Cyberformance? Digital or Networked Performance? Cybertheaters? Or Virtual Theatres?

…or all of the above?

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1. Introduction: Links to the Past.

We think of cyberformance or digital performance, as a field of practice that emerged with the advent of digital technologies; but this is not the case in art historical terms. I will start with introducing the term 'cybertheatre', not because I think it's more accurate than the other terms employed to describe the practices we'll be talking about today, but because, having been asked to introduce this symposium, I feel it's important to make a direct link with the genre's cultural antecedents, and to acknowledge its grounding within art histories and lineages.

The term *Cybertheater* is credited to the Russian kinetic arts group Dvizjenije (which means Motion or Movement). Dvizjenije was an interdisciplinary team that, inspired by the 'cosmic' ideas of the Malevich tradition, was concerned with constructivism and kinetic art. They created work across the fields of visual arts, music, design, and education. Their piece *Cybertheater* (1967) was an immersive machinic environment that invited audiences to enter a world both virtual and physical, thus partaking in a communal sensual experience. The piece was responsive to audience engagement as the environment changed in relation to people's movements.[1] Dvizjenije's aim was "to involve the spectator both actively and totally in the event".[2] Lev Nusberg, the initiator of Dvizjenije, describes *Cybertheater* as a "model of (...) the relationship between Machine and Man,"[3] so *Cybertheater* was a vision of man-machine symbiosis. Its title and Nusberg's discussion point to the discovery of cybernetics, defined by Norbert Wiener in 1948 as the science of "control and communication in the animal and the machine".[4] Underlying cybernetics was the idea that all control and communication systems, "be they animal or machine, biological or technological, can be described and understood using the same language and concepts".[5]

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[1] For more information see Popper, F. *Art – Action and Participation.* London: Studio Vista, Cassell & Collier Macmillan, 1975, pp. 59-61.

[2] Ibid, p. 158.

[3] Nusberg, L. Cybertheater, 1974 In: Malina, F. J. (ed.) *Kinetic Art: Theory and Practice. Selections from the Journal Leonardo.* New York: Dover, 1974, p. 104.

[4] Apter, M. J. Cybernetics and Art, 1974 In: Ibid, p. 176.

[5] Ibid.

Dvizjenije's *Cybertheater* falls within a period of sociopolitical and scientific developments that led to the enthusiastic adoption of cybernetic theories as a vehicle of scientific reform. This enthusiastic approach to development and innovation is reflected in *Cybertheater*'s visionary character and in the attitude of the group who envisaged an ideal of unity between technology, art and science.[6] They weren't alone: as early as the 1930s, artists throughout Europe had become interested in Kineticism. According to Frank Popper Kinetic Art at the time «assumed the role of symbolically representing scientific and technical progress». It also became significant on a social level as publics were invited to «participate effectively in transforming the existing environment». Finally, in the sphere of aesthetics,

> a wholly new relationship has grown up between the artist, the work of art and the spectator. The work loses its materiality, and becomes simply an effect or an event; the artist loses his halo and becomes a researcher; the spectator leaves the domain of cultural conditioning and himself becomes active and creative.[7]

2. You Say 'Tomato', I Say 'Tomato'

'Cybertheaters', as is clear from the title of this paper, is a contested term. Within the last decade or so, several practitioners and theorists have employed a range of terms to refer to this emergent genre (or to overlapping phenomena, as the relevant practices are extremely diverse). Prominent examples are:

- *Cyberformance*: Helen Varley Jamieson introduced this term in 2000 to describe "live performance with remote performers coming together in real time via Internet chat applications".[8] Jamieson aimed to identify an adequate term for the new genre that she and her group Avatar Body *Collision* were experimenting with, while avoiding polarisations between terms such as real and virtual.

