Sounding the Network: The Body as Disturbant

Franziska Schroeder

Sonic Arts Research Centre

Queen's University Belfast

BT7 1NN

Tel. 028 9097 1024

Email: f.schroeder@qub.ac.uk

www.lautnet.net
www.sarc.qub.ac.uk/~fschroeder

Pedro Rebelo

Sonic Arts Research Centre

Queen's University Belfast

BT7 1NN

Tel. 028 9097 5406

Email: p.rebelo@qub.ac.uk

www.lautnet.net
www.sarc.qub.ac.uk/~prebelo

Keywords

Network Music Performance, The Body, The Disturbant, The Glance

Abstract

This paper investigates the network as a site for music performance; in particular, the

net's performative conditions with the tightly linked notion of community are exposed through the medium of music as an intrinsic social practice. The paper provides a brief cultural overview of the development of the network metaphor before problematizing perspectival views of the network. By reflecting on the development of social web environments and its fragmentary nature, the authors examine the scattered viewpoints that characterize the network. The authors question the idealized view of an all-connectedness and position the human body as an interrupter of the network. In this line of thinking, the idealized models of connectivity and communication of the network become questioned. Instead, the authors look toward music performance and propose a re-thinking of this communication model and argue for a framework that, contrary to the often holistic approach to performing in the net, favors glances, fragments and desires.

Networks as Culture

In the age of technological omnipotence, digital connectivity and the promise of unlimited possibilities, being 'networked' has become a fashionable state, being in the 'network' a favored place of existence. The network is a culturally intriguing condition in particular when thinking of the body's place within. Communicating with another has been gradually transformed from a state in which the human body was located somewhere at the 'outside' of the network towards a situation in which the human body is *in* the network. A move has taken place from humans looking at the network in wonder, as somewhat distanced and contemplative onlookers, towards a position in which they now see themselves as increasingly involved in the network mesh, as

entities within the network that shape and indeed constitute the network itself. The network is no longer a channel for communication and exchange but rather a place in its own right, a space for being, a locus for dwelling. This has become attested to in recent years by performative environments, or one should say by 'living' environments, such as Second Life [1]. These environments not only act as a platform for communication but are, for some, at the center of their lives [2].

As network environments are becoming increasingly more demanding of our attention and constant interaction they also are becoming more performative in nature. Environments such as "Myspace" and "Facebook" put great emphasis on a state of constantly being available, continually being online, or at least, being urged to go online. As two users share online status, possibilities for chatting, "poking", etc… become available. The asynchronicity of Email has been replaced by synchronous video conferencing and the time stamped wall posts and blogs. The net has become modulated by time and presence and the net user/inhabitant is continuously asked to be available in order to refine her net persona or net presence. The homepage of the nineties has exploded into multiple presences in social web environments, where the user is increasingly aware of her identity as projected in different online stages and communities. The small yellow "under construction" icon of the early nineties, then considered a glitch and a symbol of inadequate progress in a homepage that otherwise promised completeness and unity, has now been accepted as the norm. The net is always under construction with no completion in sight, ever expanding and contracting and under constant redefinition. To 'put it on the web' has been replaced by *being* on the web, by *performing* the net. The isolated homepage has gained social awareness and has evolved into transient and fragmented connections in the form of friends, groups or extended networks. The question one may need to ask is whether this deliberate exposure of time, place, presence and identity gives the net its performative condition?

The net's performativity and the notion of community are particularly exposed in music as an intrinsic social practice. Music making therefore provides crucial critical perspectives in the discourse of the network's performative condition and can aid in answering the question of the net's performativity in a wider context.

Before further investigating the role and position of the body in the network as articulated by music and performance today, we want to look at the network itself by setting it in a brief historical context.

Networks Through Time

The concept of the 'network' can be traced back a few hundred years, the word's etymology attesting to this. Although it is beyond the scope of this paper to address the history of the network as concept, tool, or condition, it is nevertheless important to trace a short history of how the notion of network has mutated and developed throughout the centuries.

