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(De)composing Media Art through Practices with Nonhuman Agencies

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Abstract

The history of modern media has been one of resisting nature's decomposing forces. Durable materials have been chosen to permanently "embalm" sounds and images while pursuing the constant innovation of new media. Such contradictory attempts have led to a sharp increase in non-degradable and harmful waste.

This paper argues that re-evaluating the decomposition for media art is crucial in the age of crisis. What then does "decomposition" mean for media art? How can it address the problem of resources and circulation on a planetary scale? How can artwork incorporate and digest these issues, rather than simply presenting a glorification of nature or a critique of technology?

We will undertake a critical examination and devise strategies to surmount such predicaments through three media artworks: *A record without prior acoustic information*, *Chromatophony*, and *Making Soil*. These works respectively seek to decompose the infrastructure of the recording industry, the regime of digital media through biological tissues, and the ideal model of circulation between the natural and the artificial.

This paper elucidates how these works induce the action of decomposition on a conceptual and material level and make us experience or embody its dynamic process through sensibility. We conclude that the possibilities of media art specific to the post-anthropocentric era are actualized through the entanglement between human and nonhuman.

Keywords

Waste, Materiality, Bio Art, Compost, Entanglements

1. Introduction: Decomposition in Media and Art

In the age of ecological crisis, media artists must be cautious about creating something new. While the cycle of production and consumption accelerates in the global economy, anthropogenic materials that take a long time to decompose overflow from landfills and form a new stratum on the planetary surface. Parikka (2015) asks the following questions that might be considered in recent conditions: "[w]hat is the temporality of dust—and then more significantly, what are the specific temporalities that media technology produces on the level of materials and toxins? This is one specific attempt to tackle the issue of speed, and instead of increasing speed, we might examine the slowness of material decomposition" (p.14). Artists today need to examine not only what to create or compose, but also what to decompose to raise issues about the media. But what is decomposition in media art?

The history of modern media has been one of resisting nature's decomposing forces. In the 1960s, French film theorist André Bazin found the "mummy complex" in the history of plastic art, a result of which is photography that "embalms time, rescuing it simply from its proper corruption" (Bazin, 2004, p.15). Jonathan Sterne (2003) claims that the same desire also navigated the development of sound technology. Phonograph and gramophone, developed contemporaneously with the art of chemical embalming, were expected to "'protect' future audience" from the fear of death and decay "by transforming a substance in the present in participation of future" (p.294). In keeping with the desire for preservation, durable materials have been chosen and developed for sound-recording media from shellacs to hard drives via vinyl.

On the other hand, modern media industries have also pursued "novelty" in the mass-produced commodity. In the 1930s, Walter Benjamin noted that "the novelty of products—as a stimulus to demand—is accorded an unprecedented importance. At the same time, the 'eternal return of the same' is manifest in mass

production” (Benjamin, 1999, p.331). To compensate for the loss of originality in an economy of mass reproducibility, the slightest difference from older products became a criterion of value. This capitalist valuation has increasingly promoted disposability in the global economy. Today, “[t]he ‘newness’ of new media is sustained by people continually disposing of the equipment they have in anticipation of something better” (Sterne, 2007, p.22). In short, the modern media industry has contradicted itself by pursuing both durability and disposability of its products, depositing materials that cannot be decomposed.

All of this has had disastrous consequences in the form of a rapid increase in waste. The most problematic of these is waste from digital devices. As Gabrys (2011) argues, “[w]hat appear to be dematerialized and harmless devices, digital media technologies instead are material and toxic entities that generate waste across their lifespan. At the same time, pollution from electronics remakes ecologies, organisms, bodies” (p.107). One solution to such a problematic economy is a new development model that actively seeks to salvage and reuse waste as a valuable resource. However, this ideal has its limits, because “[w]aste always returns. Even with extensive attempts to salvage, recuperate, and recycle waste, remainders surface and resurface, thereby challenging sustainable development models that hold out for the flawless reintegration of wasted materials for renewed production” (Gabrys, 2011, p.132).

Nor does a return to the analog era solve this problem. Devine (2019) traces the history of the music industry from shellac to data, noting that it has damaged both society and the ecosystem in terms of political ecology: “people suffer, communities scatter, oils spill, environments suffocate, wars storm, empires soar. These are the conditions that define the production of petroleum, and they spiral into existence every time a needle glides through a groove” (p.7). In other words, it is the anthropocentric effort to rescue humanity from the modern fear of decomposition that has caused the crisis for humans and nonhumans¹.