- *Digital Performance*: Barry Smith and Steve Dixon used the term in 2001 when they launched their project Digital Performance Archive.[9] They defined digital performance as: "performance activity with new digital technologies –from live theatre and dance productions that incorporate digital projections, to performances that take place on the computer-screen via webcasts and interactive virtual environments".[10] Their book *Digital Performance* came out in 2007; in this they updated their definition of the term:

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[6] See Haskel, L. Time Machine, 1998 In: *Star dot Star Exhibition Catalogue.* Sheffield: Site Gallery, 1998, n/p.

[7] Popper, F. *Art – Action and Participation,* pp. 7-8

[8] Varley-Jamieson, H. Cyberformance. Available from: http://www.cyberformance.org [accessed 20/03/2006]

[9] Smith, B. and Dixon, S. Digital Performance Archive. Available from: http://ahds.ac.uk/ahdscollections/docroot/dpa/authorssearch.jsp *2006* [accessed 16/09/2009]

[10] Ibid.

We define the term "digital performance" broadly to include all performance works where computer technologies play a *key* role rather than a subsidiary one in content, techniques, aesthetics, or delivery forms.[11]

- *Digital Practices*: Susan Broadhurst employed the broader term *Digital Practices* in her book that came out in the same year (2007) to refer to performance practices that "prioritize such technologies as motion tracking, artificial intelligence, 3-D modelling and animation, digital paint and sound, robotics, interactive design and biotechnology."[12]

- *Cyber-theater*: Matthew Causey contributed the following definition of the term to the *Oxford Encyclopaedia of Theatre and Performance* (2003): "cyber-theatre, not unlike film and television, does not rely on the presence of a live actor or audience" He went on to ask: "is it necessary that some live element be present in the performance of cyber-theatre to make the genre distinction of theatre a useful model?"[13] Whereas in a later publication (2006) he notes that a major possibility of computer-aided performance is "to allow audiences *interactive access* to the performance."[14]

- *Virtual Theatres*: Gabriella Giannachi used the term in her book of the same title, published in 2004, to denote "the theatre of the twenty-first century in which everything –even the viewer– can be simulated".[15] She also defined it, following Bolter and Grusin,[16] as "a form of theatre which remediates –which means that it is always also about other media".[17] Furthermore, Giannachi referred to Pierre Lévy's discussion of 'cyberart', in which he identifies two types of virtual worlds: "those that are limited and editorialised, such as (...) 'closed' (off-line) installations, [and] those that are accessible over a network and infinitely open to interaction, transformation, and connection with other virtual worlds (on-line)."[18] Giannachi suggests that all virtual theatres "share the characteristic of being open works in which the viewer is variously participating to the work of art from within it."[19]

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[11] Dixon, S. with Smith, B. *Digital Performance: A History of New Media in Theater, Dance, Performance Art and Installation*. Cambridge, MA: MIT Press, p. 3.

[12] Broadhurst, S. *Digital Practices: Aesthetic and Neuroaesthetic Approaches to Performance and Technology*. New York: Palgrave Macmillan, 2007, p. 1.

[13] Causey, M. Cyber-theatre In: Kennedy, D. (ed.) *Oxford Encyclopaedia of Theatre and Performance.* Oxford: Oxford University Press, Vol. 1, 2003, p. 341.

[14] Causey, M. *Theatre and Performance in Digital Culture: from Simulation to Embededness.* London: Routledge, p. 48. Original emphasis.

[15] Giannachi, G. *Virtual Theatres: an Introduction.* London and New York: Routledge, 2004.

[16] See Bolter, D. J. and Grusin, R. *Remediation: Understanding New Media.* Cambridge, MA: MIT Press, 2000.

[17] Giannachi, G. *Virtual Theatres,* p. 5.

[18] Lévy, P. *Cyberculture.* (Tr.: Bononno, R.) Minneapolis and London: University of Minnesota Press, 2001, p. 125-6. See also Giannachi's discussion in *Virtual Theatres,* p. 4.

[19] Giannachi, G. *Virtual Theatres,* p. 4.

