

Cyborg Formations in Art

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ABSTRACT

Case of developing the body via technology, adding extensions or reproducing, make progress day by day due to the need of using in the medical area. It is noticed that these contributions for the physicalness in science create sources for the experimental artists, who approach to the current media, which involves technology. For this reason, "Cyborg", "post-human" and "extended body" concepts have become a part of interconnected contents that belong to the digital art projects. In this study, the performance art works that are conducted on the cyborg body concept by the artists who take part in the performance arts, which have the characteristics of physical representation, are examined.

Keywords: Cyborgs, Performance Art, Technology in Art.

1. INTRODUCTION

The mobility that we have experienced nowadays in technology enables us to develop, increase and even change the body in all terms. When we generally look into this kind of medical interventions to the human body, it can be seen that the term "cyborg" is used to refer to the people who have either bionic or robotic implants. From the smart contact lenses that develop our sight to the exoskeletons that provide extraordinary resistance for our body, the cyborgs that are formed by compounding the organic and bio-mechatronic body parts, are the precursors, which will form our future in all aspects.

Cyborg body concept that developed within the scope of cybernetics enables the artists to discover the connections between human and machines via art since the middle of 20th century until now. Accordingly, it is possible to see the artists, who develop their bodies as the interface of the compound machine-human, especially in the

performance arts. Performance artists front to discover the limits of their bodies via voluntarily medical surgeries or robotic extensions in accordance with the developments recorded in medical and technology areas. The identity of the artist, who is the creator of the artistic object, is re-evaluated by adding the factors of prosthesis and aesthetic surgery to the usage of technology, which is commonly used in art. Besides, the artists who establish control of the extensions and new prosthesis in their own bodies, front to passive frame from active frame by including the elements such as the interactivity as well as their artistic productivity from time to time. At this point, cyborg body which has the characteristics of hybrid form of organism and machine which has an involved structure in terms of both social reality and the existence of fictional one, provides to re-evaluate the physical structure of the body which conjoins to technology, in current art environment by involving to the creation process of the artist. Human-machine fusion has reached a new step nowadays, and the performing art has become a key point, which enables to understand the relation between these two compounds via the cyborg concept.

2. WHAT IS CYBERNETICS?

1940's, in which the technologic developments accelerated in terms of quantity, are accepted as the beginning of the "cybernetics" science. Cybernetic is explained as the discipline, which examines the inspection and the management of all of the complex systems, including living and non-living things basically. The term is derived from the word "kybernetes" which means "quartermaster" in Greek, and it means "governor" in Latin. First studies performed on cybernetic and robot science, were performed by El Cizirî, who was scientist, physician, robot and matrix master from Cizre in 12th century, but appearing as a term was possible thanks to André Marie Ampère, who was French

mathematician and physician. Current description was made in the book “Cybernetics or Control and Communication in the Animal and the Machine” dated 1948, written by Norbert Wiener, who was American mathematician and philosopher, and who is accepted as the founder of cybernetic discipline. Wiener, who is considered to be among the founders of modern cybernetic, described cybernetic as the study field, which focuses on the control and the communication in human beings and animals. Cybernetic is based on researching the control and communication methods of living things and data processing in a comparative way in order to express the forms and functions of human and mechanic systems better. Within this context, Wiener (1948) summarized this kind of developments that were experienced within the century he lived; “If the seventeenth and early eighteenth centuries are the age of clocks, and the later eighteenth and the nineteenth centuries constitute the age of steam engines, the present time is the age of communication and control.”¹

Within this context cybernetics is the theoretical study of communication and control processes in biological, mechanical, and electronic systems, especially the comparison of these processes in biological and artificial systems. Organism is an individual form of life, such as a plant, an animal, a bacterium, a protist, or a fungus; a body made up of organs, organelles, or other parts that work together to carry on the various processes of life or a system regarded as analogous in its structure or functions to a living body: the social organism.² Consisting of a combination of these two terms “cybernetic organism” is a self-regulating organism that involves a combination of natural and artificial components. According to some definitions, and the analyses of many thinkers on the topic, humans are already cybernetic organisms. Witness how closely we are already integrated with technology – simple tools such as a pen and paper, glasses, or more advanced medical prostheses such as pacemakers may be considered the early harbingers of humanity’s transition into a more cybernetic

form. Futurists such as Ray Kurzweil have argued that in the coming decades we will inevitably become even more cybernetic, and embrace the merger of biology and technology.³

Cybernetic discipline is confronted by us in the contents of exhibitions which were based on science, technology and art relationship, that became effective especially in 1960’s, and additionally, it shows itself in the works of this artistic environment, especially such as Stelarc and Orlan, in the performance arts.

