Sound in Cyberspace: Exploring Material Technoculture

Marilou Polymeropoulou

National and Kapodistrian University of Athens, Dept. of Music Studies/Media Studies, Athens, Greece,
m.polymeropoulou@gmail.com

Abstract — **Cyberspace is nowadays a social network of people that produce, reproduce and consume technology culture, or as it is better expressed, technoculture. In this vast environment, transmittable digital information represents sound. However, what is the function of sound and why does it matter? In the following pages, I shall present sound as the materiality of technoculture in cyberspace, or, the cultural meanings of sound beyond natural space.**

INTRODUCTION

Almost at the end of the first decade of the 21st century, it appears that sound and space's materialities are still being reformed. Twenty four years after Gibson's novel, *The Neuromancer*, technoculture is the sort of culture that defined our age by making it digital [22]. Extending the idea of space to a non-natural place, cyberspace is where new culture resides; on the Internet – or the World Wide Web –, in science fiction and virtual reality, information is the vessel of sound [19]. Even though many theorists deny the use of word 'cyberspace' for the Internet, I will use it as a metaphore. I shall present sound and music in cyberspace through two cases: commodification on the internet and soundscape in cyberspace. These specific examples are used as they are characteristic of their symbiotic relationship – as will be analyzed furthermore. In this paper, I examine the material technoculture that is expressed through the cultural meaning of sound in cyberspace.
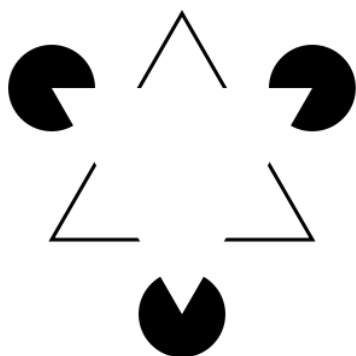

Fig. 1. Cyberspace's Symbol

I. THE NOTION OF MATERIALITY IN CYBERSPACE

It seems hard to explain music and sound through a material culture theorem. In philosophy, music's materiality is often discussed: sound is definitely not an object, but matters to us as an intagible artifact. On the other hand, music consists of particles of sound, which are immaterial airwaves that metaphorically derive their materiality. Futhermore, who would doubt the materiality of the harmonic structure of a musical piece? Very certain chords, in very specific places construct a very unique musical piece, and this only. It cannot be mistaken for any other if expressed through this structure. To expand this idea of materiality, music may not be itself material, but it extends its materiality to tangible music related objects, for instance, a compact disc, a musical instrument, or even, a speaker. Moreover, music in cyberspace depends on interaction and is based upon relations (composer-work, audience-work, performer-composer etc) [17].

Keeping the above thoughts in mind, I sum up that what actually characterizes the material culture of music in cyberspace is its *agency* [11]. Material culture represents the things that not only have matter, but also matter to people, and can be explored by analyzing relationships between people and objects [18, 23]. In music, one can explore the relationships between the composer and its musical piece; the musician and their musical instrument; the audience and the musical piece. Through these relationships, one can also understand the composer-audience relationship. "Things", argues Gell, "can appear as 'agents' in particular social situations; and so […] can 'works of art' [11]. Music, as a work of art on its own turn, acts like an 'agent', constructing a *Sonic Art Nexus*. This nexus can be used to recognize, analyze and understand the agents' relationships mentioned above.

Advancing the idea of a Sonic Art Nexus within cyberspace, agency becomes digital. All data –whether it is music, image, software– is translated to bits and bytes, computer languages and codes. Cyberspace has more

agents to contribute that mainly act as the medium. A computer user wants to listen to a musical piece in mp3 form. What they have to do, is put the song into a specific music program that functions accordingly to a specially programmed software. The computer reads the translated information from the program and hence, produces a specific coded information that represents the song's digital structure. Consequently, data translates into sounds that are produced – with the aid of a soundcard (harware) – through speakers which are attached to the computer. All the encoded data represents a human-machine way of communicating, without which communication would not be possible. To sum up, cyberspace is the place where "transformation of modes of communication and information" occur [21].

In cyberspace we can examine social relationships between all kinds of agents. There are artists that promote their work, users that consume it, all sort of cyborgs appear ready to interact. What is of great importance is to research and analyze the role and/or function of sound and music in a non-natural, virtual place whose materiality is embodied in its users.

II.   Sound in Cyberspace

In Attali's Noise: The Political Economy of Music, the writer makes it clear that "all music, any organization of sounds is then a tool for the creation or consolidation of a community, of a totality. It is what links a power center to its subjects, and thus, more generally, it is an attribute of power in all of its forms. Therefore, any theory of power must include a theory of the localization of noise and its endowment with form." [2] Music and sound could not be absent in cyberspace, "the electronic meeting place where disembodied communication takes place"[2] It is a virtual-place metaphor [1, 14] of a reproducible world that virtually exists and matters. The internet functions as the backbone of cyberspace. It serves as the main connecting point for many other networks [15]. In Baudrillard's terms, "the emergence of the internet as a kind of cybernetic terrain marks the end of the symbolic distance between the metaphoric and the real"[13].