- *Networked Performance*: USA-based organisation Turbulence.org[20] and Michelle Riel have used the term since the launch of their Networked Performance Blog[21] in 2004 to signify "any live event that is network-enabled, including any form of networking in which computational devices speak to each other and create a feedback loop." In a more recent endeavour to define the genre they offer the following: "Networked Performance is real-time, embodied practice within digital environments and networks; it is, embodied transmission."[22]
- Finally, Christopher Salter indicates that "Performance involves the moment of action, its continuity, inherent temporality and relationship to the present."[23]

Those are only some of the definitions offered by scholars and artists who develop work in the field. They are diverse –indeed, as diverse as the practices themselves– and they do not necessarily refer to the exact same practice (eg. Cyberformance would be a sub-category of Digital Performance, as it only refers to live performance that unfolds remotely, and does not include the great range of digital practices that develop in physical spaces). It is important to note, though, that all of the definitions I have offered have one thing in commong: they foreground, in different ways, the notion of liveness. Indeed, liveness is one of the vital characteristics of theatre and performance art. It seems to me that it remains a central focus also for practices that evolve online. Peggy Phelan, in her seminal book *Unmarked* approaches theatre and performance as practices whose liveness defines their very ontology, as it means that the performance is created through a process of disappearance.[24] Its being 'live' entails that performance 'dies' with its own enactment. Every single moment of a theatrical experience is entwined with the loss of a specific and unique relational experience that cannot be preserved or reproduced exactly so. And though Phelan argues that only embodied and visceral performance can be perceived as live, here we prove that this is an inaccurate and outdated assumption that has been radically

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[20] New Radio and Performing Arts, Inc. *Turbulence*, 1996-2009. Available from: http://www.turbulence.org/ [accessed March 2006]. Turbulence.org are Jo-Anne Green and Helen Thorington, co-directors of New Radio and Performing Arts, Inc. See: Green, J. A. and Thorington, H. About networked_performance. Available from: http://www.turbulence.org/blog/about.html#green [accessed 19/09/2009]

[21] See Networked_Performance blog. Available from: http://turbulence.org/blog/ [accessed 20/09/2009]

[22] Ibid. [accessed 20/09/2009]. There is no precise indication as to when this definition was updated (though dated June 29, there is no indication of year). It is certainly posted after March 2006 when I last made a note of the definition offered. It is most likely that the date refers to June 2009.

[23] Salter, C. L. 'Unstable Events: Performative Science, Materiality and Machinic Practices', 2007. Available from: http://www.mediaarthistory.org/replace/replacearchives/salter_abstract.htm [accessed 20/09/2009]

[24] Phelan, P. *Unmarked: the Politics of Performance.* London and New York: Routledge, 1993.

challenged not only by Philip Auslander in his book *Liveness*, but also, and more importantly, by all your practices developed over the last couple of decades at least.

I will here focus on two types of Digital Performance practices: cybertheatres/cybeformances, that is, practices that unfold online in digital performance platforms, and telematic performances, that bring together distributed collaborators in a live screen image. Those histories are by no means exhaustive, and are only meant to facilitate some kind of developmental trajectory of the genre rather than list all the numerous practices and artists that were active in those fields.

3. Online Digital Performance Platforms

Currently a proliferation of digital performance events are taking place online in Second Life and other virtual worlds and platforms such as the teen focused Habbo Hotel, Sims Online, and the gaming World of Warcraft. The antecedents of those virtual worlds and first multiuser virtual environments were called MUDs (Multi User Dungeons), and were developed in the late 1970s as text based virtual reality environments. At the time Sherry Turkle described MUDs as:

> a new kind of virtual parlor game and a new form of community. (...) participating in a MUD has much in common with script writing, performance art, street theatre, improvisational theatre –or even commedia dell'arte. (...) As players participate, they become authors not only of text but of themselves, constructing new selves through social interaction.[25]