3. CYBORG FORMATION

Cyborg term was used by Manfred Clynes and Nathan S. Kline in 1960’s. The term, which appeared as the abbreviation of “cybernetic organism”, make a reference to the hybrid nature of the form with both its organic and bio-mechatronic structure. Hybrid form in question emphasises a formation in which the borders between human and machine come off transparently by stating the liminal structure in terms of interaction between human and technology. According to Katherine Hayles, “In the posthuman, there are no essential differences or absolute demarcations between bodily existence and computer simulation, cybernetic mechanism and biological organism, robot teleology and human goals.”⁴

For this reason, liminal structure of the body and the machine are explained using the concepts of post-humanism and cyborg. Within the process, cyborg phenomenon proved itself to be a useful model in terms of theoretic discussions, which surround the postmodern and modern subjects of identity and culture. However, in Yvonne Volkart opinion, cyborg does not consist of cybernetic organisms only. While it is widely described as the connection between human and the machine, in fact it states the hybrid fictions that symbolize the network-based cellular and transsexual bodies that are cloned and generally behave like a beast, suchlike the machines.⁵ Hence, when we consider

¹ Norbert Wiener, *Cybernetics or Control and Communication in the Animal and the Machine*, (Cambridge: THE M.I.T. PRESS, 1948), p.39, <http://www.allen-riley.com/utopia/cybernetics.pdf> Access date: [03. 01. 2016].

²<http://www.muslimphilosophy.com/mih/tech/p4.htm> Access date: [04. 01. 2016].

³<http://www.wisegeek.com/what-are-cybernetic-organisms.htm> Access date: [04. 01. 2016].

⁴ N. Katherine Hayles, *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*, (Chicago: University of Chicago Press, 1999), p.3.

⁵ Yvonne Volkart, “Cyborg Bodies” *The End of the Progressive Body*, Retrieved from

that the body brings the new and artificial things together, cyborg body covers all these concepts. It is considered that the cyborg bodies not only affected in the past but also now affect our bodies and their perceptions via new media technologies. New media is on an important point in terms of finding an answer for the cyborg bodies by using its various environments due to the fact that the others have the possession of the body and the rights of body heavily.

After the description of cyborg by Clynes and Kline, "Cyborg body" approach was developed by the article named "A Cyborg Manifesto" issued by Donna Haraway in 1983, who is an American biology theoretician. Cyborg figure of Haraway ensamples not the borders of technological combination of human and the machine, but the common borders between living and non-living things, which are not certain anymore, no matter how they are natural or artificial. With Haraway's description "A cyborg is a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction".⁶ From the point of Haraway's description, Cyborgs are both human and organic data carrier mediums, which may communicate much or less with their environments. There are one-cell organisms and they are the living things which are mutated in terms of biotechnics, and exploited by the globalised technologic industry (such as rats and humans). Haraway's article "A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980's" exhibits the efforts of a loyal building of socialism, feminism and materialism to the ironic, political myth, and the other side it describes the postmodern investigation of exact binary oppositions. Modern science fiction is full of cyborgs. They are the beings which surround the world and which are natural or artificial questionably, both animal and machine. For this reason, the nature contains the real and virtual ones within itself.

http://www.mediaartnet.org/themes/cyborg_bodies/

Access date: [04. 01. 2016].

⁶ Donna Haraway, A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s. **Australian Feminist Studies**, 1-42: 1987, <http://www.tandfonline.com/doi/pdf/10.1080/08164649.1987.9961538> Access date: [04. 01. 2016].