According to Harper, the word "network" can be traced back to at least the 1560's, where one finds the network posited as a "net-like arrangement of threads, wires, etc." [5]. One can think of fishermen's nets connecting various strings of fabric into intricate net-like arrangements to shape tools for their trade.

The network gets its first formal treatment in the work of 18th Century mathematician Leonhard Euler who

describes the properties of vertices (nodes) and arcs (routes) in the context of the Königsberg Bridges problem [6]. In Euler's work, the network becomes a tool for connectivity, the optimum path, a model for complex interaction.

In the 1840's the word tended to refer to "any complex, interlocking system", often used in reference to transportation channels such as rivers, railways, and canals [7]. It is not surprising that with the rise of the steam engine and the ensuing elaborate extensions of rail lines the network term took on important meaning.

Along with the extension of digital networks at the end of the 1970's the rather quixotic understanding presided that one could revive democracy, that one could facilitate communication free from class and ethnicity; in short, that one could form a "global village" effortlessly, a term that can be traced back to 1962 in the writings of Marshall McLuhan [8]. Hiltz and Turoff perceive 'networks' in such a way, as allowing the existence of a communicative structure spanning the entire globe [9].

Roughly sixty years ago, the network came to signify the interconnection of groups of people, and in the early 90's the nowadays frequently used socio-political term of the "network society" was coined by the Dutch author Jan van Dijk in his 'De Netwerkmaatschappij' (1991, translation: "The Network Society") [10]. Five years later Manuel Castells referred to the term the "network society" in his seminal trilogy [11].

It can be argued that up to recently the network was easily conceived of as an ideal connection of nodes where one node effortlessly joined to another, allowing information to be sent in an instant. From an Information Systems point of view the network is seen as information flow, as an opportunity for optimizing routes, as allowing us to address nodal hierarchies and structures. This line of enquiry or nodocentric thinking favors nodes and their mapping over anything else that may exist in the network. Ulises A. Mejías has argued that such nodocentrism highlights the fallible idea that only nodes merit to be mapped, visualized, traced or tracked. Mejías talks about the tyranny of the nodes, which he views as "an obstacle to a fuller appreciation of the process of becoming" [12]. The idealist way of thinking of the network as one that allows seamless connectivity is moved aside by writers that look at the network with slightly less romanticized vision. These thinkers see the network as a site for dis-identification and resistance. In particular, Mejías recent work on networked proximity suggests the space between nodes – the *paranodal* [13] – as an alternative model for networked sociality.

In 2005 Munster and Lovink already emphasized the need for a more complex conception of network sociality and argued for a more distributed aesthetics. They contended that "[n]etworks are not glued together by software and software does not make us social" [14]. They also stressed the idea of seeing networks in ways in which they evolve since they are not only made, but they may also erupt or hibernate. Networks may awaken suddenly and also abruptly die. In short and simple terms, the argument is for networks to be understood in less linear ways.

Such 'less romanticized vision' recalls the rhizomatic ideas of thinkers such as Deleuze and Guattari (D&G). In their seminal work *A Thousand Plateaus* they entangled the network with the metaphor of the rhizome, a term originally torn away from the field of botany where it designates the subterranean horizontal stems of a plant (also referred to as creeping rootstalks, or rootstocks - a fresh piece of gingerroot can aid as a way of visualizing this structure). In D&G's terms a rhizome is an "acentered, nonhierarchical, nonsignifying system

without a General and without an organizing memory or central automaton, defined solely by a circulation of states" [15]. In this line of argument, the rhizome is aligned with the notion of fragmentation and disconnection [16].

Other recent network theories underline the network's heterogeneous (at times maybe anarchic) character and expand the idea of linear and directional informational flows along nodes, a conception originally derived from graph theory for which Euler is often credited as inventor. In this line of thinking, Tiziana Terranova has argued for an understanding of informational dynamics, in which information ceases to be solely about a process of decoding and recoding. It ceases to be solely the pure content of a communication. Information changes form, so Terranova argues, "it disappears or it propagates; it amplifies or inhibits the emergence of *commonalities* and *antagonisms*" [17]. Information, according to Terranova, now deals with "the relation between noise and signal, including fluctuations and microvariations, entropic emergences and negentropic emergences, positive feedback and chaotic processes" [18]. In particular, Terranova considers the transformation of bodily habits through information. She argues that the active power of information transforms our bodily habits. Information is about contacts and tactility, about architecture and design. Information plugs the body into a field of action; it is about dynamic transformations [19].