MUDs were role-playing games with clear rules and goals, and their programming required a high degree of technical expertise. In 1990 Pavel Curtis, a Xerox programmer, developed the first MOO (MUD Object Oriented); MOOs were easier to program and more flexible spaces that focused on social interaction rather than gaming. Online performance company The Plaintext Players started performing in MOOs soon after – their first performance was Christmas 9 on PMC MOO (which was created by the online journal Postmodern Culture) in March 1994.[26] Moreover Juli Burk, at the time Vice President of the Association for Theatre in Higher Education, created ATHEMOO, the first MOO designed specifically for theatre, in 1995.[27] In 1997 Rick Sacks presented MetaMOOphosis, based on Kafka's novel Metamorphosis, which was the first performance to be created specifically for ATHEMOO.[28]

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[25] Turkle, S. *Life on the Screen: Identity in the Age of the Internet.* New York: Simon and Schuster, 1997, pp. 11-12.

[26] See The Plaintext Players official website, available at: http://yin.arts.uci.edu/~players/xmas.html [accessed 20 October 2012]

[27] Burk, J. 'ATHEMOO and the Future Present: Shaping Cyberspace into a Theatre Working Place', In: Schrum, S. A. (ed.) *Theatre in Cyberspace: Issues of Teaching, Acting and Directing*. New York: Peter Lang, 1999, pp. 109-134.

[28] See The MetaMOOphosis original website, available at: http://www.vex.net/~rixax/Kafka.html [accessed 20 October 2012]

Visitors to MetaMOOphosis found themselves at the house of Gregor Samsa, the main protagonist. They could enter the house by typing 'in' or 'enter' and, once inside, access a closet with 'costumes' for various characters. Those costumes were descriptions of the characters and came with built-in script: selecting a costume meant entering Gregor Samsa's world as a dramatic character. Each space in Samsa's house also had in-built characteristics or 'behaviours'.

That same year (1997) California-based artists Adriene Jenik and Lisa Brenneis established their online performance company Desktop Theatre, which performed in the two-dimensional online chat environment of The Palace: a hybrid between an on-line chat area and a multi-player game server. A free and cross-platform application that had no predetermined narrative or rules, The Palace turned into the first graphical virtual social space, and Desktop Theater was the first group to use The Palace for online performance. The Palace's public nature meant that Jenik and Brenneis approached Desktop Theatre events as Internet street theatre in a two-dimensional space: 'Here, live theater has new parameters: gestures, emotions and speech are compressed into two dimensions and computer speech.'[29]

A few years later (2002), Jamieson and her colleagues founded Avatar Body Collision – a distributed group of female performers. Originally, Avatar Body Collision also performed in The Palace. In 2003 they launched the purpose-built, open source software platform UpStage, which still serves as a stage for their cyberformance practices, and is open to all to use and experiment with (open source). On UpStage one can create two-dimensional purpose-built backdrops, avatars, and props, integrate animation, web cams, text-to-speech function and audio files, and draw in real time. Audiences log on to attend live events and can chat live while the performance unfolds. Unlike The Palace or Second Life, UpStage is not a public space (here public space is understood as a space that is constantly open to people for their own use such as a street, a public square, park, beach or forest): in general, participants visit the site specifically to watch a show, like going to the theatre, or to experiment within it themselves, like they would use a studio space. Unlike some virtual worlds like Second Life, UpStage offers a web-based, low-tech option for online performance: it does not need to be downloaded, it requires no RAM or bandwidth, and one can access it on any computer with a dial-up connection.[30]

Another example of online digital performance, albeit one of very different dramaturgy and aesthetic, is Entropy8Zuper!'s piece Wirefire (1999-2003): a performance/ software/ net.art piece about 'sex in a virtual world'.[31] Through Wirefire, Harvey and Samyn were performing

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29 Desktop Theatre original website, available at http://www.desktoptheater.org/ [accessed 20 October 2012[