4. CYBORG SEEKING IN PERFORMANCE ART

Cyborg, extended body and post-human concepts become often apparent in digital art works. Modern body in the performance is post-human body and this post-human body corresponds to the cyborg body, which consists of half organism (half human) and half machine. When the importance of body in the performing arts is examined in a post-humanistic way, Stelarc, Australian Performance artist, who formed his body as an interface between the machine and the human, comes to the forefront. The context of the technology-based performances of Stelarc consists of anatomy, evolutionary architecture and the ideas of the requirement of developing the body. He is known with his extreme performances that may be described as aggressive, including robotic third arms, hook suspensions and prosthesis that he made on his body.

When we consider the surgical operations that Stelarc and suchlike performance artists applied on their bodies, from the viewpoint of work of art theory of alter Benjamin in mechanic re-production age, it can be seen that the reproducibility destroys the aura, unicity, authority and distance of the art, and on the other hand it liberates the art by separating it from its roots and makes the objects close to the masses. However, according to Benjamin, disappearing of aura and losing the distance affect not only the image but also the body; because these two are inseparable from each other. Benjamin ensamples the subject with a binary metaphor between the painter and magician and the cameraman and surgeon. First two maintain the natural distance between the motive or healed body, and the latter two penetrate in the tissue. Thus, his new visual technology is "surgical" and when the new representation methods make the world apparent, they direct the observer to the new perceptions by shocking.⁷ Marshall McLuhan submits in his book "The Global Village" that new technologies don't intervene in the body "surgical", but enlarge it "electrically". Despite the fact that McLuhan develops some ideas connected to each other which seems like ignoring Benjamin, he actually accepts the body and technology relationship as a binary process: Technology is a protective shield against this kind of shocks by turning the actuators into the shield (that this shield

⁷ Hal Foster, *The Return of the Real: The Avant-Garde at the End of the Century*, (MIT Press: 1996), p. 268.

invites more actuators then), and also it is a shock and an excessive actuator. Although McLuhan revealed many times that “We planted our central neural systems into an electric technology except for ourselves”⁸ in his “Understanding Media” (1964), he considered this transmission as a self-cutting in terms of organs like a suicide, based on the insecurity of self-protection of the physical organs against the chock mechanism attacks to the neural system sometimes and an unconscious and electrical body by connecting to earth sometimes.

Hal Foster considers that McLuhan is in this logic, which sees the technology as a prosthesis with his contradictory transmission and organ cutting metaphors, and states that Freud’s “Civilization and Its Discontents” (1930) refer to this logic. When Freud determined that human turns into a god of prosthesis via auxiliary organs, he was critical, because, although humans seem gorgeous when they put on these organs, actually these are not the original parts of their own bodies, besides they may create great problems from time to time.⁹ In this point of view of Freud, technology is seen as a holy addition that will provide threatening a malicious attempt of injuring of the body or activation of the phallic instinct magnificently of the body that has a fear of a horrible desexualisation. This logic which processes in different modernisms, necessitates a man’s body and a subject which feels the deficiency, and divided as it is on Stelarc. Feminist cyborg model developed by Haraway, states that there is no need for dreaming the space between human and the machine in terms of fear of desexualisation and fetish fantasies, and it describes Cyborg as “the creature of post-gender world”. For Haraway, Cyborg feels the human-machine interface as a “fertile binary” situation, not a trauma of a recorded unity and the current division.

From 1960’s to nowadays, Stelarc, who has used his body as a toile by adding new performances to himself via the performances that consist of robotic, prosthetic human-machine interfaces that he formed via internet, has produced numerous works which force the limits of humanistic experiences. Artistic strategy of the artist is shaped

⁸ Marshall McLuhan, *Understanding Media*, (New York: McGraw-Hill, 1964), p.60.

⁹ *Ibid*, Foster, p.270.

around the thought of strengthening the body physically and technically. Spectator reaches a second level, which testifies the transmutation of a physical and technical object in order to discover the limits of the body, via the works of Stelarc. Digital technology turns into prosthetic advanced technology in the manipulations of Stelarc’s arms and legs and also the audience has an opportunity to experience the increasing fusion of the body and the machine.

