

Digital Scenography / Performing Space

DS/PS is a continuation of research conducted within the Sinlab and aims to create the conditions of experiment at the intersection of theater and technology, in collaboration with Cie Motus and students of Master Staging in Manufacture.

1. Research questions

As a means to satisfy the request for more specificity regarding research questions, I will revisit each of the proposed research questions in light of the selected source material:

Background

As selected with MOTUS, the particular source material that we will be using for this project is Pier Paolo Pasolini's Notes Towards an African Orestes. Pasolini's "notes" attempt to correlate the ancient Greek legend of the founding of democracy and the triumph of reason over animal nature onto the state of a "newly emerging modern Africa." Pasolini's attempt to map the narrative metaphor of western myth and his own Marxist ideas regarding the value of technology, progress and the working class onto an entire continent in order to satisfy a narrative is an awkward failure, but is perhaps doomed from the start. The result is a film which is hugely problematic but also enlightening, capturing a unique cultural/political perspective. Pasolini own film poignantly documents his failure in a group interview he conducts with a group of African students at a university in Rome. The students' physical reactions convey the discomfort that their carefully worded polite responses do not. In the end the film becomes a psychological, metaphorical and intellectual portrait the author, his camera and his way of seeing the world. This is true in spite of the fact that it's unclear that Pasolini intended this: we are only permitted to see the author on-screen for a few seconds, as a blurry reflection in a shop window which opens the film.

For this project we will begin with Pasolini's Orestes as a jumping-off point for the production of a play that will consider the role that personal digital media has played in documenting and changing the contemporary political climate across Europe. In particular:

• In what way has storytelling fundamentally changed given the recent advent and now prevalence of mobile digital technology? Specifically, how has the widespread adoption of mobile networked cameras in the form of smartphones and social networking changed the way we perform and consume performance?

From Arab Spring to the Occupy movement to the current economic situation in Greece, the role of mobile video has fundamentally altered the way that democracy works by changing the way stories are told. How? What are the differences in

documentary technique that Pasolini employed versus a contemporary young political actor on Instagram? How has the "documentary viewpoint" changed between then and now?

• How have contemporary technologies reconfigured the relationship between audience and performer, and in what ways might scenography be employed in light of these changes?

It's clear that the relationship between the audience and performer is different than it was when Pasolini's made his film, and certainly different from the way it was when the *Orestes* was written and Aristotle first described *skeongraphia*. Given this shift, how do we employ scenography on stage differently than before? What role does technology play in creating a setting for our narrative?

• How do artists incorporate these changes into their work to more effectively convey their ideas to an audience?

How can theatre companies (MOTUS), actors and directors (the students of La Manufacture), more effectively incorporate these sorts of changes into their own work? Beyond the theoretical, what does a play look like when it takes these issues into account? How can we take advantage of the performance-shift that digital media has presented us with?

• What happens to the theatrical experience when a space itself becomes an actor capable of decision making?

One characteristic of the digital shift is that the context around a narrative is unlikely to be seen as fixed. Rather, contemporary storytelling assumes the context is perpetually shifting, changing, responding, interactive and alive. In short, the space itself is an actor in a Latourian sense. What does this mean for theatrical performance? Who writes the rules that govern the changes? What types of interactions are most effective and why?

2. Objectives / outcomes / products:

Up until now, "Digital Scenography" has primarily meant video projection mapping on stage, which adds a visual element on top of a production. While this can be a powerful tool, with this project we are pushing the boundaries of the form past projection (which is often created after or in parallel to a production) and into embedded development for theatre. This form of collaboration is a cutting edge approach: not only light, sound and visual design but narrative design. This is the application of theatrical devising techniques to technology development.

This project will result in four very specific outcomes, each of which contribute directly to the production and practice of contemporary theatre:

1. A new technology for stage production

Developed specifically for the staging of *Orestes*, the technology will develop as the text is adapted, but will likely incorporate elements of video and projection.

2. A real theatrical work which demonstrates the use of technology on stage

The MOTUS production of Orestes, with the participation of the students of HETSR will ensure the technology encounters actual practice and addresses the needs of a real performance. This performance will also serve as a "reference implementation" for the technology: not as a demo, but as an actual example of how the technology changes the way we tell stories.