30 See UpStage original website, available at http://upstage.org.nz/blog/ [accessed 20 October 2012]

31 See Wirefire original website, available at http://entropy8zuper.org/wirefire/ [accessed 20 October 2012]

the database, and they'll probably explain how this worked. Wirefire differed radically from the types of online performance I have up to now discussed: performances in MUDs and MOOs (that is, in text-based environments) inevitably entailed a strong focus on the script, characters and plot. Wirefire on the other hand did not depend on a linear narrative, was a visually exuberant, and resembled a live online VJing session. It is not accidental that Wirefire was launched at the same time the first commercial live video applications such as Vjamm, Arkaos and Motion were being released, and VJing was becoming more popular as a practice within clubs and artistic contexts.[32]

In the same year that Wirefire ended (2003), Furtherfield.org developed VisitorsStudio: a real-time, multiuser environment where users can 'upload, manipulate and collage their own audio-visual files with others, to remix existing media'.[33] VisitorsStudio is an environment that can host online performances and other activities, such as discussions, interviews and collaborative projects. KeyWorx, launched by the Waag Society in Amsterdam the same year (though the platform actually started its life earlier as KeyStroke), shares similar aims as well as a similar open-source ethos: 'KeyWorx aimed to enable developers to invent, develop, integrate and deploy applications with multi-user/multimedia features.'[34] KeyWorx aimed to have wider applicability, targeting diverse creative and artistic communities that use the platform to create original performance works but also to publish and share media (especially real-time audio and video sharing).

4. Telematic Performance

The spirit of internationalism projected by the Fluxus movement through works such as Nam Jun Paik's *Global Groove* (1973), a piece that aimed to offer "a glimpse of the video landscape of tomorrow", was pertinent to all networked and telematic work, which aimed to bring together artists that were separated by physical and geographical boundaries. The work of artists Kit Galloway and Sherrie Rabinowitz was seminal in this field. Galloway and Rabinowitz created *Satellite Arts Project (SAP)*, "a space with no geographical boundaries" in 1975.[35] *SAP*, one of the first telematic performances, used a live video satellite link to connect artists performing in different places around the world. The objective of the project was to demonstrate for the first time how artists based in distant physical locations could

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[32] Voskopoulou, A. 'A Brief History of VJing', 2007, available from: http://avos.wordpress.com/a-brief-history-or-vjing/ [accessed 5/08/2009]

[33] See VisitorsStudio original website, available from: http://www.visitorsstudio.org/?diff=-60 [accessed 20 October 2012]

[34] See Keyworx official website, available from: http://www.keyworx.org/ [accessed 20 October 2012]

[35] Electronic Café International. 'Telecollaborative Art Projects of ECI Founders Galloway and Rabinowitz, 1977 to Present', available from: http://www.ecafe.com/getty/table.html#2 [accessed 20/07/2005]

meet and perform tohether, in the same "living image."[36] The artists were looking to challenge the limitation imposed by physical boundaries (between countries and bodies) and initiate collaborative practices that would link like-minded people from around the globe.

"On a November evening in 1980 and for three consecutive evenings the unsuspecting public walking past the Lincoln Center for the Performing Arts in New York City and The Broadway department store in Century City, Los Angeles, had a surprising encounter with each other".[37] *Hole-in-Space* was one of the most celebrated pre-Internet telematic installation/performance works or, as the artists themselves described it, a "public communication sculpture".[38] Suddenly, people walking past each of these places were confronted by life-sized, televised images of people on the opposite coast, who they could see and talk to. According to the artists "*Hole-in-Space* suddenly severed the distance between both cities and created an outrageous pedestrian intersection."[39] At first people were surprised and intrigued; they tried to understand the phenomenon. Gradually they realised that they could arrange to telematically meet friends and relatives living on the opposite coast. Eventually, whole families would meet their distant loved ones through the 'Hole', some of whom had not seen each other for several years.[40]