Edward T. Hall states that humans develop extensions for everything they can practically ever do about their bodies and actually adds that it is possible to accept all material things that are produced by humans as an extension of the things that humans do about their bodies or the relevant parts of their bodies once upon a time.¹⁰ However Stelarc says “the body lacks of modular design”.¹¹ Our bodies are old and we have to go out of the physical being. According to the artist, technology is beyond describing the meaning of being human; even it is a part of being a human, and especially in the information age that we belong, body is inadequate in terms of biology. Artist, who thinks that we live into an exaggerated and also unemotional period, states that the organs that do not have a body, are waiting for their bodies, and technology for our period allows the implantation of the bio-compatible components into the body. While biological body develops via technology, art is performed with the systems telemetrically. Body acts with insensibility. This insensibility allows hanging the body into its skin with a hook, to implant a statue into the stomach, and implant the ear into the body with stem cell via surgical operation.¹²

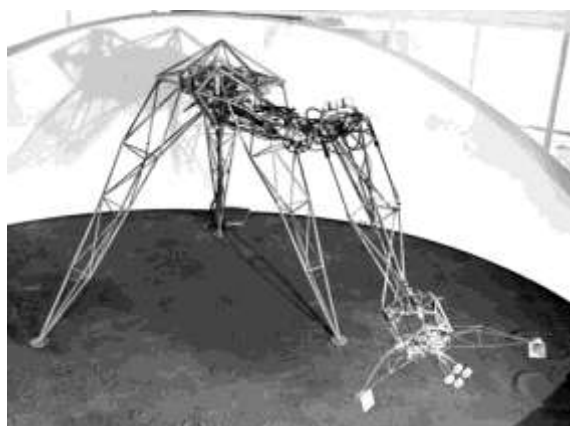
Early works of Stelarc, which has technological content, have the characteristics of the latter stage of robotic art. One of the earliest samples of computer-controlled robotic art on which the

¹⁰ Edward T. Hall, *The Silent Language*, (New York: Doubleday, 1959), p.79.

¹¹ Paolo Atzori, Kirk Woolford. “An Interview with Stelarc”, *Digital Delirium*, ed. Arthur Kroker, Marilouise Kroker. Amerika: New York, 1997: 194-200.

¹² Stelarc, *Excess and Indifference Alternate Body Architectures*. <http://stelarc.org/documents/ExcessandIndifference2.pdf> Access date: [20.01.2015].

theatrical actions are performed by the robots instead of human body, is "The Senster" installation which responds to the voices and movements of humans, who are near, via the sensor and hydraulics, made by Edward Ihnatowicz in 1970. With this work of Ihnatowicz, statue in the robotic art passes to dynamic position from static position by means of technology. Performance reflections of the robotic works in art are seen with Stelarc.



Img 1: Edward Ihnatowicz, The Senster, 1970.

When the body unites with the technology, it develops not only physically, but also it enables a special experience to be possible. For example; with his "Third Hand" performance in 1980, Stelarc experiences an electronic hand which can turn and hold that he gets mounted on his right arm. Through this performance that consists of machine, biology, database flow and virtual systems, new interfaces are designed in art. "Third Hand" which operates via Electromyography (EMG) system, uses the energy it takes from the electrolytes that are put on the muscles of stomach and legs (muscles that moves). Robotic hand in question was developed by Imasen Electric Industry Company in Nagoya based on a prototype developed in Waseda University.

Artist performed his most famous and long performance in Japan, Australia and U.S.A between 1980 and 1998. Third Hand which is the interface of technology and prosthetic reproduction, is characterized as a layer which is added to the body, instead of being a prosthesis. The reason of this situation is the qualification of using prosthesis on the body as a signification for exaggeration, not as a deficiency. Body signals and Third Hand performances of the artist, which are

enforced by voice, contributed to the cyborg researches on the body, and triggered the latter performances such as Exoskeleton, Fractal Flesh, Ping Body and Parasite.



Img 2: Stelarc, Third Hand, 1980- 1998.