3. Theoretical documentation which situates the work relative to contemporary practice

Theoretical documentation of the work will address the concerns outlined above (research questions), but will be used to further the understanding of the role of scenography and technology on stage performance.

4. Technical documentation which is open-source

Technical documentation and open-source licensing will allow other practitioners to duplicate or better, build upon, the project themselves. This provides a practical basis for further exploration beyond the initial project and grant.

Methodology: Re-iterating the laboratory dimension of the project:

Given the nature of creating a collaborative, artistic work, the method of evaluation will be through workshop. At each stage of the project, time will be taken both as a group and on an individual basis to reflect on the progress using the stated research questions as a guide. These reflections will be recorded and adjustments to both the technology and artistic work will be made accordingly.

This process is a hybrid method of inquiry that is best described as artistic research and defined by seven characteristics as outlined in Mika Hannula et-als Artistic Research: Theories Methods and Practices.¹ This is the approach of a bricoleur, the technique that anthropologist Claude Lévi-Strauss calls mythical thought.² It is an approach which is deliberately "provisional and contingent" as described by designer and originator of the "Design Probe"³ concept BIII Gaver in "What Should We Expect from Research through Design?" ⁴ Further information is available in this excerpt from my dissertation: The Case for Hybrid Research" (Excerpt from Computational Shifts in Theatrical Space), available here:

http://digitalscenography.com/pdf/hybridResearch_sempere.pdf

This method of evaluation was successfully applied in previous work, including work done with both MOTUS and the students of HETSR, an adaptation of Paul Auster's Leviathan which resulted in the development of a distributed mobile video system for stage performance. Documentation of this work is available online at: http://digitalscenography.com/projectbriefs/leviathan.

Source code for this project is available here: http://digitalscenography.com/distribution/SyMix/

¹ Hannula, Mika, Juha Suoranta, and Tere Vadén. Artistic Research. Theories, Methods, Practices. Academy of Fine Art, Helsinki, Finland and University of Gothenburg I ArrMonitor, Gothenburg, Sweden, 2005. https://www.academia.edu/2396657/Artistic_Research._Theories_Methods_Practices.

² Lévi-Strauss, Claude. The Savage Mind. The University Of Chicago Press, 1966

³ Gaver, Bill, Tony Dunne, and Elena Pacenti. "Design: Cultural Probes." Interactions 6, no. 1 (1999): 21–29.

⁴ Gaver, William. "What Should We Expect from Research through Design?" In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 937–46. ACM, 2012. http://dl.acm.org/citation.cfm?id=2208538.

5. Bibliographie et références

"Design and Entertainment in the Electronic Age." Leonardo 27, no. 4 (1994): 347. doi:10.2307/1576012.

Fischer-Lichte, Erika. The Transformative Power of Performance: A New Aesthetics. Translated by Saskya Iris Jain. 1 edition. New York: Routledge, 2008.

Jenkins, Henry. Convergence Culture: Where Old and New Media Collide. New York University Press, 2006.

Jenkins, Henry, Sam Ford, and Joshua Green. Spreadable Media: Creating Value and Meaning in a Networked Culture. New York; London: NYU Press, 2013.

Kawahara, Yoshihiro, Steve Hodges, Benjamin S. Cook, Cheng Zhang, and Gregory D. Abowd. "Instant Inkjet Circuits: Lab-Based Inkjet Printing to Support Rapid Prototyping of UbiComp Devices," 363. ACM Press, 2013. doi:10.1145/2493432.2493486.

Mapping Intermediality in Performance. Amsterdam University Press, 2010. http://www.jstor.org/stable/j.ctt46mwjd.

Ovadija, Mladen. Dramaturgy of Sound in the Avant-Garde and Postdramatic Theatre. Mcgill Queens Univ Pr, 2013.

Oxman, Neri. "Digital Craft." Accessed January 4, 2015. http://neri.media.mit.edu/assets/pdf/Publications_DC.pdf.

Païni, Dominique, and Rosalind E. Krauss. "Should We Put an End to Projection?" October 110 (October 1, 2004): 23–48.

