FACILITATING A PHENOMENOLOGICAL EXPERIENCE OF ATTENTION THROUGH INTERACTIVE ART

Lathan Mastellar
Kansas State University

ABSTRACT

Attention is symptomatic of our sentience. It can often go unnoticed, and other times attention dominates our minds. Compare the quality of attention felt when fully engrossed in a book versus the quality felt browsing social media on a smartphone while waiting in a line. The issue with attention is not new, but our modern conventions only exacerbate the problems that both shortens our attention spans and directs our attention to elements of our world that do not offer us any real value. Implementing an experimental new media approach I explore attention and how it can be activated and brought to the surface of our awareness through interactive art. When artworks use attention to activate themselves, attention steps from behind the red curtain of our minds and into the center stage of our awareness. How do we facilitate meaningful, attention-based interactions? In answering this question the Phenomenological philosophy by Edmund Husserl provides an excellent framework for facilitating these experiences. These phenomenological experiences bring attention to the forefront of our observation. It becomes a memorable experience correlated to an experience of artwork. Sensory experiences live on in our memory and return us agency over our attention.

They invert the relationship between the viewer and their media. The technologies that have taken our attention from us have become allies in cultivating and highlighting the importance attention plays in our modern era.

PHENOMENOLOGICAL LENS

Phenomenology is necessary to analyze the attention-centered work I create. Phenomenology, the study of direct experience, provides methodologies such as *Epoché* or "bracketing" to further delve into one's phenomenon and experience. Due to the elusive nature of attention, phenomenology is an obvious choice for the study and generation of work surrounding the study of direct experience. Phenomenology looks to highlight the direct experience of intangible states of consciousness. While intangible states of consciousness elude quantification and a precise science, Hussel asserts that Phenomenology is a step in the right direction towards evaluating these intangibles.

> The purpose of doing phenomenology is basically looking very closely at the phenomena under study to explore the complex world of lived experiences from the actors (those who live it) point of view. In doing so, it not only helps us to understand a phenomena or an event at a deeper level of consciousness, but at the same time it helps us to explore our own nature, bringing a transformation at personal level.[1]

The method of Epoché is a useful one in facilitating a fruitful mindset to observe a phenomenon like attention. Husserl also provides this method of Epoché stating it is

meant to direct someone's awareness even closer to direct experience by providing an avenue to suspend judgement. While we hold judgments in our mind we cannot at the same time hold a direct experience because it is already being flavored by our preconceived notions of said experience. When engaging in the method of interaction, Epoche, one is simply taking note of their judgements and enclosing them in metaphorical “brackets” hence the term bracketing. It is this concept of relinquishing judgement that gave way to one of the works in my final exhibition referentially titled *Epoché*.

Epoché features two yellow neon brackets frame/buttress, and an 18-inch circular mirror. When a viewer steps into the reflective surface, regardless of conscious awareness of the process, they are participating in the phenomenological practice of Epoché. The piece offers the observer the chance to set aside judgement of oneself and of one's experience, in order to facilitate engagement in the present experience. See documentation of Epoché bellow:



Epoché, Lathan Mastellar, 2021

With phenomenology as a through line for talking about extremely nuanced intangibles like attention, groups of works begin to communicate with each other under this phenomenological framework. The work takes us deeper into an experience focused mindset. When we are more focused on experience, we are more sensitive to phenomena that arise within our experience.The result of a focalized method of awareness, such as Phenomenology offers, are intangible states of consciousness becoming more readily manifested and analyzable. This is due to our awareness coming face to face with attention through interaction. Mediums such as new media and installation art are primed to engage with interaction of this kind. With works activated by attention we

can assume our attention in the context of media will become more prevalent to our awareness. Now that we have established phenomenology as a guide on our journey of experiencing our attention let's take a closer look at attention and canonical artworks which comment on such concepts.