Although media are defined as “extensions of man” in classical media theory (McLuhan, 1994), such definitions are now at a crossroads. Therefore, we have chosen decomposition as a keyword to replace the romantic notions of authorship such as creation and composition. However, the effect is not limited to the conceptual level; it also operates at the material level where a variety of animate and inanimate agencies reassembles the human scale. To demonstrate these processes, the following examples will focus on the practice of media art entangled with nonhuman agencies.



Figure 1: Kazuhiro Jo, A record without prior acoustic information (from left top to right bottom, wood, metal, paper, and porcelain)

2. Wood, Paper, Metal, and Porcelain: Kazuhiro Jo's *A Record Without Prior Acoustic Information*

First, we would like to investigate decomposition with the practice of “Wood, Paper, Metal, and Porcelain - A record without prior acoustic information” by Kazuhiro Jo, which he exhibited on February 14–26, 2023. [Figure 1]

I have suggested to change the gramophone from a reproductive instrument to a productive one, so that on a record without prior acoustic information, the acoustic information, the acoustic phenomenon itself originates by engraving the necessary *Ritchriftreihe* (etched grooves).” (Moholy-Nagy, 1923)

Bauhaus master, László Moholy-Nagy, made the above proposal to produce a record without inputting acoustic information. With advancements in analog vinyl technology and the availability of personal fabrication tools, this provocative idea has been realized (Jo, 2014) using a range of materials including wood, paper, metal, and porcelain.

Artworks in the exhibition are a progression of this practice. Each work features a motif from the French folk song *Au Clair de la Lune*, recorded by French inventor Leon Scott in 1860, which is believed to be the earliest recording of a human voice at this time (Feaster, 2012). The frequencies from the scores were calculated, and the corresponding waveforms were carved as horizontal grooves on the surface of the chosen material. To carve out the grooves, different techniques were employed, such as using a laser cutter for wood and a cutting plotter for paper.

Regarding metal, to perform *Au Clair de la Lune* on a gramophone, an apparatus that was contemporaneous with Moholy-Nagy's provocative idea, materials that could withstand the high needle pressure of the gramophone were examined.

Ultimately, an anodized aluminum plate coated with lacquer, which closely resembles the material used for master recordings of traditional vinyl records, was selected. Porcelain, in collaboration with a potter, was chosen as the material for this work to realize a description of sound, which history has assured

¹ We partially agree with Bruno Latour's (2010) assessment that the modern bifurcation of nature and culture, science and politics has never been realized, and his distrust of ideas such as “progress” and “nature” and the linear, homogeneous time

they presuppose. However, the following discussion nevertheless attempts to encourage debate in a different way, recognizing that “critical” possibilities are still inherent in works of art.

us can be preserved for thousands of years. These grooves produce vibrations that are based on the same digital data (i.e., an Adobe Illustrator file), but their actual sounds are different.

If we consider the difference in terms of the classical information model, such as the general communication system (Shannon, 1949), either the material or data must be considered as a noise source. Thus, dualism fails to capture the distinctive sounds of wood, paper, metal, and porcelain. Instead, as Cox (2018) noted, noises such as hum, hiss, and crackle from different apparatus (i.e., radio, tape, and record) can be seen as contributing to the aesthetic value of the sound. In this light, we might need to view these uniquenesses as the “voices” of the materials. Those “voices” do not express the modern subjectivities but expose unintentionally the nonhuman agencies or “vital materialities” in the complex assemblages of matters and forces that are “not governed by any central head” (Bennett, 2010, p. 24).

In addition, when we contrast the distinct sounds of wood, paper, metal, and porcelain with the familiar resonance of a standard vinyl record, it becomes apparent that these works exhibit a delicate material nature because of their susceptibility to burning, cutting, shaving, and breaking, in contrast to the tough character of vinyl (Devine, 2019) both materially (strong but supple, bending but rarely breaking, and potentially emitting toxic smoke) and socially (LPs circulating almost endlessly in second-hand economies). From this perspective, Jo’s works stand in contrast to the social demands of the mass-production market for vinyl records, owing to their inherent limitations in terms of scalability in creation. These works also suggest the possibility of escaping the characteristics associated with vinyl records, such as audiophilic and nostalgic attachment, as well as the dependence on oil in their format.