Slater, M. "Place Illusion and Plausibility Can Lead to Realistic Behaviour in Immersive Virtual Environments." *Philosophical Transactions of the Royal Society B: Biological Sciences* 364, no. 1535 (December 12, 2009): 3549–57. doi:10.1098/rstb.2009.0138.

Ackermann, E. "Constructivism: One or Many." Learning Environments (IOS Press, Amsterdam. Series' The Future of Learning', Vol 2.), 2003. http://iris.nyit.edu/~kkhoo/Spring2008/Topics/Cons/EdithAckermannConstrucvismOn eOrMany.pdf.

Beacham, Richard C. Adolphe Appia: Texts on Theatre. Reprint edition. London; New York: Routledge, 2011.

Benjamin, Walter. The Work of Art in the Age of Mechanical Reproduction. Translated by Harry Zohn. Schocken/Random House. Accessed January 13, 2015. https://www.marxists.org/reference/subject/philosophy/works/ge/benjamin.htm.

Berger, John. Ways of Seeing: Based on the BBC Television Series. Reprint edition. London: Penguin Books, 1990.

Biggs, Michael AR. "Learning from Experience: Approaches to the Experiential Component of Practice-Based Research." In *Forskning, Rejlektion, Utveckling*, by Torsten Kalvemark. Stockholm, 2004. http://r2p.herts.ac.uk/mb/2004a.pdf.

Bogost, Ian. "The Cathedral of Computation." *The Atlantic*, January 15, 2015. http://www.theatlantic.com/technology/archive/2015/01/the-cathedral-of-computation/384300/.

boyd, danah. It's Complicated: The Social Lives of Networked Teens. 1 edition. New Haven: Yale University Press, 2014.

Bridle, James. "#sxaesthetic." Accessed January 9, 2015. http://booktwo.org/notebook/sxaesthetic/.

Bullingham, Liam, and Ana C. Vasconcelos. "'The Presentation of Self in the Online World': Goffman and the Study of Online Identities." *Journal of Information Science* 39, no. 1 (February 1, 2013): 101–12. doi:10.1177/0165551512470051.

Carse, James. Finite and Infinite Games. New York: Free Press, 2013.

Castronova, Edward. Synthetic Worlds the Business and Culture of Online Games. Chicago: University of Chicago Press, 2005. http://public.eblib.com/choice/publicfullrecord.aspx?p=432203.

Certeau, Michel de. *The Practice of Everyday Life*. 1st ed. 0. University of California Press, 2002.

Clarke, Bruce. "Friedrich Kittler's Technosublime." *Electronic Book Review*, December 30, 1999.

Clay, Alexis, Nadine Couture, Laurence Nigay, Jean-Baptiste De La Rivière, Jean-Claude Martin, Matthieu Courgeon, Myriam Desainte-Catherine, Emmanuel Orvain, Vincent Girondel, and Gaël Domengero. "Interactions and Systems for Augmenting a Live Dance Performance." In Mixed and Augmented Reality (ISMAR-AMH), 2012 IEEE International Symposium on, 29–38. IEEE, 2012. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6483986.

Costa, Xavier, Internationale situationniste, and Museu d'Art Contemporani (Barcelona Spain). Theory of the Dérive and Other Situationist Writings on the City. Museu d'Art Contemporani de Barcelona, 1996.

Dahley, Andrew, Craig Wisneski, and Hiroshi Ishii. "Water Lamp and Pinwheels: Ambient Projection of Digital Information into Architectural Space." In CHI 98 Cconference Summary on Human Factors in Computing Systems, 269–70. ACM, 1998. http://dl.acm.org/citation.cfm?id=286750.

Duckworth, Eleanor. "The Having of Wonderful Ideas" and Other Essays on Teaching and Learning. Teachers College, Columbia U., 1986.

Duxbury, Lesley, Elizabeth M. Grierson, and Dianne Waite. *Thinking Through Practice:* Art as Research in the Academy. School of Art, RMIT University, 2008.

Gade, Morten, Line Thorup, and Mikkel Sander. As Larp Grows up: Theory and Methods in Larp. Frederiksberg: Projektgruppen KP03, 2003.

Gaver, Bill, Tony Dunne, and Elena Pacenti. "Design: Cultural Probes." Interactions 6, no. 1 (1999): 21–29.