Stelarc placed a mechanical sculpture that is united with voice, light and motion sensors, to his stomach via endoscopy method in his "Stomach Sculpture" (1993) performance, and he evidenced this performance, which continues for 15 minutes with a video. Also he provided an interactive connection by abolishing the limits between the artist and the audience with his performance named "Fractal Flesh" in 1995. Audiences, who are in Paris, Helsinki and Amsterdam, joined to this performance, which was held in Luxembourg, with the signals they sent on the internet. With the signals, which came from the audiences, Stelarc's body was moved via the stimulator devices. Stelarc explained his performance, in which he turned into the first tele-operated human (remotely controlled), with this conversation:

"Consider that a body directly wired into the Net -a body that stirs and is startled by the whispers and twitches of REMOTE AGENTS - other physical bodies in other places. Shivers and shakes inside the online flow. A body which shows clearly statistical and common data flow as socio-neural compression

algorithms. A body which moves without expectation, and creates movements without memories.¹³

Stelarc's Teleoperation System,¹⁴ which was the base of the performances controlling the body remotely, was first used in history by the invention of Ray Goertz Master-Slave Manipulator. Goertz and co-workers at Argonne National Laboratories (ANL) demonstrated the first mechanical, bilateral master-slave manipulator device (MSM) in 1949. Goertz had become acutely aware that the haptic senses were necessary to manipulate delicate objects and had incorporated force-feedback systems that greatly improved deftness of the human-machine combination. By the height of the Cold War years, 1954, Goertz had improved the tele-operations by applying principles of cybernetics and constructing the first electronic master-slave manipulator systems.¹⁵

As the main device sensitive other device called "Slave" the controlling device called "Master". But this transformation, which Stelarc experienced, is more than a Master-Slave relationship that he leaves control of his body to other bodies to obtain feedbacks from them. By this point, Stelarc mediates McLuhans artist concept vision in the new media environment. McLuhan, at "Understanding Media" (1964) described artist as the person who received the message of competition of cultural and technologic before his transformation power effect arise.¹⁶ Because of that, Stelarc's all fictional prosthesis aesthetics, extended body performances and post-evolutionary man-machine cyborg bodies to face this mutation, they all look like based on McLuhan's vision.

In "Ping Body", (1996) performance though, physical impulse this time, be moved by Internet data flow. By the data which obtained calculating the duration of the responses received from the random ip signals to Stelarc, the muscles of the artist are being moved, and by this movements

¹³<http://www.stelarc.va.com.au/projects/fractal/index.htm>
Access date: [21.01.2015].

¹⁴ In a telerobotic system, a human operator controls the movements of a robot, a machine or a system from some distance away.

¹⁵ Micheal E. Moran, "The History of Robotic Surgery", Robotics in Genitourinary Surgery, ed. Ashok K. Hemal, Mani Menon, 12.(3-24), (London: Springer, 2011).

¹⁶ Ibid. McLuhan, p. 71.

robotic third hand is being moved. The voices from the body's involuntary muscle movements compose the music of the performance. 0-2000 milliseconds ping values, directed to the body of the artist as 0-60 volts. Thus the graphical interface of Stelarc's body parts, imitates the physical body's movements, in other words, represents the movements of the body. Ping Body, directly connects physical body and network integration for internet data flow. During the performance, the visuals ratings, uploaded to the web site to be able to be watched online, are shown with the web server statistics. This performance, on contrary to reverting body's ordinary interface to be used by collective bodies online, relocates collective internet movement to body. Internet is not only a form for data flow yet also a system, which physically acts and transports energy. And the result is an involuntary muscle spasm on artist's body. As Stelarc stated the Ping Body performance is a "the body and the machine become one operational system." There is a psychological collapse in distance and time," he says. "In this body's interaction with the world, it performs more or less subtle and sophisticated actions whose feedback either affirms or negates previous behaviors."¹⁷

For Stelarc with Body Ping performance and similarly Spanish artist Marcel-li Antunez Roca famous for his mechatronic performances and robotic installations in international art community. He performed his avangard mechatronic performances by combining with Systematugy and dresskeleton interfaces. When analysed the themes artist studied in his Works, like "Joan l'home de carn" (1992) that he intensified on using biologic materials, with his "EPIZOO" (1994) performance he experienced telematics control by the audiences, with "AFASIA" (1998) and "POL" (2002) the performed advanced body movements with dresskeleton, in "REQUIEM" (1999) performed involuntary choreography with body bot, in "RINODIGESTIO" (1987) and "AGAR" (1999) installations it can be seen that he has been intensified on microbiology. In our day he resumes

¹⁷ Mark Fernandes, The Body Without Memory: An Interview with Stelarc, **ctheory.net**, Retrieved from: <http://journals.uvic.ca/index.php/ctheory/article/view/14709/5580> Access date: [17.02.2016].

his studies on spatial and utopic researches with “TRANSPERMIA”.