Musical experience within cyberspace stresses the question of kind of bodies that do and do not appear in virtual worlds [13]. In other words, the appearance and interactivity of virtual-bodies enforces a re-examination of the body both as a physiological entity and phenomenological experience [13]. Accordingly, virtual bodies tend to "ignore or denigrate the dynamic and sensory capacity of materiality, both in the world and in our own bodies" [3]. Music in cyberspace demonstrates all the basic interactive characteristics of technoculture [19]: it is sensed through

the natural body of the netter and hence, reacts virtually through their phenomenological avatar. In the following part, I will analyze music and sound materiality in video games that take place in cyberspace.

In the following part, I will describe two categories of sound functions that I will argue in my paper. Firstly, sound as a commodity in cyberspace, secondly sound as cybersoundscape. These represent two of the most common and characteristic uses of sound and music within what we call technoculture.

A.   Sound as a commodity.

In our time materialities are constantly transforming: new technologies, new materials, even new ideologies have the tendency to alter needs and desires. Leaving partially behind the 'hardware' period of humanity, 'softwerism' seems to lead forward. In music composition the phenomenon is not new; electronic music is more than fifty years old and always advancing. Sound and music's so-called 'stylistic morphing' becomes even more apparent for non-specialists, that is, pure users of the cyberspace world. In Beer and Sandywell's words, music culture became digital and is thus characterized by the reinsrciption of a musical system or elements of that system in digital form, the construction of a continuum of elements and the application of transformation rules [4]. Music represents a commodified product multiply distributed in cyberspace [22]. However, the impact of 'music digitization' in cyberspace is firmly related to immaterial consumption and other marketing possibilities of virtual commerce[22].

Internet capitalism became even stronger with consumers' online shopping experience [7]. Shoppers often prefer Internet shopping due to its convenience and lower prices – which can be easily compared with few clicks [8]. As it was mentioned before, cyberspace includes metaphorically the virtual places of Internet and the World Wide Web [1]. Any shopper can visit any virtual music space (e.g. Amazon, HMV, Virgin Megastore, iTunes or any other online music related shop) in order to listen to samples of music CDs and moreover, with few more clicks, buy the CD – and at several times, any other music merchandizing, from collectable bootleg recordings to special limited edition CDs that were made available for specific markets in different countries around the world.

Music as a commodity usually brings about copyright issues. There is a whole range of internet websites offered that one can exchange music files with other users of the Web. Using different protocols, users have the opportunity to download pieces of music encoded in the popular compressed MP3 format legally or illegally [10]. From Napster and Kazaa download software to torrent clients and

rapidshare, music was and is available online but such a consumption is considered illegal as these digital music files which anyone can upload on the Internet, are not protected by copyright law.

Commodification of music in cyberspace often becomes apparent in a variety of virtual communities. Online meeting places for musicians such as Noiz, Pro Session Music and Indaba Music attract musicians around the world who have the opportunity to share their musics with each other and exchange thoughts and ideas through forums. In certain cases, musicians also collaborate in order to produce a collective piece of music, a hybrid or in other terms, a cyborg musical piece.

B. Sound as Cybersoundscape in Video-Games

As a cybersoundscape I consider any background music. Firstly, that is noticeable in video-games. In our days, three-dimension online games have gained popularity. Many netters around the world experience cyberspace through MMORPG (Massive Multiplayer Online Role Playing Games) such as World of Warcraft, Second Life, Crisis, Line Age etc. Before these, MUD (multi-user dimension) games and MOO (multi-user dimension, object oriented, subspecies of programs known as MUD) were classes of programs that distinguished "interactive fantasy game which simulates a terrain through textual descriptions" [19]. Users became "characters in a world where they can interact with their environment and, most imporantly, with other players" [19]. Audio effects and music though, were part of all these game categories, and their role in video-games can be traced in the early '70s.

Early video-games's music was stored on a physical medium such as the cassette or phonograph records. As technology advanced – and costs of materials were going low – programmers developed codes for music applied in games. From 8-bit music programming, to recent personification of sound, video-game music has been an integral part of the foreground [24]. As Ian Wall, video-game music composer states, "playing all those arcade games, I never even paid attention to the music. It just sounded like sounds to me. However, you know all the tunes. It's so funny. The bleeps and bloops, they kind of invade your brain" [24]. To this, Tommy Tallarico, video-game composer adds: "if you remember in Space Invaders, you know, as the ships started to come down, the aliens, and as they got closer and closer, the sound got faster and faster. Now, what the game programmers did was that they took the person's heart rate, and as they're getting closer and closer, people would start to panic. Now they'd do the same studies without the sound, and the people wouldn't panic as much. And it goes to show and prove how significant audio and music are"[24].

In other adventure games, which require puzzle solving skills and patience, such as the cases of *The Legend of Zelda* and *Grim Fandago*, Collins states that sound is critical in helping the player to adapt to the game issues. [5] Collins sees three types of sound in games: Interactive audio (when the player pushes a button and a sound effect is played for a specific action), adaptive audio (sound changes according to game environment, without a response to the player or listener), and dynamic audio (a combination of the above) [5].