Figure 2: Kazuhiro Jo, *Fragmented Music* (2014)

Before summarizing this section, we introduce the Jo’s another work, *Fragmented Music* (2014), which was influenced by both Milan Knizak’s broken music and Pierre Schaeffer’s use of a locked groove. [Figure 2] This piece splits a groove into a

collection of arcs and reconfigures the sequence to produce a myriad of beats.

In summary, these works decompose conventional vinyl records based on three points. First, mechanically, they produce sound without relying on prior acoustic information to decompose the mass reproducibility of vinyl in a capitalist market. Second, materially, it makes records of wood, paper, metal, and porcelain without vinyl to criticize the dependence on the oil economy.

Finally, mainly with the last work, we also propose a musical approach to (de)compose a sequence of music by treating the record player as an instrument capable of playing the fragmented sound pieces.

3. Decomposing Visual Medium: Juppo Yokokawa’s *Chromatophony*

While the works examined in the previous section bring the effects of decomposition to the material and institutional levels, this term may also evoke many organic nuances. Therefore, we discuss *Chromatophony* (2019) by Juppo Yokokawa as a work that deals with biological decomposition. [Figure 3]

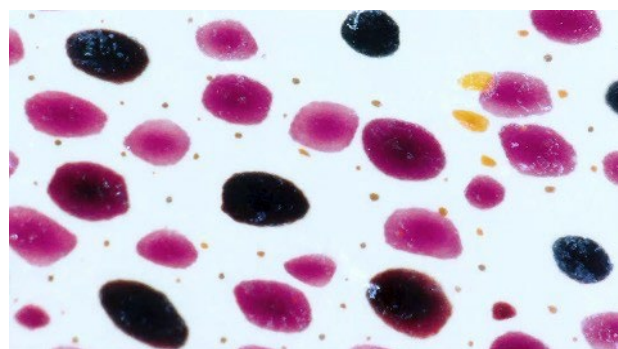


Figure 3: Juppo Yokokawa, *Chromatophony* (2019, Screen capture)

This work records the surface of a squid body using a digital microscope, projecting the pulsating cells of the squid that move in harmony with sound². To fully appreciate this artwork, it is essential to understand the underlying biological properties of squids. Cephalopods such as squids and octopuses are known for their dynamic skin color changes. These shifts in hue and pattern serve various purposes, including camouflage and communication. This phenomenon is caused by chromatophores, which are pigment-filled cells enveloped by muscles that can expand and contract swiftly. Although the color variety depends on the growth stage and species, three types of pigments can be observed and mingled in *Chromatophony*: brown, purple, and yellow.

This work was inspired by an experiment conducted by Backyard Brains, a company that sells educational neuroscience

² Juppo Yokokawa, *Chromatophony* (2020, May 30). <https://youtu.be/oeu3CWkiGvQ?si=G4dV8dAC9MsztEk>

laboratory kits³. They previously used music as an electrical stimulus to manipulate squid chromatophores. Their experiment involved stimulating chromatophores with an iPod connected to a euthanized longfin squid, producing a mesmerizing visual response to the song “Insane in the Brain” by Cypress Hill. If you look at their experiment carefully, you can note a similar pattern; chromatophores were notably responsive to lower frequencies, such as bass or kick drums, but seemed indifferent to higher tones, such as hi-hats or guitar sounds. Inspired by the fact that chromatophores react to certain sounds, Yokokawa designed audio signals to optimally activate cellular tissues, identifying the most effective frequency of approximately 90 Hz and the waveforms suitable for this work (Yokokawa, et al., 2022). Thus, this work achieved perfect synchronization of the sounds produced by the speakers and the images depicted by the living tissues.

Considering this practice in terms of decomposition, we discern two layers as follows:

1. Decomposition of visual media: The vibrant elements generated by chromatophores challenge the technological conditions of visual media in this digital era, which is often supported by a pixelated image on a flat screen.
2. Decomposition of biological entities: The materials of this work segmented from the squid inevitably degrade over time, changing their color and movement.