INTANGIBLE PHENOMENA

Intangible phenomena arise all the time. They usually come and go under the radar of our observation. Phenomena like fear, joy, focus and attention arise and fall in our experience oftentimes without our observation taking note. Because of the elusive nature of intangibles they often get exploited. Television and advertising often exploit these subtle feelings. For example, one could exploit another's fear response to sell them security or exploit attention to generate traffic for a service or product. It is common to report being with a friend or loved one and then the next thing one notices is their attention drifting to a phone or the television. I believe interactive art has the power to make us aware of and recontextualize these systems that persist under the surface in our day-to-day existence. In using the symptoms of these intangibles to activate interactive artworks, artists can transform these ambiguous feelings from unconscious to conscious experiences. I believe when this instance of conscience observation of experience happens, we create a reference point from a memorable moment with the media. These reference points stay with us in memory and help guide our will to a more preferable, conscious phenomenon.

Internal vs External

The intangibles I work with can be understood in two ways, internal and external. Attention can be directed inwards and observe our thoughts, or attention can be projected outwards with our gaze. Anger can be felt internally, but not expressed through action and expression. Anger can be bottled up and turned into frustration or resentment. Inversely Attention is generally an outwardly directed phenomenon. If an external stimulus grips our attention externally we are quick to point it out. In the same turn if something interesting appears to us in our internal universe it is much more elusive and is much more primed to be forgotten or missed. However just because these intangibles have external symptoms, this does not mean it reflects our internalization of the intangible accurately. The intangible I have focused my thesis work and research on is attention; both internal and external.

Attention

Attention is an excellent intangible to compare how these phenomena can be experienced internally vs. externally. As human beings we primarily engage with the world through the use of our senses. Attention often feels like it just happens on its own, sort of like autopilot in a vehicle. I think this applies directly to our relationship with attention especially in our modern hyper-digital environment. I argue that our attention has essentially gotten away from us, much of our inner and outer attention gets hijacked without us being aware of it. The next time you find yourself on social media, browsing

the internet or watching T.V. ask yourself "How did I get here?". I would speculate that most of the time when we end up at these places we don't attentively choose to be there, it just happens of its own conditioning.

My work and research take this phenomenon and turns it on its head. The art takes this embodied quality of attention and makes the viewer extremely aware of it in the moment. Every time we come back to this quality of intentional, attentive, observation our awareness becomes more sensitive to when it is present or absent. The work operates as a Trojan horse delivering the medicine of awareness to the viewer through the mediums and modes that robbed it from them in the first place. I do not believe technology is intrinsically good or bad. I do believe however that it can be easily exploited to harvest attention on a subconscious level. Herbert A. Simon in *Designing Organizations for an Information-Rich World* writes:

> In an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention.[2]

This poverty of attention that Simon speaks on is one of many concepts being critiqued in Nam June Paik's *TV Buddha*. *TV Buddha* is also in a conversation with the narcissistic inclination in humanity's relationship with technology. I do not see this narcissistic quality as a purely negative relationship however. It just is; rather than trying to change this cemented relationship we can use it to engage with deeper issues like attention

poverty. This idea of attention poverty is a worthwhile concept to critique and make artwork about because it often goes unnoticed but has a tremendous impact on society.

TV Buddha



TV Buddha, Nam June Paik, 1974

Nam June Paik's *TV Buddha* illustrates several points I think are important to pay attention to in the context of this paper. It shows how this point of attention can be illustrated in a relatively simple yet precise art installation. The installation has appeared many times in galleries all over the world where the actual physical objects remain the same but its concept and psychological conjecture evolve and take on new meaning depending on the time and space it is being shown in. The Buddha acts as a signifier of tranquility, the potential to transcend suffering, and the human condition. The TV signifies emerging technology and modernization. The Buddha can be seen as trapped

inside this screen where his outward attention seems to be placed. The Buddha is typically known for championing the importance of inward attention. This work reverses the aforementioned notion of internal vs external focus.