Networks Disturbed

Recent network theories highlight notions of the fragmentary and the disjoint. As the body inhabits the network it projects identity fragments onto the net through constant revisiting and repetition of actions. The single storage location is replaced by the fragmented, distributed repetitions of data. We are part of Facebook, Myspace, Flickr [20], and many other virtual environments that lead to a fragmentation of our net-identity. This multiple and fragmentary presence puts into question the notion of a single entryway to the net. It is in the repetitive nature of the network to proliferate entries, to request further usernames and passwords to an extent that the metaphor of expansion needs to be replaced by one of increasing subdivision and partitioning. The constant requests for identity data (constructed to a real or imaginary brief) is testimony to a culture of repetition articulated by disjointed databases rather than by holistic and centralized entities [21]. The net user is constantly asked to replicate a series of identity traces and thus creates multiple fragments of his/her persona. These multiple entryways problematize perspectival views of the network. By reflecting on the development of social web environments we can reveal the scattered viewpoints that characterize the network. As Facebook serves the nostalgic search for lost school friends, Flickr provides the portal for your newborn baby. The network is fragmented by nature and a result of ever-changing loops and intersections [22].

It is therefore not only misleading to think of the unity and the global in relation to the network, but also and more importantly, the idealized, all-connecting smooth space is striated by the body itself. It is the body that interferes and disrupts the promise of all-connectedness. As wireless hotspots mushroom through cities around the world, it is the individual, the group or the institution that denies anonymous access. It is the individual that breaks the flow and that forces the constructions of walls, fences, gates and checkpoints with the glaring desire to protect. Thus, the human body does not facilitate informational flow; she is not an active participator nor designer of a smooth seam, but rather, the human body is an interrupter, a disturber of the network. The human body inhabits the stitch. Seen from this angle, the network flows uninterruptedly in the absence of bodily presence, and it is due to the existence of the body's desires for constraints and limits that the network becomes interrupted [23].

Networks as becoming performed

When considering the network as a medium for music performance, one is often mislead by the fallible metaphor of the unlimited, the infinite and the global. This framework for thinking about music-making tends to be conditioned by the flawed promise of the smooth and infinite conditions of the network as it seduces performers into expecting undisrupted access to the infinite.

When webcasting was still in its infancy in the mid-90s, the Norwegian arts collective "Motherboard" with core members Per Platou and Amanda Steggell recognized the artistic potential in low-bandwidth transmissions with its inherent pixilated images and malfunctioning of the technology. Their 1995 work M@ggie's Love Bytes explores the a-synchronicities inherent in networking technologies [24].

In a similar vein, a networked music performance that worked with the limitations of bandwidth, unpredictable delays and interruptions is a work called A-Synk for percussion, saxophone, internet audio chat client and live-electronics by the group "l a u t" [25].

Idealized models of connectivity and communication represent an often naïve understanding of the intricate layers that characterize performative engagement. Although connection and communication certainly have their place when thinking of performance, the network promise inflates their role at the expense of other types of strategies and phenomena.

To make music *in* the network rather than just *over* the network requires a re-thinking of this communication framework. It is the holistic approach to performing in the net that we question here, and instead propose a framework that favors glances, fragments, desires and fantasies.

Recent work in the design of a visual platform for network music performance reflects the role of the glance and the fragmented. "Disparate Bodies v.1" by Pedro Rebelo is a piece that was specifically conceived for playing in the network [26]. The piece makes use of OpenGL 3D graphics that render simple 3D primitives (cubes, cylinders, planes…) modulated by multimodal inputs of the performers (video-based motion capture and audio). The graphics or avatars are designed as close-up and detailed, yet abstract renditions of performance gestures. Their abstract nature allows space for interpretation and ambiguity and invites exploration from the audience [27].