Img 3: Marcel •lí Antúnez Roca, Epizoo 1994. Interactive Performance.

Observed in Roca’s performances just like Stelarc, its body to be controlled by devices thus to be available for involuntary movements. Paul emphasize that by letting Stelarc control body by device, it has been the center of the discussions about digital technology changed our soul.¹⁸ For Paul, this situation is similar to Galileo who observed moon with his telescope in 1609. Telescope not only enlarged the vision of humanity, but also, to a certain extent, separated eye from the body’s perceptual physical universe. For Paul, this physical separation or evacuation, with virtual reality and online environment, get through a new dimension. One of the reasons the online generation to be a center of attraction is that it let us free from our insufficient physical structure, mortal limit and let us to reconstruct our body’s digital copy. In other words, online world, just like the website which created the content of Victoria Vesna’s “Bodies, INCorporated” (1995) lets the visitors to create their own cyber personalities by the means of cyber body and online representation.

¹⁸ Christiane Paul, *Digital Art*, (London: Thames & Hudson, 2003), 167.



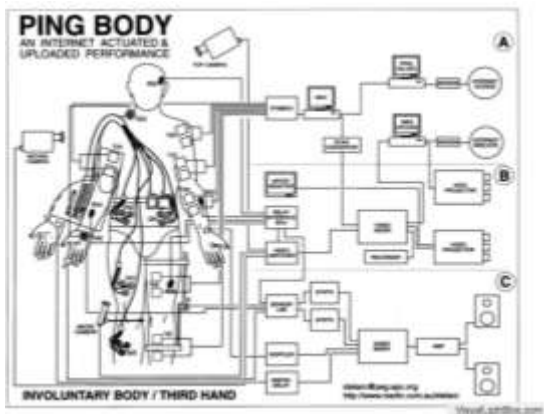
Img 4: Victoria Vesna, Bodies INCorporated, 1995.

Similar to Vesna’s cyber personality experience, Stelarc also in “ParaSite” performance in 1997, integrated his body with information. By the means of virtual neural system, it has been possible to move his body. Just like his Ping Body performance in “ParaSite” performance also connected with internet. But in this performance random jpeg images from search engines are being used to create electric for muscle stimulations. Thus simulated visual body or in other words metobody turns into real body. One step further, real body will turn into a parasite on virtual world. The conscious which rapidly narcotitates, exists both in inside and outside. Fernandes asserts that artist’s this performance evoke with German philosopher Martin Heidegger’s Kestel¹⁹ concept.²⁰ Heidegger, utilizes gestell concept to describe what lies beneath under the 20th century modern technology. By describing this problem, associates human and existence with this technology. The existence in here, corresponds to ideal personality which undergoes from birth. Heidegger’s saying, our “being the world” formed body, by experiencing interaction with this world and doing its job, explore its limit and then uncover biologic

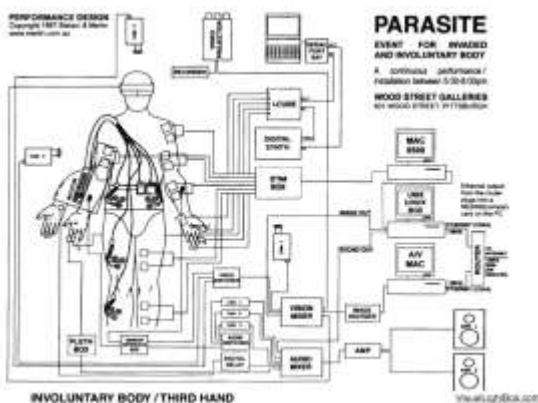
¹⁹ Gestell means frame or Bookshelf in the common usage in German. In addition to this, it also means skeleton. When it is used as ge-stell, it means framing. (Heidegger, *age*, 20).