Gaver, William. "What Should We Expect from Research through Design?" In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems, 937–46. ACM, 2012. http://dl.acm.org/citation.cfm?id=2208538.

Glaser, B. G. "The Future of Grounded Theory." Qualitative Health Research 9, no. 6 (November 1, 1999): 836–45. doi:10.1177/104973299129122199.

Goffman, Erving. The Presentation of Self in Everyday Life. 1 edition. New York N.Y.: Anchor, 1959.

Gorbet, Matthew G., Maggie Orth, and Hiroshi Ishii. "Triangles: Tangible Interface for Manipulation and Exploration of Digital Information Topography." In *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 49–56. CHI '98. New York, NY, USA: ACM Press/Addison-Wesley Publishing Co., 1998. doi:10.1145/274644.274652.

Greenfield, Adam., Mark. Shepard, and Architectural League of New York. *Urban Computing and Its Discontents*. New York, N.Y.: Architectural League of New York, 2007.

Hannula, Mika, Juha Suoranta, and Tere Vadén. *Artistic Research. Theories, Methods, Practices.* Academy of Fine Am, Helsinki, Finland and University of Gothenburg I ArrMonitor, Gothenburg, Sweden, 2005. https://www.academia.edu/2396657/Artistic_Research._Theories_Methods_Practices.

Ishii, Hiroshi. "Illuminating Clay: A Tangible Interface with Potential GRASS Applications," 2002. http://senseable.mit.edu/papers/pdf/2002_Piper_et_al_GRASS.pdf.

Jenkins, Henry. Convergence Culture: Where Old and New Media Collide. New York University Press, 2006.

Jones, Paul. "The Technology Is Not the Cultural Form?: Raymond Williams's Sociological Critique of Marshall McLuhan." Canadian Journal of Communication 23, no. 4 (April 1, 1998). http://www.cjc-online.ca/index.php/journal/article/view/1058.

Jones, Timothy. "A Method of Search for Reality: Research and Research Degrees in Art and Design." In *Thinking Through Art: Reflections on Art as Research*, by Katy Macleod and Lin Holdridge, 1 edition. London; New York: Routledge, 2009.

Kittler, Friedrich. *Gramophone, Film, Typewriter*. Translated by Geoffrey Winthrop-Young and Michael Wutz. 1st ed. Stanford University Press, 1999.

Latour, Bruno. Reassembling the Social an Introduction to Actor-Network-Theory. Oxford; New York: Oxford University Press, 2005. http://site.ebrary.com/id/10233636.

Latour, Bruno, and Adam Lowe. "The Migration of the Aura, or How to Explore the Original through Its Facsimiles." Switching Codes: Thinking Through New Technologies in the Humanities and Arts University of Chicago Press (2011): 275–79.

Lévi-Strauss, Claude. *The Savage Mind*. The University Of Chicago Press, 1966.

Lewis, Paul. "You're Being Watched: There's One CCTV Camera for Every 32 People in UK." *The Guardian*, March 2, 2011, sec. World news. http://www.theguardian.com/uk/2011/mar/02/cctv-cameras-watching-surveillance.

Manovich, Lev. The The Language of New Media. Reprint edition. The MIT Press, 2002. Maurer, Bill. Mutual Life, Limited: Islamic Banking, Alternative Currencies, Lateral Reason. Princeton, N.J.: Princeton University Press, 2005.

McClusky, Mark. "The Nike Experiment: How the Shoe Giant Unleashed the Power of Personal Metrics." WIRED. Accessed January 12, 2015. http://archive.wired.com/medtech/health/magazine/17-07/lbnp_nike?currentPage=all.

McGonigal, Jane. Reality Is Broken: Why Games Make Us Better and How They Can Change the World. Penguin, 2011.

Milan, Gildas. "CYBORGAME or 33 Battles or The Fictional Character (A Hybrid Female Mutant Don Quioxte)," 2013.

Mitchell, William J. "Beyond the Ivory Tower: Constructing Complexity in the Digital Age." Science 303, no. 5663 (March 5, 2004): 1472–73. doi:10.1126/science.1091973.

Mori, Masahiro. "The Uncanny Valley." *IEEE Spectrum*, May 12, 2012. http://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley.

