

**Soojin Kwon
(Korea)**

Media Art and Wearable Technology: Re-thinking Media and Art in Post-mediatic Forms

1. Thinking media and art in ‘Post-mediatic’ forms

All media is once ‘New’ Media and then there is ‘Old’ Media. After that, there is ‘Post’ Media that people want to talk about the most. Today, the nature of Media is heavily computer– based digital technology where computer hardware and software experience give us the most digital novelty. When Marshall McLuhan stated, “Clothing, [is] an extension of the skin...” (Understanding Media, 129), the concept of media and technologies was already out-running over imagination. Further into McLuhan’s ‘Extensions of Man’, today the media is a huge part of the extensions of our bodies and psyches. In the centuries before technology changed our perspective on media as a conceptual object; thus, forcing us to accept the technology and question ‘How to write traditions and histories in the form of Art in post-mediatic turn?’ For this statement, first and foremost, to talk about ‘What is a Post-mediatic form?’, we need to consider the death of media in an archaeological sense before discussing any forms in Media Theory.

In media theory, ‘The death of media’(Understanding Media, 120)can be defined as the end of analog media and its transitions into digital media. Although it is not as simple as that, media has been dead from old, reborn as new, and new became old repeatedly as the various technology evolved. With this analogy, we know how media became more than a literal sense of technology but also a symbiosis relationship with humans. If writings, paintings, and drawings are considered analog media, an extension of everyday life that McLuhan’s theory intended, digital media is now part of our bodily symbols. For example, there are television, radio, telephone, etc.; for McLuhan, humans are the main subject of his theory that media centers around us. Friedrich Kittler emphasizes that media has already existed among us to determine our situation. McLuhan sees media as an extension of human life, and Kittler recognizes media as the factor that determines our lives. Either way, their theories explain that humans are the operator as technology continuously changes and discovers new ways to incorporate and live along in the human culture.

The roles and meanings of Fredrich Kittler’s visual media in today’s mediatized society are inter-transmedial visual art and its mediums as creative methods. As well as how the performative motifs surface in contemporary arts especially wearable

technology in performance arts. As Kittler himself interprets literature as a kind of media and reads the political, academic, and technical institutions surrounding it as a broad media system or 'recording system', his book, "Discourse Networks 1800/1900" is more of a heuristic to the text itself, not the media function of literature.

To reference his later book "Gramophone, Film, Typewriter", Kittler claims that there is no difference between magical 'media' and technical 'media', or unconsciously defining the media. (Gramophone, Film, Typewriter, 80) At this point, we can try to connect to the most interesting psychoanalytic dimension in Kittler's recording system-media analysis, that the media records our previously unrecordable reality and redefines the whole discourse. Thus, as is widely known, the media of the 1900s, namely, the connection between Gramophone / Real, Film / Imagination, and Typewriter / Symbolic, is analyzed. However, 'Gramophone, Film, and Typewriter', which expanded the latter part of the recording system of 1800-1900, have discoursed and continued to examine the composition of the media system in the 20th century in depth.

The roles and meanings of Friedrich Kittler's "visual" media applied in today's mediatised society are emphasized in the use of inter-transmedial visual art mediums as a creative methodology that can be considered a cultural movement. Also, this can analyze how the performative motifs surface in contemporary arts through wearable technology in performative exhibitions.

As for Kittler's heuristic approach to Media, a video installation & performance artist, 'Bill Shannon' explores body-centric video installations through technology to incorporate movement practice of Real, Imagination, and Symbolic in a form of 'extension of the skin' as Marshall McLuhan stated media as a cool medium. Although Kittler is excluding the human body from the media that McLuhan's important proposition, 'Media as Extension of Man', his radical technology-first perspective can emphasize not only the medium as an extension of the body but also technology in current media art as a visual medium. For that matter, media artist Bill Shannon's body-centric video installation plays both roles of a screen and wire where fragmented body images project with/without an actual body.

The main aspects of this discussion are; how media technology developed into current media as a form of art and how technology emphasizes the form in a post-mediatic turn. These aspects will try to discuss through Bill Shannon, Yonghui Kim, Kieun Kim, and Ikeuchi Hiroto's wearable media arts and look at the possible viewpoints of how digital media facilitate new approaches to wearable technology in the influence of media and hardware versus traditional concepts of Art.