To this, one can add up music's function as a method of promotion. Collins underlines the symbiotic relationship between the music and games industry and the way popular music is used to promote video games and vice versa. [6] There are three categories of video games constructed upon music: musician-themed games (*PaRappa the Rapper*, SCEI 1996), creative games, (*Guitar Hero*, Red Octane 2005) and rhytm-action games (*Amplitude*, Harmonix 2003). [6]

There is plenty more information that can be added in the relationship of music, sound and cyberspace. What is of great importance remains the fact that one needs to understand the facts and be ready to reply to aesthetic/philosophical questions that they will draw.

III) Conclusions

Every code of music is rooted in the ideologies and technologies of its age [2].From the two paradigms mentioned, several conclusions can be made. What is mostly promoted through this perspective is the idea of music/sound as a commodification in a non-natural space. In a sense, hyper-commodification of popular culture can examine where fetishism of technique meets commodity fetishism. What really matters here, is to focus on the results of this phenomenon and the changes of the technoscape [19]. Cyberspace is often seen as an allegory to Plato's Cave: it appears as an immaterial place that exists in the sphere of philosophy. Cyberspace is more than "a consensual hallucination experienced daily by billions" as proposed by Gibson. However, cyberculture becomes part of our natural life embodying the post-human notion of man, that extends their capacities. What is left to be examined, is how does that affect our relationship to sound and music? And even further, music as a cybersoundscape is it a selection of sounds without an aesthetic result?

References

[1] P. Adams, "Cyberspace and Virtual Places". *Geographical Review*, Vol. 87, No. 2, pp. 155-171, 1997

[2] J. Attali, *Noise: The Political Economy of Music*. Manchester: Manchester University Press, , 1985

[3] B. Becker, "Cyborgs, Agents, and Transhumanists: Crossing Traditional Borders of Body and Identity in the Context of New Technology". *Leonardo*, Vol. 33, No. 5, Eighth New York Digital Salon, (2000), pp. 361-365

[4] D. Beer, B. Sandywell, "Stylistic Morphing: Notes on the Digitisation of Contemporary Music Culture." *Convergence* 2005; 11; 106

[5] K. Collins, "An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio", *Essays on Sound and Vision*. Helsinki : Helsinki University Press, 2007, http://www.gamessound.com/texts/interactive.pdf

[6] K. Collins, "Grand Theft Audio? Popular Music and Intellectual Property in Video Games". *Music and the Moving Image*, Vol 1/1, University of Illinois Press, 2008, http://www.gamessound.com/texts/collinsGTA.pdf

[7] R. R. Dholakia, K.-P. Chiang, "Shoppers in Cyberspace: Are They From Venus or Mars and Does It Matter?" *Journal of Consumer Psychology*, *13*(1&2), 171–176, 2003

[8] R. R. Dholakia, K.-P. Chiang, "Factors Driving Consumer Intention to Shop Online: An Empirical Investigation". *Journal of Consumer Psychology*, *13*(1&2), 177–183, 2003

[9] C. Eve Matrix, *Cyberpop: digital lifestyles and commodity culture*. London: Routledge, 2006

[10] Michelle W. L. Fong, "Music in Cyberspace". Issues in Informing Science and Information Technology

[11] A. Gell, *Art and Agency*. Oxford: Clarendon Press, 1998

[12] W. Gibson, *The Neuromancer*. 1984

[13] D. Holmes, *Virtual Politics: Identity and Community in Cyberspace*. London: Sage, 1997

[14] D. Hunter, "Cyberspace as Place and the Tragedy of the Digital Anticommons", *California Law Review*, Vol. 91, No. 2, (Mar., 2003), pp. 439-519, 2003

[15] S. Jones, *Cybersociety 2.0: Revisiting Computer-Mediated Communication and Community*. London: Sage, 1998

[16] S. Jones (ed), *Virtual Culture: Identity & Communication in Cybersociety*. London: SAGE Publications, 2002

[17] V. Mikić, "Technoculture: Subjectivity in the Net of Music". *Spacesofidentity 4.1 (2004),* pp. 73-82

[18] D. Miller, *Materiality*. London: Duke University Press, 2005

[19] K. Robbins, F. Webster, *Times of the technoculture: from the information society to the virtual life*. London: Routledge, 1999

[20] A. Ross, R. Lysloff, L. Gay, *Music and technoculture*, Connecticut: Wesleyan University Press, 2003

[21] R. Shields, *Cultures of internet: Virtual Places, Real Histories, Living Bodies*. London: Sage Publications, 1996

[22] T. Terranova, *Network Culture: Politics for the information age*. London: Pluto Press, 2004

[23] I. Woodward, *Understanding Material Culture*. London: Sage Publications, 2007

[24] "The evolution of video game music", Article from http://www.npr.org/templates/story/story.php?storyId=8956556 7 April 2008