The second quality the *TV Buddha* reveals to us is an example of a reproducible installation with reproducible components. The parts of this work such as the Buddha statue, monitor and camera are all subject to mass reproduction. In Walter Benjamins' essay *A Work of Art in the Age of Mechanical Reproduction* he formulates:

> ...for the first time in world history, mechanical reproduction emancipates the work of art from its parasitical dependence on ritual. To an ever greater degree the work of art reproduced becomes the work of art designed for reproducibility. From a photographic negative, for example, one can make any number of prints; to ask for the 'authentic' print makes no sense. But the instant the criterion of authenticity ceases to be applicable to artistic production, the total function of art is reversed. Instead of being based on ritual, it begins to be based on another practice—politics.[3]

The *TV Buddha* is clearly making a political statement with a quasi-religious, reproducible symbol the Buddha statue. It delves into a societal addiction to technology, self image reflection in the context of technology, and the shallowness of contemporary religious practice. We have traded burning incense and sitting with ourselves for chasing liberation through instagram likes and followers. Reproducible works bring a powerful impact to making a political statement. This is due to reproducibility stripping the

sacredness and unique novelty away from icons and symbols. If all iterations are the same then no one work is special. Consumerist Capitalism is a shining example of this quality. The monitor I'm typing this on is one of thousands and the house I am writing in looks exactly like the one across the street. Benjamin argues that with the reproduced object, the loss of aura or uniqueness delivers it from a religious context and into a political one. This line of thinking pairs nicely with an expansion by Boris Groys's *Religion in the Age of Digital Reproduction* as both authors are highlighting the implications mass reproduction has on an object and its meaning.

> One might argue, true religious experience is actually the experience of death rather than the experience of life [...] In fact, it is precisely the loss of aura that represents the most radical religious experience under the conditions of modernity, since it is in this way that a human being discovers the mechanical, machine-like, repetitive, reproductive and, one might even say, dead aspect of his own existence.[4]

TV Buddha illustrates both of these points aesthetically and conceptually in a simple, precise, and reproducible manner. The reproducibility of the installation highlights a voice of political critique, while the "dead" Buddha sculpture contemplating his own image in a digital screen highlights the dead aspect of his current reality. Installations like this and the qualities that come from mechanical and digital reproducibility are crucial conceptualizations for new media artists to be aware of and work with.

MAITREYA

MAITREYA, a work produced through my MFA research, expands the concepts Paik takes up in his work while engaging the ever-quickening digital landscape. This work has always drawn me in to itself as it combines many of my interests; technology and the potential to awaken from suffering. Despite the speed of cultural transformation *T.V. Buddha's* relevance glows brightly serving as an inspiration for how new media work speaks to the critical questions of humanity. I explore the idea further with a contemporary, experimental version of the work.

MAITREYA features a meditating body sculpture made of foam, joint compound, and high gloss paint. Instead of a traditional buddha head it features a cathode TV monitor. Affixed to this television cranium is a webcam which places the external environment inside the context of the cathode TV screen. The gaze of the webcam is focused on a 3D printed Buddha head with four distinct facial expressions, centered on an ever-moving turntable. In *MAITREYA* I explore how technology has grown closer and more integrated in our lives. So close that we have essentially traded our heads for monitors. *MAITREYA* takes the gap between the observer metaphor (buddha) and technology and then combines the two into one object. This allows for contemplation of one's own relationship with technology and digitally places the Buddha's head inside the TV in perpetual change. *MAITREYA* looks to acknowledge *T.V. Buddha* and comment on the direction technology has taken, moving closer and more integrated to our lives and at an alarming rate. *MAITREYA* also touches on this inclination towards narcissism

in technology. It places the keystone of identity (the head) on a pedestal, out of reach. The physical Buddha head is now at a distance and is replaced with a digital low resolution head in the cathode TV.

I chose to use this specific cathode TV for several reasons. The TV is the same object I used as a child to escape into video games and television programming. This is an ode to nostalgia but not in a pure sense of reverie. It shows how nostalgia while developed in our innocence of childhood may not be so innocent. While I love that TV and cherish many fond memories from it; it also developed a dependence and an escapist relationship with media in me. The low quality of the TV also points to an aspect of degradation. The Buddha head within the TV is of a lower quality than the object on the turntable. Yet it is the one acting as the head and seat of consciousness for the statue.