2. What is Wearable Technology?

First, Wearable Technology can be applied to Media art and as extensions of man. The concept of Wearable Technology started with a small watch that people wore as necklaces in the 1500s in Germany. Thus, wearable technology started as analog as it can be. Centuries later, there are digital watches, mobile phones, blue-tooth headsets, etc. Today, Wearable Technology Art is nothing new. It can be a lot of things in various fields with many different layers of usage and interpretation. Conceptual Arts are direct to kinetic arts fused with computer-based technology with clothing, and everyday machines, considered artistic mediums, and/or based on specific environmental installments. It also has been further developed as an integrated technology that can monitor daily life mainly used in the form of machines in operating rooms of medical fields, smart-watch or health monitoring bracelets, etc. Furthermore, it performs the gaming industry by adding more headsets to play in augmented reality and virtual reality. The specifics of wearable technology of media art is a mutual security form of technology and art in the form of a mixture of performance elements and extends to the realm of existing new media art. This means the concept of wearable technology in the art field dismantles the classical idea of pictorial and formal traditional art and also enables reconstruction including entertainment elements for the audience (such as 3D or 4DX in the case of Cinema). The convergence of art and wearable technology induces intimacy with the audience, transforms the environment to which humans belong, and amplifies the visual and sensory aspects a person can feel.

In the current flow of media art, Wearable technology mainly centers on a concept of performance art that allows media devices controlled by light, sound, or specific patterns depending on the directions and movements in which they are worn as clothes or body garments and accessories. Also, human bodies, participants in some cases, become part of the projection devices or screens and the subject of the body becomes an exhibition object. So, the images of the body become available without an actual body. These examples are the universal concept of wearable media projection and performative art and they are possible with the direct involvement and participation of a controller who operates the technical aspects of computing and performing; an actual person. The examples of the relationship between human/machine/world and human-mediated technology in the media artist Bill Shannon's wearable projection art explain specific relations between these convergent concepts of media art and technology as post-mediatic forms.

Second, wearable technology projects body images into screens through wires to express an artistic view. Before looking into Bill Shannon's works, some wearable technology artists have experimented with cyborg or futuristic designs that are sensitive to certain impulses, as if they were a second skin (especially in the high-end fashion industry). In the gaming industry, wearing headsets or hardware to experience augmented or virtual reality to experience meta-verse while playing games. This is

very well known and already pretty popular among various people. Even at a place like Spatial.io (Picture 1), one can make up his/her avatar and surf around augmented reality to experience the metaverse. In Spatial.io the reality is what you see on a computer screen and projected body images, the avatar, replace the movements you manipulate with your keyboard. This property does not cover wearable technology but once you put on the tech gadget over your head, you are in augmented reality in real-time. And recently, wearable technologies are an extension of the skin and also an expansion of space. For this notion, there are a few selected media artists to examine besides Bill Shannon who specifically practices wearable technology with their media art. (Picture 2, Picture 3) Their works are mixed media art and convergence art with various materials and traditional sense of art mediums developed with computing and media technology that refer to post-mediated forms.

For the earlier notion of wearable technology and media art, Yonghui Kim's wearable media art (Picture 4) is strictly forward to the concept that art develops new platforms for clothes and hats and puts content in them. Throughout the works, her wearable media art is an art of alternating new platforms for clothes or hats and body-wearing content. Simply wearing them becomes an art that visualizes or expresses a body's rhythm, humidity, temperature, gestures, and objects using small computer micro-controllers, sensors, and technology materials that create and mimic body movements. Yonghui Kim's media art is about expressing and experimenting with body motion. Her media arts activate when body movements trigger the sensors of wired lights and create patterns. Yonghui Kim's wearable media arts are a more traditional sense of the existing body wearing hardware. The next phase of wearable technology elevates in Kieun Kim's media arts are more sculpted technology and the human figure.

Kieun Kim, who is a media artist in Physical Computing art performance with wearable technology, is also part of the practice. Kieun Kim's media art 'Revealuxion' series explores shapes and mechanisms in interactive garments inspired by cocoons and marionettes that incorporate brain waves to move LED lights and use finger movements to mimic the marionettes' performance. Kim also mixes acrylics for space installments and projection images to perform kaleidoscope effects so the audience can experience the full of wearable performance technology. She started with a circuit bending technic with fabrics to make an 'interactive wearable paper garment for performance which uses thermochromic pigment, soft circuits, and Arduino connected to my vital signs such as heartbeats or brainwaves.' <Brainwave-Controlled Paper Garment> (2014) (Picture 5) and uses kaleidoscopic lights as the motif for movements. Kieun Kim's wearable technology media art is centered around performing art. Unlike Yonghui Kim, her arts require a physical body as an installation-supporting medium. The body does not need much of the movements but a display piece for the wearable hardware like a close idea to Bill Shannon.