²⁰ Ibid. Fernandes, <http://journals.uvic.ca/index.php/ctheory/article/view/14709/5580> [17.02.2016].

parameters. Artist's Ping Body and ParaSite performances show how to stop working of the predictable physical reactions. Neural ways on human body does not look like ready to create electric energy to shock the body and to create spasms.



Img 5: Stelarc, Ping Body, 1996



Img 6: Stelarc, ParaSite, 1997

But in 1999 with “Exoskeleton” performance artist’s body got extended with six legs. This pneumatically working moving device, make Stelarc move, front, rear, sides and swivel. Artist’s body, which inserted into the centre, make moves on the platform with pneumatic manipulator and by advanced arm. This device composed of Mechanic, Electronic, and software components, being moved by artist’s body movements. Stelarc, in his early period studies, applied a system to the audiences that can be moved remotely by artist’s muscle movements. Stelarc’s “Muscle Machine performance which was first released 2003 in which he represented the hybrid human-machine system in which there’s a robot which imitates artist’s movements. Using fluid muscle actuators, which operate pneumatically, strengthens this walking robot, which has six legs.

When we look into the relation between the technology and the body that is in the performative post-human stage, it can be seen that Stelarc developed his body via the prosthesis by using the technology in almost every performance he performed. Artist adds “extensions” according to Hall, to the unemotional body of our age that he considers insufficient via his performances. Artist, who pushes the limits of modern performance art, wants us to question the meaning of our predictions related to the activities of humans and physical and virtual extension that is concretized, as a spectator. Besides, these performances reveal that the organs, which the humans use for their activities, are changed via technology, and tries to determine the limits of the body relations. Stelarc’s performances form a point of view on the spectator in the direction of the existence of the body without organs, which is changeable, collaborator, transparent and communicable. The thought of what the layers that form human being are, depends on the point of view of the individual. For this reason, body may be designed with the imagination of the individual and has a re-organisable formation.

Orlan, with an expression very close to the theory of Stelarc as the body “lost its validity” (obsolete), says “body worn off”.²¹ “Body” concept of the French artist that he considers equal to the other objects and as a material, forms the focal point of his performances that he identified as “carnal art” which covers lots of medias, including sculpture, photography and plastic surgery operations. When he transforms his body via the operations that he performed during his performances, that he claimed to be worn off, he completes this activity with costumes, make ups, interviews and camera crew. The project of the artist, which has the characteristics of a documentary of the surgery operations without anesthesia in front of the cameras that have continued for years, is the most important example of the performances that are performed by transforming the body at the end of 20th century by having a relation with early period body works of Eleanor Antin and the suffering

²¹ Adam Parveen, Michael Onfray, Orlan: This Is My Body, This Is My Software. ed. Vicki Berger, Duncan McCorquodale, (London: Black Dog Publishing, 1996), p.91.

bodies of Ron Athey and Bob Flanagan, in addition to Stelarc.²²

Orlan tries to change his face as Mona Lisa that is the ideal example of the woman beauty in the classic painting art, on his body that he considers as a costume. His surgical operations that he performed during 1990's consist of a group of surgical operations and the process of bringing the famous women faces of Western art on his face, within the scope of cognitive multimedia project named "Reincarnations of Saint Orlan". In a sense, when he turns himself into an art object, he would represent the women images who represent the ideal beauty concept of Western art after the Renaissance. In accordance with this purpose, he tries to bring the jaw of Boticelli's Venus that he relates with fertility and creativeness, forehead of Leonardo da Vinci's Mona Lisa as a representative of transsexualism, the eyes of Gerome's Psyche as a representative of spiritual hunger and lips of Boucher's Europa which is in expectation of an unclear future, and he tries to knock them together on his face. However, due to the problems occurred when the surgical operation of Diana Statue's nose in Fontainebleau School that he chose for his aggressive and adventurous character, was blocked.²³ Orlan passes all these surgical operations consciously. Critics of that period mobilised whether these activities of the parties, who did not allow for the application of anaesthesia in order to observe himself, were a part of art or the mental health of the artist was well or not.



Img 7: Orlan, Performance during surgery.