MAITREYA, Lathan Mastellar, 2021

NEW MEDIA & INTERACTION

> A new media object is not something fixed once and for all, but something that can exist in different, potentially infinite versions.[5]

New media and interaction have the power to take these intangible concepts and transmute them into an embodied experience, giving them a pseudo form to be experienced by the senses. Leading new media artist Rafik Anadol takes data and turns them into light sculptures. He projects his work on architecture both indoor and outdoor as well as large high-definition screens. His work is one of the best examples of new media art that takes these invisible forces and turns them into an experience. Not only are his works' subject matter of data intangible, in that it has no physical form, but it is also aesthetically, and experientially breathtaking. In his work *Melting Memories* he takes data from EEG (electroencephalogram) readings from volunteers, instructing them to focus on long term memories. He then takes the data and filters it through Higuchi's fractal dimension algorithm and then with software creates a moving heightmap. Rafik Anadol and his team set the bar extremely high in terms of philosophic and aesthetic interpretation of intangibles such as data and memory.



Melting Memories, Rafik Anadol, 2018

METHODS

The methods used in interactive artworks are numerous and varied, allowing for the artist's intention to take on many forms. Any way we can interact with the world, theoretically we are able to interact with artworks in a similar way. The new media artist observes these interactions and transmutes them with technology, by integrating the system into an art object. I will cover several methods that I use for making an artwork interactive.

Intangible as Activating Mechanism

One of my primary methods for bringing an intangible to the surface of a viewer's awareness is to make the art experience dependent on said intangible for activation. In an ongoing body of work *Attention Videos* I use a viewer's gaze as a means to activate works. The *Attention Video* works are stuck in time, so I use this quality and pair it with the viewer's gaze to bring this quality of attention to light. The works are in a stagnant looping state with little change when the camera element of the works does not recognize a gaze. Once a viewer engages the work and presents their gaze to it, the work activates and begins to unfold through time. This series of video works are dependent upon attention. This is a powerful and effective way to bring these elusive qualities of the human experience to a more concrete place. While still invisible, this method shows the viewer that their attention plays a drastic role in their environment and gives them an experience of this subtle, often forgotten power.

Trojan Horse: The Message in the Medium

By definition, new media artists take advantage of technology. Many times, technology offers us fantastic benefits in productivity, connection, and transcending limitations. Limitations such as distance and physical location, communication, and language barriers. Technology is the poster child example of a double-edged sword. All too often the gift of technology contradicts these qualities of productivity, connection and

transcendence and it does so subtly and unconsciously. New media work engages these very qualities. For example monitors, screens, and projections have a history of siphoning our attention. We can use this history and imbue it with a critique, or message. A video shown on a monitor that only plays when someone is looking at it points to this attention siphoning phenomenon, redeeming it by giving the viewer an experience of their own attention. The screen has become the Trojan Horse and medium in which the message can be delivered with more impact. When an artist chooses a certain medium, they are also choosing all conceptual baggage that comes with said method. The artist must be mindful in this choice as the vehicle of the signified will greatly determine how the meaning of a work is to be understood. Marshall McLuhan coined the "medium is the message" in his book *The Medium is the Massage* where he notes:

All media work us over completely. They are so pervasive in their personal, political, economic, aesthetic, psychological, moral, ethical, and social consequences that they leave no part of us untouched, unaffected, unaltered. The medium is the massage. Any understanding of social and cultural change is impossible without a knowledge of the way media work as environments.

All media are extensions of some human faculty— psychic or physical.



6

This notion is important to think about for artists because many times we use the mediums we feel most comfortable with. Thinking in this McLuhan way we see that the medium an artist chooses greatly influences how the meaning of the work is received and interpreted.