Galloway and Rabinowitz's experimentation with satellite technologies was funded by NASA and other councils and corporations – those were expensive technologies that very few could access. In the 1990s though the World Wide Web brought the possibility for telematic connectivity to much broader constituencies.[41] One of the most well-respected pioneers working in this field is the New York-based Gertrude Stein Repertory Theatre (GSRT), founded in 1990 to "promote and support innovation in the performing arts." GSRT explores the application of film and Internet technologies to live theatre practices. In Cheryl Faver's adaptation of Stein's *Doctor Faustus Lights the Lights* (1995) four actors on a physical stage in New York performed together with two actors based at the Paris Opera, while computer-generated figures of a boy and a dog joined the action.[42]

Steve Dixon suggests that telematic performance came of age in the late 1990s. Between 1999 and 2000 Dixon and Smith's *Archive* project recorded more telematic events than any other form of digital performance.[43] Telematic performance flourished in the dance technology field in particular, as the absence of textual narrative and the focus on movement

[36] Kit Galloway and Sherrie Rabinowitz *Satellite Arts Project* 1977. Available from: Ibid.
[37] Galloway, K. and Rabinowitz, S. *Hole-In-Space*, 1980. Available from: http://www.ecafe.com/getty/HIS/index.html [accessed 6/07/2009]
[38] Ibid.
[39] Ibid.
[40] Ibid.
[41] Dixon, S. with Smith, B. *Digital Performance*, p. 420.
[42] Ibid, p. 421.
[43] Ibid, p. 423.

and visuals made such explorations more intuitive. Notable examples of such practice are: New York-based group Troika Ranch, who in *The Electronic Disturbance* (1996) they linked dancers and singers situated in remote geographical locations in an attempt to synthesise the corporeal and the electronic into a new 20th Century body;[44] Houston-based company AlienNation, that explored the performative potential of telepresence as well as connections between live performance, visual and digital arts, real time synthesis and electronic music;[45] and Melbourne-based Company in Space that aimed to "create dialogues between our visual, aural and kinetic perceptions".[46] Though telematics possibly favour experimentation within the field of dance, there have also been several theatre projects that experiment with telematic connections, such as the UK-based Chameleons Group – in particular the piece *NetCongestion* (2000), an ambitious live, interactive webcast performance –, Station House Opera with works such as *Live from Paradise* (2004-5) and *What's Wrong With The World?* (2008), and many others (The Builders Association).[47]

Among the most important artists using telematics since the early 1990s was Paul Sermon, who has developed a series of celebrated telematic installation/performance projects, such as *Telematic Dreaming* (1992) and *Telematic Vision* (1993). According to Sermon, *Telematic Dreaming* was inspired by Jean Baudrillard's essay Xerox and Infinity, in which the writer discusses the celibacy of the 'Telematic Man' in front of his computer. The 'Telematic Man', argues Beaudrillard, does not ever target the Other, the interlocutor, but only the screen.[48] In Sermon's *Telematic Dreaming*, two double beds are placed within two different locations: one in a blacked out space and the other in a lit space. The lit bed has a camera situated above it, which sends a live video image of the bed and a person lying on it to a video projector situated above the bed in the dark space. This live video image is projected onto the dark bed, where another person is lying. A second camera, which is above the dark bed, sends a live video image of both persons lying in bed together (one as physical presence, the other as a disembodied image) back to a series of monitors that surround the lit bed and the person lying there.[49] According to Sermon:

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[44] See Troika Ranch 'Works', available from: http://www.troikaranch.org/vid-earlierWorks.html [accessed 5/08/2009]

[45] See AlienNation 'Mission Map', available from: http://www.aliennationcompany.com/mission.htm [accessed 5/08/2009]

[46] See Company In Space 'Introduction', available from: http://www.companyinspace.com/front/cis_fs.htm [accessed 5/08/2009]

[47] See Station House Opera official website, available from: http://www.stationhouseopera.com/ [accessed 5/08/2009]

[48] Beaudrillard, J. *Le Xerox et L'Infini*, 1987. Available from: http://www.egs.edu/faculty/baudrillard/baudrillard-le-xerox-et-linfinity.html [accessed 5/08/2009] My translation.