Mostkoff, Ariella S. "Memory Prosthesis Design." North Carolina State University, 2012. http://ariella-mostkoff.com/wp-content/uploads/2012/05/ASM-Thesis-fin.pdf.

Papert, Seymour A. Mindstorms: Children, Computers, And Powerful Ideas. 2 edition. New York: Basic Books, 1993.

Papert, Seymour, and Idit Harel. "Situating Constructionism." Constructionism 36 (1991): 1–11.

Paradiso, Joseph A., and Eric Hu. "Expressive Footwear for Computer-Augmented Dance Performance." In Wearable Computers, 1997. Digest of Papers., First International Symposium on, 165–66. IEEE, 1997. http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=629936.

Piaget, Jean. "Piaget's Theory." In *Piaget and His School*, edited by Bärbel Inhelder, Harold H. Chipman, and Charles Zwingmann, 11–23. Springer Study Edition. Springer Berlin Heidelberg, 1976. http://link.springer.com/chapter/10.1007/978-3-642-46323-5_2.

Reid, Elizabeth M. "The Self and the Internet: Variations on the 'Illusion' of One Self." In *Psychology and the Internet: Intrapersonal, Interpersonal, and Transpersonal Implications, 2nd Edition,* edited by Jayne Gackenbach, 2nd edition. Amsterdam; Boston: Academic Press, 2006.

Roetenberg, Daniel, Henk Luinge, and Per Slycke. "Xsens MVN: Full 6DOF Human Motion Tracking Using Miniature Inertial Sensors." Xsens Motion Technologies BV, Tech. Rep, 2009. http://www.xsens.com/wp-content/uploads/2013/12/MVN_white_paper1.pdf.

Seligson, Hannah. "An Online Generation Redefines Mourning." The New York Times, March 21, 2014. http://www.nytimes.com/2014/03/23/fashion/an-online-generation-redefines-mourning.html.

Sempere, Andrew. "Architecture and Design for Virtual Conferences: A Case Study." Future Internet 3, no. 4 (July 6, 2011): 175–84. doi:10.3390/fi3030175.

Sempere, Andrew. "The Work of Art in the Age of Virtual Production." *Proceedings CHArt Computers and the History of Art*, 2009. www.chart.ac.uk.

Sutherland, Ivan E. "A Head-Mounted Three Dimensional Display." In *Proceedings of the December 9-11, 1968, Fall Joint Computer Conference, Part I,* 757–64. ACM, 1968. http://dl.acm.org/citation.cfm?id=1476686.

Thiran, Jean-Philippe. "Sensors Study Pedestrian Flow in Lausanne Train Station." Accessed January 11, 2015. http://sti.epfl.ch/page-87394-en.html.

Tuan, Yi-Fu. *The Perspective of Experience*. University of Minnesota, 1977. http://www.transart.org/wp-content/uploads/group-documents/69/1373295837-YiFuTuan_Space_Place.pdf.

Turkle, Sherry. Life on the Screen: Identity in the Age of the Internet. Reprint edition.

York: Simon & Schuster, 1997.

Turkle, Sherry. The Second Self: Computers and the Human Spirit. First Edition edition. New

York: Simon & Schuster, 1984.

Turkle, Sherry, and Seymour Papert. "Epistemological Pluralism and the Revaluation of the Concrete." *Journal of Mathematical Behavior* 11, no. 1 (January 1992): 3–33.

Von Ahn, Luis. "Games with a Purpose." Computer 39, no. 6 (2006): 92-94.

Weiser, Mark. "The Computer for the 21st Century." *Scientific American*, Semptember 1991.

Weiser, Mark, and John Seely Brown. "The Coming Age of Calm Technology." In *Beyond Calculation*, edited by Peter J. Denning and Robert M. Metcalfe, 75–85. New York, NY, USA: Copernicus, 1997. http://dl.acm.org/citation.cfm?id=504928.504934.

Zimmerman, John, Erik Stolterman, and Jodi Forlizzi. "An Analysis and Critique of Research through Design: Towards a Formalization of a Research Approach." Proceedings of the 8th ACM Conference on Designing Interactive Systems, 2010. http://dl.acm.org/citation.cfm?id=1858171.