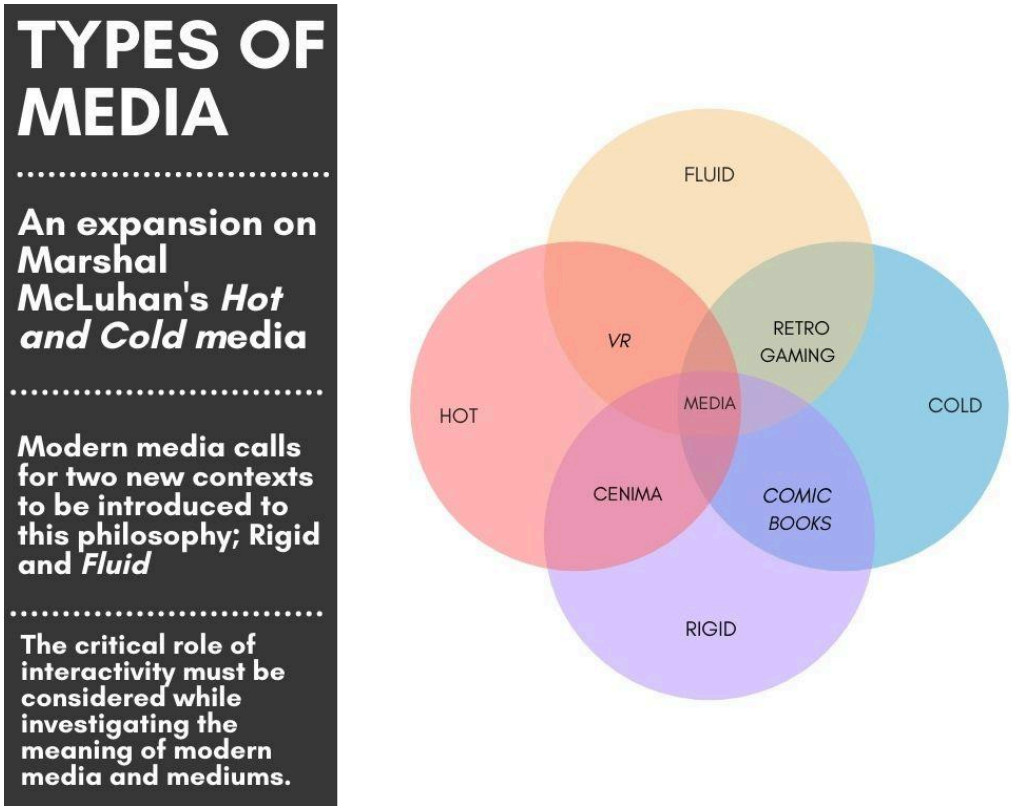
Now a McLuhan(ist) might retort; no matter what you intend and hope your work is doing it is still simply hypnotizing the viewers gaze with a screen and video leaving them no freer than when they entered the gallery. To free one from screens the only answer is a new different medium.

To this notion I would respond that although McLuhan had many prophetic insights into our new digital information age that still hold true today; there are many

elements of his philosophy that should be updated or evolved to match our hyper digital climate. Let us examine his ideas on "Hot" and Cold" media. McLuhan describes a *Hot* media as high definition, with little to no participation, and generally stimulates one of our many senses. He sets up a dichotomy with the idea of *Cold* media which is described as low definition, requires participation, and stimulates several senses.

I would propose that two new elements need to be introduced to this dichotomy of hot and cold. Video games, Virtual Reality, and New Media artworks all break this convention of hot and cold media as they are mixing high definition mediums that stimulate many senses and demand high participation from their audience. If we add to this philosophy two new variables "Rigid" and "Fluid" we can include some of these more nuanced mediums. *Rigid* and *Fluid* media are dependent on whether the media changes due to participation. If the media delivered from a medium is participatory but the media doesn't change in any way it is rigid. If the media delivered from a medium is participatory and this participation plays a critical role in how the media takes new form then it is fluid.

This concept of Hot and Cold, Rigid and Fluid media is something I thought deeply about in the context of my work and the field of New Media. I find the notions in *The Medium is the Massage* true and powerful. Combine this context with the ideas of hot, cold, rigid, and fluid media and some very interesting ideas begin to appear. Artists can begin to deliberately choose from these different qualities in order to highlight or exemplify a concept.