[49] Sermon, P. *Telematic Dreaming* – Statement. Available from: http://creativetechnology.salford.ac.uk/paulsermon/dream/ [accessed 5/08/2009]

The ability to exist outside of the users own space and time is created by an alarmingly real sense of touch that is enhanced by the context of the bed and caused by an acute shift of senses in the telematic space. (...) the body can travel at the speed of light and locate itself wherever it is interacting.[50]

Conclusion

It is my view that currently digital performance as a genre developing primarily towards two directions:

1. A great deal of performances have moved towards virtual worlds. Those performances follow on the tradition of early online performances on MUDS, MOOs, and 2D graphical chat environments like The Palace. Entropy8Zuper!, for example, re-launched themselves in 2002 as Tale of Tales, a games design studio, and created among other works The Endless Forest: a virtual forest, which exists as a persistent world and a continuous live performance through its users who appear inworld as deer (the authors perform there too as Twin Gods).[51] Currently the most notable site for online performance in virtual worlds is Second Life (SL), launched by Linden Lab and American entrepreneur Philip Rosedale in 2002. Several groups have taken advantage of the creative opportunities presented by this virtual world, such as Second Front, founded in 2006, who claim to be the first group to create performances for SL. Founded in 2006, Second Front create 'theatres of the absurd that challenge notions of virtual embodiment, online performance and the formation of virtual narrative.'[52]

2. Another breakthrough in online performance practices has come through streaming media. As streaming platforms become more ubiquitous and embedded within our daily lives, with the use of Skype, VOIP and other internet telephony protocols to converse with family and friends that are often distributed around the globe, several practitioners today use streaming media. Such examples are Annie Abrahams's works,[53] and the BMW Tate Live: Performance Room series launched by Tate Modern in London, promoted as "a series of performances commissioned and conceived exclusively for the online space, and the first artistic programme created purely for live web broadcast"[54] (which arguably is a false claim). Those performances are following on the long tradition of telematic art and performance, offering

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50 Ibid.
51 See The Endless Forest original website, available from: http://tale-of-tales.com/TheEndlessForest/ [accessed 20 October 2012]
52 See Second Front official website, available from: http://www.secondfront.org/ [accessed 20 October 2012]
53 See Annie Abrahams official website, available from: http://bram.org/info/aa.htm [accessed 20 October 2012]
54 BMW Tate Live: Performance Room official website, available from: http://www.tate.org.uk/whats-on/tate-modern/eventseries/bmw-tate-live-performance-room [accessed 20 October 2012]

new approaches and new dramaturgies to telepresence, and the shared space of the live screen.

In that context I would like to close with a reference to Waterwheel, the purpose built online platform that co-hosts this symposium, which was created by Suzon Fuks in 2011.[55] Waterwheel is a platform dedicated to performance and online collaboration rather than a persistent virtual world, and in that respect resembles UpStage and VisitorsStudio (which are also purpose built platforms), attracting targeted audiences. Waterwheel is concerned with the water as a subject or metaphor. This thematic concern with a subject that is of major importance to the sustainability of life in the 21st Century demonstrates the platform's social relevance, as it touches upon matters related to environmental science, political economy, human rights, equality and gender, as well as the artistic and aesthetic pursuits of digital performance and art. Waterwheel is a platform that aims to facilitate scientific debate, bring together communities affected by water scarcity and stress, raise awareness about environmental and social issues related to water and the uneven distribution of resources, and bring together like-minded people who care about those issues. It also functions as a platform for artistic creation and experimentation with media and online performance practices, and it creates or facilitates digital performance events. Accessibility is a major concern for Suzon Fuks, as it has been for the creators of UpStage and VisistorsStudio, all of which are web-based platforms with limited technical specifications.[56] This makes them widely accessible and particularly suited to projects that seek to connect countries and communities with limited access to infrastructure and resources, and restricted connectivity.