Another wearable technology media artist Ikeuchi Hiroto's wearable technology gadgets are Cyberpunk Aesthetic-inspired Conceptual art from movies like the Star Wars series and other futuristic and nostalgic images. (Picture 6, Picture 7) Hiroto's media art pieces are very different from the rest of the artists mentioned in this article. His goal is to create a dystopian-esque resemblance version of wearable technologies to salvage in the name of science and art. The art pieces are constructed as masks or body wears for the high-end fashion industry or gaming gear prototypes. His computerized gadgets are inspired by Japanese anime robots and the cyberpunk aesthetic that he took parts from broken computer motherboards, and plastic to electronic wiring and bending circuits to establish the aesthetic. His concepts brought the augmented bodies out from the screen and made to function in everyday life as we live. For his wearable gadgets tries to establish visualization from a meta-view perspective (from his interview with <http://metalmagazine.eu>) His different approach to handling media and technology is not only for the human body to become secondary but the technology is the body. Accordingly going back to McLuhan's notion of 'clothing is the extension of the skin' Hiroto extends the idea of technology as skin to technology as body parts that are both bones and organs.

3. Post-mediatic forms as Conceptual Media Art

To ask the question again, are augmented gadgets or virtual reality a part of the post- mediatic form? It is hard to conclude at this point. Because in Bill Shannon's Media Art, the body becomes the screen and wire and the body becomes an object. Augmented or virtual reality is another web space where body images are projected with or without a body unless the operator or participant puts our body with wearable technology that mimics the movements the cyberspace remains within the internet and only leaves traces of codes. Additionally, Ikeuchi Hiroto's wearable tech gadgets are calling back that nostalgic cyberpunk culture into the current time frame and mimicking functional life forms. Therefore, in the scheme of media art with wearable technology, this art form is expanding human culture in a way that interferes with the actual body and space.

Media plays the role of expanding human skin so that it triggers the body into a place where it becomes a location-specific art medium. Bill Shannon and the other media artists' wearable technology arts are the body in a location-specific art medium. In some ways play as a performing object and eventually loses its human aspect. In their work, the body is the only supporting actor to make technology to its body form from fragmented images. Hence the idea of post-mediatic forms, in general, was conceptual even before technology and media became part of our bodies.

4. Re-thinking media and art in post-mediatic forms

What is next? Questioning the rapidly changing style of Art and technology expressed in convergent forms that what is next and what is not may seem a cliché. Also, the post-mediatic form is nothing new anymore as the concept continues to evolve into something spectacular or highly functional. The methodology is changing along with new technology as it started as new media. The post-mediatic form takes part in the changes with new ideas and methods. Borrowing the notion of the borderless and hybrid culture from Homi Bhabha (*The Location of Culture*, 1994), mimicry not only exists in human culture anymore but also in cyberspace. Wearable technology in Media Art is an alternative aesthetic genealogy for current digital culture. Media artists like Bill Shannon, Younghui Kim, Kieun Kim and Ikeuchi Hiroto, and many other artists who were not mentioned in this article, seek to ‘materialize’ digital culture by proving that digital has reconstructed and reformed physical experiences and re-recognized materiality with the disembodied, the formless, and the placeless. These cultural movements reconfigure bodily experience and reconceived materiality in multi formats. (*Materializing New Media*, 86-90) For the part of the human culture, the newness and technology penetrating between the cultures as post-mediatic forms forces to translation of Art forms into a media-specific language. It is continually reconfiguring the human body and re-constitute its post-mediatic forms. Therefore, the human being considers himself as major media rather than secondary to the technology when the media becomes the skin or the core layer of the human consciousness. We need to understand the new relationship between digital and matter, digital and human internally, linearity, learn new hierarchical arrangement, produce organic and artificial over binary, create sense and thought, and the connection between arts and science. That’s how we re-think media art in post mediatic forms.