To anchor this conceptual realm of thought to a tangible example let's think about how an artist might use these ideas to generate work and meaning. If a work is meant to deploy these notions of our attention being stolen from us by technology, an artist could look to *Hot* and *Rigid* media. This would elicit a quality of attention siphoning due to the high quality media but it would also highlight the role of the viewer having no agency over what is happening in front of them.

SALVATION

In an example we can observe a piece created for my thesis titled *SALVATION.* In this work I use extremely high fidelity timelapse images of a peace lily plant. In its idle state with no participation the plant seems to be experiencing a sort of “dying” labored

breathing. Once the work has achieved a level of participation with a viewer, in the form of a concentrated gaze, the plant begins to come to life. As if someone gave it a drink of water when it needed it most. Here you can see how the work is calling out to the consumerist, attention grabbing aspects of *Hot* media. It simultaneously gestures at the qualities of a *fluid* and *cold* media as participation and interaction is required to bring the media to its completed, enguaged state. Due to this freedom of combining qualities of media *SALVATION* shows how no matter how high the definition and quality of the media we are consuming we still have agency over whether we choose to engage with the media or not. This takes the consumerist attention siphoning quality of *Hot* media and flips in on its head. I take the required participation of Cold mediums and use it as a Trojan Horse to deliver an information rich, high fidelity message. This would not be possible if I did not have the freedom of combining *Hot, Fluid*, and *Cold* media. In this gray area between *Hot/Cold*, *Rigid/Fluid* a participant is liberated from the general context in which these types of media typically behave. This challenges one to ponder their own relationship with the media and whether they have agency when it comes to engaging with it or not.



SALVATION, Lathan Mastellar, 2021

Moist Media

Moist Media is a term coined by Roy Ascott. A simple definition of Moist Media is any art system that fuses biological processes and technological computing. Moist Media work can take these biological mechanisms and use them to influence an artwork. Another method that creates an experience that is completely dependent on the viewer's engagement. Moist Media is a great example to show how science progresses technological measuring devices forward, and in turn, pushes new media art forward. These moist media systems can create even more intimate ways to bring intangibles to the surface of our experience. Roy Ascott in *Telematic Embrace* writes:

> Moist media are transformative media; moist systems are the agencies of change. The moist environment, located at the convergence of the digital, biological, and spiritual, is essentially a dynamic environment, involving artificial and human intelligence in non-linear processes of emergence, construction, and transformation.[7]

With the use of moist media and interactivity we escape the bounds of the stagnant art object and enter into an emergent, fluid, and intimate art experience.

Mind Over Matter

A work that exemplifies these concepts is *Mind Over Matter* by David Carson and Thijs Biersteker. Two users put on compact EEG (electroencephalography) sensors and control the content of the installation with their minds. The art system takes theta and beta wave measurements and alters the video projection. When users work together to focus their thoughts and calm their mind the video projection mirrors this effort by becoming calmer. If users' thoughts are chaotic the installation imagery becomes chaotic. Installations like this show the power of moist media has to bring these invisible, subconscious forces like focus and thought to a concrete observable medium like video projection.



Mind Over Matter, David Carson and Thijs Biersteker, 2018

CULTIVATION

This idea of taking something ephemeral and elusive like attention or concentration really gripped me and gave way to a piece called *CULTIVATION*. A work that works in real time in conjunction with a user's EEG data. The user puts on a Muse EEG headband and begins to concentrate. This particular code generates a particle system based off of a user's theta wave data. The particle behaves by means of expansion and concentration of particles. The more attention a user can muster, the more concentrated the particle system becomes. If they lose focus the particle system expands and seemingly dissipates. Theta waves have been shown to be indicative of meditation states and focus. In a study

of theta and alpha EEG patterns by *The Norwegian University of Science and Technology* they concur:

> Novel EEG findings related to acem meditation suggest that nondirective meditation techniques alter theta and alpha EEG patterns significantly more than regular relaxation, in a manner that is perhaps similar to methods based on mindfulness or concentration.[8]

In using this moist media and seeing a semi-tangible dataset expressed visually through particles users can feel a sensibility to these phenomena. It makes attention feel more real when we can see it represented in real time. Although moist media has a higher threshold of access than other art forms, it does provide a personal and intimate experience of attention that would otherwise be absent in a gallery setting.