Recent theories about the network highlight the need to see the network as being in the company of such metaphors as 'the disturbant', 'the irritant', 'a machine running amok', 'subversion', or interruptions of flows or breaks, what Deleuze and Guattari title *coupures* [28]. We argue that by considering the incomplete and the paranodal when performing in the net, one can make room for interpretation and allow for the essential ambiguities inherent in all performance activities, rather than aiming for synchronous presence with the disparate other. When making music with others in separate sites all the implications of *not* being in the same space must be given breathing space. The possible intersections that arise from playing apart suggest a performance practice that addresses the network and the role of the body. With the introduction of the recording studio a significant shift in attitudes to performance eventually led to musical practices that not only utilize, but that depend on and are ultimately entangled in, the studio as musical environment. The network

presents a similar shift in attitude and practice. Traditional performance spaces exude notions of unity, togetherness, coherence and situatedness (the concert hall as an island for the extraordinary amidst the city chaos). Acoustically, socially and musically these spaces are at the centre of tradition and convention in performance practice, social relationships and listening approaches. The network's strengths are the opposite and are articulated by the superimposition of acoustics, the socially dynamic and the musically unknown. Elsewhere the authors address strategies for dealing with what we see as the inherent properties of the network as performative environment [29]. The network proposes the collision of multiple acoustic spaces, the inherent aural rendering of latency, and the displaced ensemble.

With the body *in* the network and the performer as inhabitant, questions of presence, representation and interaction gain prominence and contribute to an understanding of the net which goes beyond above questioned communication model. If we consider technologies such as video conferencing, now made ubiquitous through software environments such as iChat [30] and Skype [31], we encounter an underlying desire to bring together those that are geographically apart. Although these systems represent an interesting extension to the telephone call they seem inadequate for a performative context. Although it is beyond the scope of this paper to provide a detailed analysis of visual interaction on the performance stage it is worth reflecting on its characteristics as suggested by certain types of music performance practice. In a chamber music context, for example, although musicians depend on mutual cues and specific types of body language, they do not stare at each other and do not require a full frontal view of each of the other players. As a function of seating arrangement, acoustics, repertoire and interpretation, each chamber musicians fragments the performance environment through glances and peripheral vision. The coherent unity of the ensemble is in fact only rendered by the observer/listener not necessarily by the performers themselves.

Extending this type of thinking to a network context means that equipping performers with a full frontal visual perspectives of remote players fails to address the intricacies of performative interaction which are rooted in interpretation rather than communication, in the fluid rather than the representational.

Thus, the video-conferencing option (two or three-way audio-visual exchange), while promoting a unified view of the net and the holistic portal, places the body at the outside, as an onlooker. As we have argued above this perspectival approach misrepresents crucial performative aspects in music-making. In the same way that you cannot stare the network "straight in the eye"… that "[y]ou can never directly confront the network […], [f]or it is always somewhere else from wherever you may be looking" [32], performers never stare other players straight in the eye nor do they rely on a frame of perspective. Instead they glance, often simply out of the corner of their eye, at the other while intently listening to the performance at each present moment. It is an act of constant re-framing performative presence, in which the aural sphere is relied upon far more than the visual. This implies that, as far as the visual domain goes, elements of the incomplete, the fragmented and an inherent engagement in low-bandwidth are potentially better suited for the kind of interactions at play in networked ensemble music performance than the mimicking or recreating of traditional performance settings. It is apparent that performing over the net removes us one level from the others' presence and from full bodily representations. This type of disparate music making asks for interpretation in the same way that a performer's glance during a performance does; thus, network music performance is re-thought when performers are given a space of possible resistance, a space for interpretation.

Conclusion

By looking at current network theory alongside performance practices informed by the network we have questioned the prominence of the communication model and its ubiquity in addressing complex performance interaction. Looking at one aspect of geographically displaced network performance – presence, we propose an alternative to the video conferencing model which alludes to the 'being together' rather than to the 'being apart'. Through reflective practice, the authors have identified strategies which provide a framework for re-thinking the role of the body when performing *in* the network. The glance, the fragment and the peripheral need to be addressed as an integral fabric of performance practice itself, rather than as an added intricacy to the overwhelmingly robust yet simplistic model of performance as communication.