Picture Reference



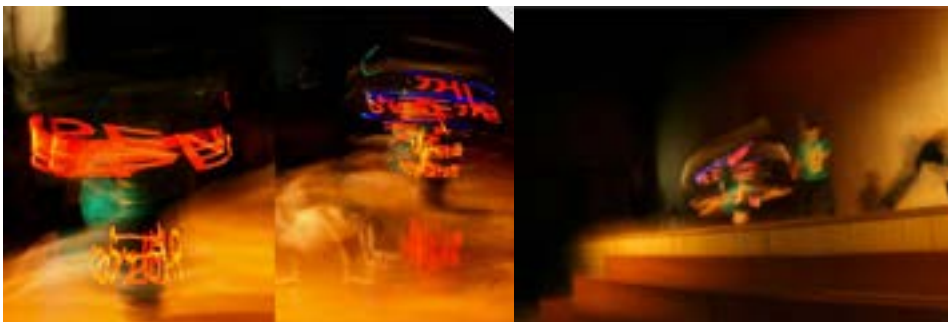
Picture 1
SPATIAL.IO Augmented Reality Meta-Verse play space
<https://www.spatial.io>



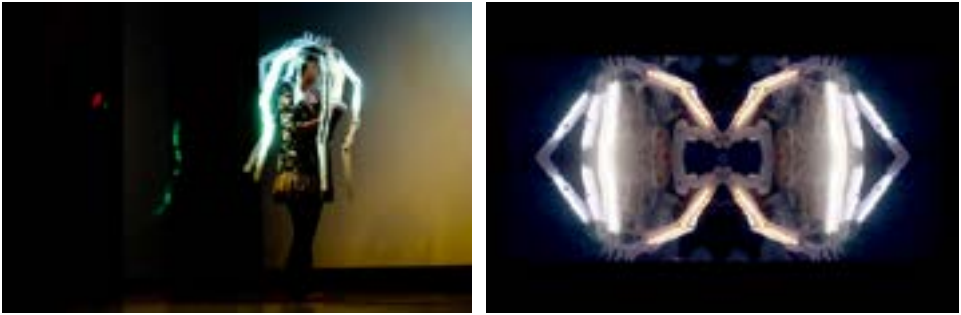
**Picture 2 Bill Shannon Touch Update Wearable Video Masks 2018
With Projectile Object Hardware Coding.
Video Mapping Performers: Ron Chunn and Jacquea Mae
<http://www.whatiswhat.com/>**



**Picture 3 Bill Shannon,
'Video Mask' (2014)
[http://www.whatiswhat.com/
content/test](http://www.whatiswhat.com/content/test)**



**Picture 4
Yonghui Kim, HCI party 2010 Body Graffiti + Last For One
<https://absurdee.com/gallery/bodygraffiti/>**



Picture 5
Kieun Kim, {REVEALUXION #6}
Designing Multiplicity: Performance & Screening, 2015.
<http://kieunkim.com>



Picture 6
Ikeuchi Hiroto,
Tokyo's Sai Gallery 2022
the exhibition
<https://www.saiart.jp/>

Picture 7
Ikeuchi Hiroto,
Tokyo's Sai Gallery 2022
the Ikeuchi Hiroto exhibition
<https://www.saiart.jp/>
https://www.instagram.com/_ikeuchi/



Bibliography

- Broadhurst, Susan. (2007). *Digital Practices: Aesthetic and Neuroesthetic Approaches to Performance and Technology*. Palgrave Macmillan.
- Broadhurst, Susan(eds.), Price, Sara(eds.). (2017). *Digital Bodies: Creativity and Technology in the Arts and Humanities*. Palgrave Studies in Performance and Technology.
- Broadhurst, Susan(eds.), Machon, Josephine(eds.). (2012). *Identity, Performance, and Technology: Practices of Empowerment, Embodiment, and Technicity*. Palgrave Macmillan.
- Birringer, Johannes. (2008). *Performance, Technology, and Science*. PAJ Publications.
- Deleuze, Gilles. (1989). *Cinema 2: The Time-Image*. trans. Hugh Tomlinson and Robert Galeta, University of Minnesota Press.
- Gaines, Jane M. (2000). "On Wearing the Film", in *Fashion Cultures: Theories, Explorations and Analysis*, eds S. Bruzzi, and P. C. Gibson. Routledge, London, and New York, pp. 159-177.
- Gitelman, Lisa & Pingree, Geoffrey B., (eds.). (2003) "What is New about New Media?", in *New Media, 1740-1915*. The MIT Press, Cambridge, Massachusetts. pp. xi-xxii.
- McLuhan, Marshall. (1994). *Understanding Media: The Extensions of Man*. The MIT Press; reprint edition.
- Hansen, Mark B.N. (2004). *New Philosophy for New Media*. The MIT Press.
- Kittler, Friedrich. (1999). *Gramophone, Film, and Typewriter*. Stanford University Press.
- Kittler, Friedrich. (1990). *Discourse Networks 1800/1900*. Stanford University Press.
- Kozel, Susan. (2008). *Closer: performance, technologies, phenomenology*. The MIT Press.
- Munster, Anna. (2006). *Materializing New Media: Embodiment in Information Aesthetics*. Dartmouth College Press.