CULTIVATION, Lathan Mastellar, 2021

Conclusion

It is my greatest hope that by reorienting ourselves to technology and using it in unique, productive ways we can cultivate our attention. The potential for technology to become allies in this attention war is real and valuable. It is important for us to think of new ways to engage with media that fosters focus, fulfilment and growth of awareness instead of only engaging with it as a form of consumption.

I provide Phenomenology as a framework and potential to guide us into a more productive potential for our relationship with technology. When we use media and become more aware of the sensations and experience of it, we loosen the grip it holds over us. Instead of being used by technology an experience focused framework allows us to take back the reins and use technology as an ally. With the method of Epoché we can set down the judgments we carry about technology and see it for what it really is, a tool and an ally.

The gamut of intangibles are many but for this paper I focus on attention. These intangibles can be experienced with the conscious mind, but oftentimes are experienced subconsciously. New media and more specifically interactive art offers the potential of bringing these intangibles to the surface of our awareness where they can be observed. The methods used in interactive art are only limited to the ways we can interact with the world as humans.

I cover several methods in this paper that do well in facilitating a phenomenological experience. Artists can use intangibles like attention to trigger

artworks into changing or activating. We can use the participatory nature of the cold medium and use it as a trojan horse to deliver an information rich, hot media message or art experience. Lastly highlighting the power Moist Media biological controllers have to interact and change works using sensors like EEG.

New Media is on the crest of the wave that is art. Artists have engaged with this experimental, conceptual way of making since Paik in the 70's and continue to do so. As our level of technological prowess increases so does our need to cultivate good relationships with our technology. Artists are at a crucial time in art history to highlight the importance of this relationship. Technology is not inherently good or bad. It is our relationship with technology and the unconscious hold it has over us that could use some exploration.

Works Cited

[1] Qutoshi, Sadruddin Bahadur. "Phenomenology: A Philosophy and Method of Inquiry." Journal of Education and Educational Development, vol. 5, no. 1, 2018, p. 215., doi:10.22555/joeed.v5i1.2154.

[2] Simon, Herbert A. "Designing Organizations for an Information-Rich World." Computers, Communications, and the Public Intrest, 1971. Johns Hopkins Press, https://digitalcollections.library.cmu.edu/awweb/awarchive?type=file&item=33748.

[3] Benjamin, Walter. "Walter Benjamins The Work Of Art in the Age of Mechanical Reproduction." Illuminations, 1969, pp. 1–26., https://web.mit.edu/allanmc/www/benjamin.pdf.

[4] Groys, Boris. "Religion in the Age of Digital Reproduction." E-Flux, E-Flux, Mar. 2009, www.e-flux.com/journal/04/68569/religion-in-the-age-of-digital-reproduction/.

[5] Manovich, Lev. *The Language of New Media*. MIT Press, 2010.

[6] McLuhan, Marshall. The Medium Is the Massage. Penguin, 2008.

[7] Ascott, Roy, and Edward A. Shanken. *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*. University of California Press, 2007.Ascott, Roy, and Edward A. Shanken. Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness. University of California Press, 2007.

[8] Lagopoulos, Jim & Xu, Jian & Rasmussen, Inge & Vik, Alexandra & Malhi, Gin & Eliassen, Carl & Arntsen, Ingrid & Saether, Jardar & Hollup, Stig & Holen, Are & Davanger, Svend & Ellingsen, Øyvind. (2009). Increased Theta and Alpha EEG Activity During Nondirective Meditation. Journal of alternative and complementary medicine (New York, N.Y.). 15. 1187-92. 10.1089/acm.2009.0113.