Waterwheel is a welcome development in the field of online performance for two main reasons: Firstly, on a technical level, it represents a hybrid amongst different types of platforms and it combines a range of features. Being the first tailor-made online performance platform to offer live video streaming facilities (Waterwheel is able to host up to six live camera feeds at a time within a single Tap), it follows the collaborative creativity traditions of VisitorsStudio and KeyWorx providing a space where like-minded people can publish, share and mix audiovisual content. Like UpStage, Waterwheel also allows for the development of more 'theatrical' performances through embodied action and the possibility for narrative development. Waterwheel's streaming facilities mean that the virtual environment of the Tap is closer to the virtuality of telepresence[57] rather than to graphical virtual environments and

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[55] See Waterwheel original website, available from: http://water-wheel.net/ [accessed 20 October 2012]

[56] Persistent virtual worlds are better navigated through specialized graphics hardware.

[57] About telepresence see: Kac, E. 'Telepresence Art', In: R. Kriesche (Ed.), Teleskulptur, Kulturdata, Graz, Austria, 1993, pp. 48-72.; Kozel, S. 'Spacemaking: Experiences of a Virtual Body', *Dance Theatre Journal*, 11(3), 1994, pp. 12-13 and 46-47; Sermon, P. 'Performer Determined Narratives in Telematic Environments', In: A. Zapp (Ed.) (2004) *Networked Narrative Environments as Imaginary Spaces of Being*, Manchester and Liverpool: MMU/FACT, pp. 82-98.

worlds.[58] In that respect, Waterwheel allows for creative experimentation that bridges areas of practice which have been separate to-date due to technical limitations, that is, live audiovisual mixing, first person immersion (though avatars) and live videoconferencing facilities.[59]

Secondly, in relation to content and approach, Waterwheel is the first online performance platform to be concerned with a specific area of interest, that is, water. The mission of previous tailor-made platforms VisitorsStudio, KeyWorx and UpStage was to facilitate collaborative creativity and experimentation, and to support the development of a new, emergent area of artistic practice. As open platforms, those projects depended on users to validate their cultural relevance through generating content, and elected to remain open and devoid of pre-imposed thematic content or overarching narratives. Their role was crucial in providing tools for creative experimentation in the field of online performance, and in inviting users to employ those for the development of new forms of creativity. Their contribution in establishing online performance as a valid and fruitful area of artistic practice cannot be underestimated. Emerging ten years later, Waterwheel does not have to concern itself with introducing formal categories and genres to new intermedial audiences; it does not need to define a new area of practice. Today the widespread and casual use of both virtual worlds and videoconferencing services in our everyday lives, for the purposes of entertainment, communication, education and commerce, create a very different context for the launch of a new online performance platform: a context in which audiences/participants are familiar with the technologies involved and engaged in practicing their effects (virtual selves, telepresence) in other areas of life.[60] Thus, Waterwheel enters the field of online performance at a different stage within the lifecycle of the genre: though one might not be able to call this a mature field of practice as yet, online performance has certainly moved on a great deal from the embryonic stage in which it found itself in the early 1990s.

I would like to close by suggesting that the proliferation of online performance practices today in virtual worlds, through videoconferencing, pervasive and mobile technologies, and through mainstream entertainment ventures, propagates the relevance of creative projects such as Waterwheel, UpStage, and the work of all artists, practitioners and scholars presenting here today. I should also note that the range of practices and platforms that engage with digital and online performance is still as varied and diverse as it ever was. Digital

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[58] Telematic environments allow for distributed participants to come together in the same virtual space through live video connections. Telepresence is the feeling of presence at a remote location through the use of technologies such as telerobotics.

[59] There is a long and rich history of such practices. Dixon's book *Digital Performance* (2007) offers a succinct art historical overview.

[60] See: Campanella Bracken, C. and P. D. Skalski (Eds.), *Immersed in Media: Telepresence in Everyday Life*, New York and Abingdon: Routledge, 2010.

performance, cybertheaters, cyberformanec or whatever you might want to call this, one thing is clear: the genre is well established, alive and kicking, and it continues to innovate in dramaturgical, aesthetic, conceptual and also social terms.