring to watch people (...), doing the same action over and over again" (interview 15) show that the participatory scenarios were not always appreciated by the spectators. If they cannot see what is happening on stage or understand how the participant's action on stage is related to the rest of the piece it becomes easy to frustrate the more 'passive' part of the audience.

One rather surprising result is that some people felt *schadenfreude* because an active participant would not be comfortable on stage: "I really liked it to look at the people (...), pulled out of the audience role's ease and comfort" (interview 2).

Causing a Disruption

During the 30 interviews, many visitors described that they experienced the two participatory scenarios not as part of the performance but as disruption in form of "a break-entertainment" (interview 12). According to the audience, participation did not seem serious, more like "physical education" (interview 15). One person even stated that participation occurred as "being degraded to a robot" (interview 14). Why the participatory moments in Parcival XX-XI were received as a disruption was explained in detail in this writing. Here we shortly summarize the results.

An Otherwise Text-less Performance

It was remarked that the jingle 'time for intervention!' and the textual elements set the participatory scenarios aesthetically apart from the rest of the performance: "(...) all of a sudden there is text and the jingle. It is confusing. It appears to be more separated from the rest of the performance that was planned, right?" (interview 12) According to the audience, the use of language created an emphasis that did not find its analogy on the content side.

Wrong Rhythm

The participatory scenarios were judged negatively as not fitting into the rhythm of the performance. Looking at it from a choreographic point of view, the first participatory scenario is scheduled at an inappropriate moment, since it follows a long scene without music and projections, focusing on the materiality of the Styrofoam cuboids. At this point, the audience expected something very dynamic and energetic to follow. Instead, the jingle as an introduction for the first participatory scenario intensifies the stagnation to a break: "These participatory moments are interesting, too, but not as smoothly integrated into the rest of the performance as they could be" (interview 3).

Exploring Technology

The two gestures are sometimes described as too simple, not opening any kind of freedom of action, like in this passage: "I was disappointed about the fact that only two gestures would cause any action" (interview 25). Interestingly, nobody reflected upon the fact that we wanted to produce exactly this feeling of restricted action in a set system to further encourage individual solutions. In none of the performances of *Parcival XX–XI* a spectator sought solutions beyond the prescribed system to overcome the constraints; such as handing over their own jacket to a naked dancer as described in the first participatory scenario.

CONTINUING THE QUEST

The first round of *Parcival XX-XI* was closed by the time we wrote this article. We were able to show the performance seven times in Germany with the help of various sponsors. After constantly evaluating this first round of performances, we are currently revisiting the entire design, and taking into account various insights from the audience, our own observations, critics, friends, and conversations. We reassembled, re-established, brought new approaches on the stage, and released a second version under the name *Operation: Parcival_An Intermedial Experiment* **10** in May 2012. This was the beginning of a new experiment which also comprises a whole new process of evaluation.

Going through all the feedback from the first experiment, we can conclude that there is no reason to set aside the Styrofoam cuboids. Quite the contrary: these elements can be assembled in various ways and catch the visuals. They are an essential means for merging video projections and the dance. The advantage of their flexibility minimizes the problem that the cuboids are not very long lasting and need to be replaced after the first round of shows. In respect to the sound of the cuboids, which was described

REFERENCES AND NOTES

- Hans-Thies Lehmann, Postdramatisches Theater (Frankfurt: Verlag der Autoren, 1999).
- Brenda Laurel, Computers as Theatre (Amsterdam: Addison-Wesley Publishing, 1993).
- Gesa Friederichs-Büttner et al. "Interaction and Participation – Digital Media and Dance in Interplay" in *Proceedings* of the Conference on Interactive Media Arts (Aalborg: Aalborg University Press, 2011).
- Jennifer Sheridan et al., "Encouraging Witting Participation and Performance in Digital Live Art," in *Proceedings of the 21st British HCI Group Annual Conference* (Lancaster: British Computer Society, 2007), 13–23.
- Steve Benford et al., "From Interaction to Trajectories: Designing Coherent Journeys Through User Experiences," in Proceedings of the 27th International Conference on Human Factors in Computing Systems (Boston: ACM, 2009), 709–718.
- Steve Reeves et al., "Designing the Spectator Experience," in *Proceedings of CHI 2005* (Oregon: ACM Press, 2005), 741–750.
- We reference individual interviews from the qualitative study according to their actual order of appearance, like (interview "number").
- Gesa Friederichs-Büttner "Don't Duck Your Head: Notes on Audience Experience in a Participatory Performance," in *Proceedings of Smartgraphics 2011* (Bremen: ACM, 2011), 115–125.
- Gesa Friederichs-Büttner et al., "Parcival Goes Digital: New Media as Part of a Gesamtkunstwerk," in *Proceedings of ISEA2011*, Istanbul.
- 10. The German title of the performance is "Operation: Parcival_ein intermediales Experiment."

ACKNOWLEDGEMENTS

This work was funded by the Klaus Tschira Foundation. We would further like to acknowledge the support of the Ministry for Science, Research and the Art and Federal Cultural Foundation of Germany, the Landesverband Freier Theater Baden-Württemberg, Sparkasse Freiburg, Landesbank Baden-Württemberg LBBW, Cultural Office Freiburg, FOND Darstellende Künste e.V., and Senator of Bremen for Culture. Last but not least, we gratefully thank Johanna Dangel for her valuable input to this article and Prof. Dr. Rainer Malaka for his indispensable support to our artistic practice and research.



Figure 9. A dancer who is acting as Parcival in our performance *Parcival XX-XI*, 2011 © urbanReflects. Photographer: Werner Gurlt.

sometimes as delicate, we believe that it fits very well to the overall experience of the play. Still, for future performances there is a need to carefully consider how to respond to the comments of a few audience's members who were not able to stand the sound. We learnt, for example, that one person needed to leave the performance for health reasons after ten minutes.

We decided to keep almost all scenes from the three acts, but we put them in a new order. We also decided to maintain the choreographical set up of the narrative, the overall dramaturgic approach, and the use of digital media. For the latter, we believe that changes in the design of the participative scenarios are necessary and that the plurality of different sources of video material needs to be reduced. In this context, we believe that it may be appropriate the predominant use of live video capturing: we will grab all visual materials from the actual shows in the theatres, additionally manipulate and augment the videos by temporal and spatial shifts, and finally project the images back onto the stage. This way we design interaction in between the audience, the dance, and the media elements without the need of additional 'tools,' such as game controllers.

The expected advances and outcomes are that the audience does not need to learn how to interact but can behave intuitively. In this way the focus is set for the dramaturgic impact of the interaction and avoids an audience that is sidetracked or frustrated due to technical problems. Consequently the pre-performance is no longer needed. Furthermore, we will have the opportunity to invite several or all of the audience to participate and not only a few. We will also eliminate the requirement to do specific movements with a tool but instead offer participative moments that are open-ended. We will additionally include text-based opportunities to get the audience involved in the play, such as SMS. Stepping on stage will not be mandatory in order to be an active participant in the play.

The performance's layout will experience a drastic change as well. The first act of the show will keep a "passive" and "traditional" performance framework in which the audience is invited to lean back in the seats and watch something rehearsed. The second act of the new play will be introduced with a bang. We intentionally will cut off the smooth flow of the on-going performance and request the audience to get involved. An additional performer will appear, walk through the audience, and ask several members for their opinions on relevant political or social topics. This course of action is adaptable (chosen topics and / or level of provocation) according to the age of the target group. This disruption is designed as a wake-up call to remind the audience that we are all in charge to find our own individual grails.

As the quest for the grail goes on, so does our research. ■