Steven Shaviro's intriguing comment to be "connected a little less" [33] may indeed aid performers in networked environments to shift the common emphasis of 'being there' towards a greater exploration of the 'being apart', thus not only challenging ideas of perspective, but ultimately providing performers with what is essential when performing the network.

References:

[1] Secondlife: www.secondlife.com. [February 2008].

[2] Having said this, there also exists, even more recently, a trend towards technological escapism, a wish for a return to non-technological practices and research topics, a turn towards what Steven Shaviro calls being "connected a little less." Steven Shaviro, *Connected - Or what it means to live in the network society* (University of Minnesota Press. Minneapolis/London. 2003), 5.

[3] Myspace: www.myspace.com. [February 2008].

[4] Facebook: www.facebook.com. [February 2008].

[5] Harper, Douglas. *Online Etymology Dictionary*. 2001-last update. Available: www.etymonline.com [February 2008].

[6] Euler, Leonhard: *Königsberg Bridges Problem*. Available: http://mathforum.org/isaac/problems/bridges1.html [February 2008]. In 1735 Euler had posed the question whether in the city of Königsberg (the city was then the capital of East Prussia and is now known as Kaliningrad in Russia) with its seven bridges that join various parts of the city on both sides of the river Pregel, it was possible to cross each of the bridges only once and return home. See Alexanderson, Gerald. *Euler and Königsberg's bridges: a historical view*. BULLETIN (New Series) OF THE AMERICAN MATHEMATICAL SOCIETY. Volume 43, Number 4, October 2006, Pages 567–573. S 0273-0979(06)01130-X. Article electronically published on July 18, 2006. Available: http://www.ams.org/bull/2006-43-04/S0273-0979-06-01130-X/S0273-0979-06-01130-X.pdf February 2008].

[7] See Harper.

[8] McLuhan, Marshall. *The Gutenberg Galaxy: The Making of Typographic Man*. University of Toronto Press. 1962.

[9] Hiltz, Starr Roxanne and Murray Turoff. 1994. *The Network Nation: Human Communication via Computer*, Cambridge, Mass: MIT Press (First published in 1978), p. 27.

[10] See Harper.

[11] Castells, Manuel. *The Rise of the Network Society, The Information Age: Economy, Society and Culture*, Vol. I. Cambridge, MA; Oxford, UK: Blackwell (1996) (second edition, 2000).

[12] Mejías, Ulises Ali. *Networked Proximity: Icts and the Mediation of Nearness*. PhD Thesis. Teachers College, Columbia University, 2007, p. 80.

[13] Mejías has borrowed the term from Rancière, where the paranodal is "the part of those who have no part" (104).

[14] Munster, A. & Lovink, G. (2005). *Theses on Distributed Aesthetics. Or, What a network is not*. Fibreculture (7). Available: http://journal.fibreculture.org/issue7/issue7_munster_lovink.html (February 2008).

[15] Deleuze, Gilles and Guattari, Félix. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press. 1988, p. 21.

[16] In his work "The net effect: Design, the rhizome, and complex philosophy," Richard Coyne points out that a rhizomatic system is not analogous to the network system. According to him, networks suggest circulation, repeating and looping. They consist of interconnected entities and often underline this idea of an idealized connectivity. He has also argued that networks make us believe in a unity of all things, in the ability of uninterrupted flows. Richard Coyne, *The net effect: Design, the rhizome, and complex philosophy*. Futures, special issue on Design out of Complexity (ed Theodore Zamenopoulos and Katerina Alexiou, to appear). Author's private copy. 2007. Already elsewhere Coyne has pointed out that we too easily conceive of this technology as an idealized way of connectivity, that networks may seduce us into thinking that we have access to the infinite, something Coyne refers to as the "inflated authority of the network.". Richard Coyne. *Technoromanticism: Digital Narrative, Holism and the Romance of the Real*, The MIT Press. 2001, p. 10.