Bibliography

Qutoshi, Sadruddin Bahadur. "Phenomenology: A Philosophy and Method of Inquiry." Journal of Education and Educational Development, vol. 5, no. 1, 2018, p. 215., doi:10.22555/joeed.v5i1.2154.

Ascott, Roy, and Edward A. Shanken. *Telematic Embrace: Visionary Theories of Art, Technology, and Consciousness*. University of California Press, 2007.

Aston-Jones, G.S., et al. "Chapter 54: Attention." *Fundamental Neuroscience*, Academic Press, 1999, pp. 1385–1409.

Benjamin, Walter. "Walter Benjamins The Work Of Art in the Age of Mechanical Reproduction." Illuminations, 1969, pp. 1–26., https://web.mit.edu/allanmc/www/benjamin.pdf.

Berto, Rita. "Exposure to Restorative Environments Helps Restore Attentional Capacity." *Journal of Environmental Psychology*, vol. 25, no. 3, 2005, pp. 249–259., doi:10.1016/j.jenvp.2005.07.001.

Edmonds, Ernest, et al. "Approaches to Interactive Art Systems." *Proceedings of the 2nd International Conference on Computer Graphics and Interactive Techniques in Austalasia and Southe East Asia - GRAPHITE '04*, 2004, doi:10.1145/988834.988854.

Groys, Boris. "Religion in the Age of Digital Reproduction." E-Flux, E-Flux, Mar. 2009, www.e-flux.com/journal/04/68569/religion-in-the-age-of-digital-reproduction/.

Hartmann, Patrick, et al. "Nature Imagery in Advertising." *International Journal of Advertising*, vol. 32, no. 2, 2013, pp. 183–210., doi:10.2501/ija-32-2-183-210.

Kaplan, Stephen. "The Restorative Benefits of Nature: Toward an Integrative Framework." *Journal of Environmental Psychology*, vol. 15, no. 3, 1995, pp. 169–182., doi:10.1016/0272-4944(95)90001-2.

Krygier, Jonathan R., et al. "Mindfulness Meditation, Well-Being, and Heart Rate Variability: A Preliminary Investigation into the Impact of Intensive Vipassana Meditation." *International Journal of Psychophysiology*, vol. 89, no. 3, 2013, pp. 305–313., doi:10.1016/j.ijpsycho.2013.06.017.

Lopes, Dominic M. Mciver. "The Ontology of Interactive Art." *Journal of Aesthetic Education*, vol. 35, no. 4, 2001, p. 65., doi:10.2307/3333787.

Manovich, Lev. *The Language of New Media*. MIT Press, 2010.

McLuhan, Marshall. The Medium Is the Massage. Penguin, 2008.

Newton, K. M. "Roland Barthes: 'The Death of the Author.'" *Twentieth-Century Literary Theory*, 1997, pp. 120–123., doi:10.1007/978-1-349-25934-2_25.

Olson, Marisa. "POSTINTERNET: Art After the Internet." *Academia.edu*, 2006, www.academia.edu/26348232/POSTINTERNET_Art_After_the_Internet.

Simon, Herbert A. "Designing Organizations for an Information-Rich World." Computers, Communications, and the Public Intrest, 1971. Johns Hopkins Press, https://digitalcollections.library.cmu.edu/awweb/awarchive?type=file&item=33748.

Young, Shinzen. "Purpose and Method of Vipassana Meditation." *The Humanistic Psychologist*, vol. 22, no. 1, 1994, pp. 53–61., doi:10.1080/08873267.1994.9976936.

Lagopoulos, Jim & Xu, Jian & Rasmussen, Inge & Vik, Alexandra & Malhi, Gin & Eliassen, Carl & Arntsen, Ingrid & Saether, Jardar & Hollup, Stig & Holen, Are & Davanger, Svend & Ellingsen, Øyvind. (2009). Increased Theta and Alpha EEG Activity During Nondirective Meditation. Journal of alternative and complementary medicine (New York, N.Y.). 15. 1187-92. 10.1089/acm.2009.0113.