Web References

- Bill Shannon. 'Projection Mapping Mask' <http://projection-mapping.org/wearable-projection-mapping-mask/>
- Bill Shannon. 'Bill Shannon Wearable Video Mask' <https://youtu.be/99lGrA6fZsI> Marshall McLuhan <https://www.marshallmcluhan.com/>
- Ikeuchi Hiroto. <https://www.saiart.jp/> Kieun Kim. <http://kieunkim.com> Yonghui Kim. <https://absurdee.com>
- SPATIAL.IO Augmented Reality Meta-Verse play space. <https://www.spatial.io>

მედია-ხელოვნება და „ჩაცმადი“ ტექნოლოგია:
მედიისა და ხელოვნების გადააზრება პოსტ-მედიატურ
ფორმებში

რეზიუმე

საკვანძო სიტყვები: ვიზუალური მედია, „ჩაცმადი“ მედია, ტექნოლოგიები, მედია-ინსტალაცია, პერფორმანსი

როდესაც მარშალმა მაკლუინმა თქვა: „ტანსაცმელი, [არის] კანის გაფართოება“, ტექნოლოგიები უკვე სცდებოდა ადამიანური წარმოსახვის საზღვრებს. ჩვენ გვაიძულებს ტექნოლოგიების ერთგვარი ეჭვით მიღება; როგორ ჩავწეროთ ტრადიციები ხელოვნების პოსტ-მოდერნისტულ მოსახვევში?

სტატიამი განხილულია ფრიდრიხ კიტლერის „ვიზუალური მედიების“ როლი და მნიშვნელობა თანამედროვე მედიაციურ საზოგადოებაში, სადაც ვიზუალური ხელოვნების ინტერ-ტრანსმედიალური მედიუმები შემოქმედებით მეთოდებს წარმოადგენენ. ასევე, შესწავლილია, თუ როგორ ვლინდება პერფორმაციული მოტივები თანამედროვე ხელოვნებაში და „ჩაცმადი“ ტექნოლოგიები პერფორმანსებში. მედია-ინსტალაციებისა და პერფორმანსების შემოქმედი „ბილ შენონი“ იკვლევს ვიდეო-ინსტალაციებს, რომლებიც ტექნოლოგიების საშუალებით, ორიენტირებულია სხეულზე, რათა პრაქტიკაში გამოავლინონ „კანის გამაფართოებელი“ მოძრაობა, როგორც თავის დროზე მაკლუინი აცხადებდა. ამ ანალიზის ორი უმთავრესი მიმართულებაა, თუ როგორ ვითარდებოდნენ მედიები ადრეული კინოს ეპოქიდან თანამედროვეობამდე, როგორც ხელოვნების სახეები და როგორ იცვლებოდა ტექნოლოგია, პოსტმოდერნისტულ ძვრებთან ერთად, კულტურულ ფორმებში. სტატიის ავტორი შეეცადა აეხსნა ეს ორი ასპექტი ბილ შენონის, იონგჰუი კიმის, კიენ კიმის და იკეჩუი ჰიროტოს „ჩაცმადი“ მედიის ხელოვნების მეშვეობით; ასევე, განეხილათ შესაძლო თვალსაზრისები იმის შესახებ, თუ როგორ უწყობს ხელს ციფრული მედია „ჩაცმადი“ ტექნოლოგიების მიმართ ახალ მიდგომებს, მედიისა და აპარატურის „ჩაცმადი“ მონყობილობების ტრადიციულ ხელოვნების კონცეფციებზე ზეგავლენის თვალსაზრისით.