[17] Terranova, Tiziana. *Network Culture: Politics for the Information Age*. Pluto Press. 2004, p.2.

[18] Terranova, p. 7. It is possible to see the French philosopher Gilbert Simondon as a forerunner to understanding such techno-informational heterogeneity. In his seminal thesis of 1989, Simondon critiqued the mathematical theory of communication, which he saw as reducing the flow of information to one that is

simply transmitted between two distinct individuals, such as a sender and a receiver. However, according to Simondon, communication, and indeed individuation, is far more complex. Communication takes place between what Simondon terms the pre-individual, that which makes individuation possible, and the collective. It is worth noting that there is always an incompatibility among different dimensions of a pre-individual and the collective being. Simondon, Gilbert. *L'individuation psychique et collective à la lumière des notions de forme, information, potentiel et métastabilité*. Paris: Aubier, 1989.

[19] Terranova, p. 19.

[20] Flickr: www.flickr.com. [February 2008].

[21] These individuals that in the process of obsessive segmentation turn into data information, Gilles Deleuze refers to as 'dividuals'.

[22] Multiple readings of the network contradict the global dream and gain authority through constraints. Within the context of Facebook or Myspace, the notion of friend is both extended and constrained: it enlarges previous notions of a friend to a concept that appropriates the intimacy suggested by friendship to a scale of thousands. The constraint comes from the reorganization of the allegedly infinite number of connective possibilities of the internet to a limited set of Myspace or Facebook users which are then segmented according to groups and categories that encourage iteration and emergence: school "friends", similar interests etc…

[23] In a similar vein of seeing the body as disturber, the vision of music/sound software platform designers to bestow 'unlimited' possibilities onto the user becomes constrained by the user's yearning for limits. For example, the initial idea behind the development of the real time audio synthesis programming language SuperCollider, developed by James McCartney, was to have as little reference to musical instruments as possible. SuperCollider: http://supercollider.sourceforge.net. [February 2008]. It was therefore developed as a text-based application to allow the user the exploration of sound through text rather than through the manipulation of instrumental devices. Recent developments within the SuperCollider community, as can be found in the ixiQuarks library, a live-improvisation software environment, abandon the idea of the unconstrained in favor of graphical visualization tools that allow the user to control musical patterns, physical controllers and sensors. It is the user who is demanding the constraints. She is asking to be set limits, requesting points of reference. ixiQuarks: http://www.ixi-audio.net/content/download/ixiquarks. [February 2008].

[24] Motherboard. Available: http://www.notam02.no/motherboard. [February 2008], also in Dixon, Steve (2007) Digital Performance: A History of New Media in Theatre, Dance, Performance Art, and Installation. Cambridge, MA and London: The MIT Press. Chapter 17, pp.430.

[25] l a u t (+ Pedro Carneiro) 2005. A-Synk. For Percussion, Saxophone, Internet Audio Chat Client and Live-Electronics. Available: http://www.sarc.qub.ac.uk/~prebelo/index/works/asynk/left.htm. [February 2008].

[26] The first performance took place in the summer of 2007 between Belfast, New York and Stanford, California, as part of the New Interfaces for Musical Expression conference – NIME 2007. New Interfaces for Musical Expression (NIME). Available: http://itp.nyu.edu/nime/2007/concerts.php#session1. [February 2008].

[27] More details and technical background on the avatar design can be found in Schroeder, et al. *Addressing the Network: Performative Strategies for Playing APART*. Proceedings of the ICMC2007, Copenhagen. Denmark. For the Disparate Bodies Performance, see Disparate Bodies - A three-way Network Performance. Available: http://www.sarc.qub.ac.uk/pages/db [February 2008.].

[28] Deleuze, Gilles and Guattari, Félix. *Anti-Oedipus: Capitalism & Schizophrenia*. Athlone Press. 1984, p. 36.

[29] See Schroeder, et al.

[30] Apple iChat. http://www.apple.com/macosx/features/ichat. [January 2008].

[31] Skype Limited. www.skype.com. [February 2008].

[32] See Schroeder, et al., p. 5.

[33] Shaviro, p. 5.