The same as Stelarc, performance concept takes the action on the liminality of body-machine for Orlan. Within this scope, it can be seen that the expression of body-machine liminality provided a detailed explanation of various concepts that are developed in parallel with post-human and cyborg. In this point Orlan declares that "the body is obsolete" she makes a distinction between the "natural" bodies as defined by evolution and the body that is defined by technology. There for according to Oliver and Cruz "such conceptions privilege the idea of a "natural" body which has only been recently surpassed through technology."²⁴ When we look into the performances of Orlan and Stelarc, it is noticed that they used all of the past and present technologies in order to transform their bodies. Various festivals, in which the body is connected with the technology, have become more attractive in the modern art at the end of 20th century. With the performance festival named "Totally Wired: Science, Technology and Human Form" that targets to research the ethical, political and social evolutions of the body and that was arranged by Institute of Contemporary Arts in London in 1996, initiator artists in their field, such as Orlan and Stelarc, worked with the recent period performance artists such as Bruce Gilchrist, Franko B. and Ron Athey.

According to Carlson, the experiences of the body, which unite with the present technology of this age, form the important part of performance art at the end of 20th century. These experiments, which consist of the togetherness of body and technology and occurred in performance art at the end of this century, are characterized as "paradigm change" in the performance concepts and applications of 90's by the theoreticians such as Johannes Birringer. From Birringer's point of view, enlargement of performance art concept represents the passage of recording and transferring from the new paradigm change, it means analogue spectrum, that occurred at the end of the century, to the digital world of global communication such as computer, ISDN and

²² Marvin Carlson, *Performance: A Critical Introduction* (London: Routledge, 1996), p.233.

²³ Kathy Davis, "My Body is my Art" *Cosmetic Surgery as Feminist Utopia?*. **The European Journal of Women's Studies**. no. 4 (1997), p.26.

²⁴ Margo Buchanan-Oliver, Angela Cruz, "The Body and Technology: Discourses Shaping Consumer Experience and Marketing Communications of Technological Products and Services", **Association for Consumer Research**. no.36 (2009): p.368.

internet network.²⁵ Within this context, movements such as body art, Fluxus, cognitive art and pop art that have been happening since 1960's, changed all the paradigm of high art, and removes the limits between art, technology and media by enlarging the view of the performance art.

5. CONCLUSION

As a result, starting from the fact that art can be useful about how body will look like in the future, this study focused on creative ideas and keywords of artists on cyborg bodies. Through a discourse analysis methodology, theoretical and practical perspectives on the body and technology from key works across performance art were summarized. As a conclusion of the research, the era in which we live, as an extension of technology and scientific advances, extended lifetime, artificial organ production, and gene science advances, it can be seen that the human body can be turn into a design object. Human, with the involvements through its organic form, can be involved into a post-human type.

Looking at human and technology togetherness, McLuhan's thesis that human body is advanced by means of technology comes across. These sorts of approaches with available technologies by means of advances in human body with prosthesis means human body arrive to its real form hypothesis. Approaches like McLuhans, are as the indications of human and technology are inseparable and human body can be as technologic as it is organic. Besides, theoreticians as Haraway and artists like Stelarc, in their researches, in which they are influenced from cybernetic science inventions and relevant system findings, they have been focused on how contemporary technology associated, human body, culture, and nature to abolish the boundaries.

The human body always developed to harmonize with its environment. Technology, made our socio-cultural structure and the boundaries between nature and culture vague. Because of that body has always been changed, to survive, cooperated with machines, turned into hybrid form, in other words cyborg body. Cyborg bodies not only represent post-human era, but also the

technology, which is the inseparable part of the human identity. As the Baudrillard said technology when looked from cybernetic perspective, an extension of the body. By means of operational dimension, technology is the more complex form of human organism trying to challenge and outclass the nature.²⁶ In this regard, many products, which we name as technologic development, essentially can be seen as a conclusion of how insufficient the human body is and it is always available for development.

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²⁵Johannes Birringer, "Contemporary Technology/Performance", *Theatre Journal*, 51.4, (1999): p.366.

²⁶ Jean Baudrillard, *Simulacra and Simulation*, (America: University of Michigan Press, 1994), p.156.

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