While with the aid of nonhuman agencies we can decompose the technological aspects of contemporary visual media and explore their alternative possibilities, it must be noted that decomposition in this case is engaged with certain ethical issues. However, instead of taking a macroscopic view of species, this work leads us to contemplate the life and death of cellular structures and their chemical reactions. In other words, the decomposition presented by *Chromatophony* is an intensive process of energy exchange across artificial hierarchies such as species, individuals and tissues. Consequently, in contrast to the positive aspects generally implied by notions such as the life cycle and ecosystem, this work also reveals the inherent brutal, bare, even disgusting aspects of decomposition (Douglas, 1966).

4. Entanglements between the Natural and the Artificial: Soichiro Mihara’s *Making Soil*

The Great East Japan Earthquake in 2011 brought about the issue of decomposition as a major contradiction: planetary forces caused both natural and artificial entities to decompose, while simultaneously confronting society with the impossibility of decomposing radioactive substances leaking from nuclear power plants. Prompted by their impacts, Soichiro Mihara began exploring soil, resulting in *Making Soil* (2021), which was created as a 24-hour webcast of a real-time video⁴.

In this work, Mihara employs a mechanical process involving a slowly rotating motor to mix soil within a transparent bucket-like container. In addition, he “trashes” organic residues from his daily meals into this soil. In contemporary society marked by relentless cycles of production and consumption, a multitude of objects circulate continuously. Many of these objects are either mechanically processed as waste or left unprocessed. However, this work presents a challenge to the linear trajectory from production to consumption and questions the label of “garbage” for objects that have diverged from this trajectory.

“Garbage” such as the tails of fried fish, gradually loses its original shape and color when introduced into the soil. In this context, the tails cease to be categorized as waste and assimilate into the soil, becoming an integral part of it. This work presents neither production nor consumption, but rather the transformation or decomposition of matter in the soil.

As observed recently, soil serves as a medium in which a multitude of microscopic living and non-living forms coexist and are intricately entangled with each other (Montgomery and Biklé, 2015). Microorganisms engage with organic substances, initiating chemical changes and decomposing them to differing degrees.

This process renders matter as a recurrent source in metastable states. Just as the tail of fried fish is decomposed by microorganisms, eventually serving as a nutrient for sunflowers, the decomposed material, in turn, becomes sustenance for other life forms. At that moment, different things that have never met before are assembled. The soil with microorganisms as agents facilitates new encounters between various beings, exchanging life and death, destroying and equalizing their socially and politically defined positions, and developing a recycling process of decomposition: composting (Haraway, 2015). Consequently, in *Making Soil*, we witness essentially the composting process, which is primarily centered on microbial decomposition.

However, this is a slow transition process with no dramatic changes rendered visible by the slowly rotating container and browser for broadcasting. This rotational motion imparts movement to the soil within the container, leading to rotational shifts in the soil as avalanches. This scene is taken with a DSLR from the perspective of the open mouth of the container for webcasting 24/7 on its original website. Drawing on these technological elements, we add another aspect to this work: the temporality of the uninterrupted flow realized by them.

The rotating movement of the soil, which promotes a sense of immersion, evokes a cycle of matter which becomes a milieu of entanglements and encounters. Such gradual rotation of the container also facilitates air circulation, thereby supplying oxygen to the microorganisms present in the soil and ultimately expediting the decomposition process. However, this transformation of the milieu becomes intense and harmful agitations for certain forms of life, including anaerobic microorganisms. In the sense that it is a favorable process for aerobic micro-organisms, this displacement allows for an exclusive and antagonistic form of decomposition.

³ Backyard Brains, *Insane in the chromatophores* (2012, August 23). <https://blog.backyardbrains.com/2012/08/insane-in-the-chromatophores/>

⁴ Soichiro Mihara, *Making Soil* (n.d.). <http://compost.mhrs.jp/>

This continuum of entanglements and encounters does not extend outward but remains confined within a transparent bucket. In this way, *Making Soil* makes material circulation suspended. However, the idea of a circulation is never an absolute and natural order of ecology but is artificial and includes a perspective that puts human concerns first (Chakrabarty, 2021; Ward, 2018) on the basis of various technological and industrial practices, such as knowledge of chemistry, agriculture, and economics. *Making Soil* does not seek to provide enlightenment but rather a critical reflection on circular models that are often idealized in the face of pressing environmental issues.

5. Discussion: Decomposition as intrinsic to the Media Art

Based on the instances examined thus far, we would like to consider again the following issues: what does “decomposition” mean in the practice of media art? How can it respond to the problem of electronic waste disposal, which continues to increase on our blind side, or to the supply of electricity that we take for granted, causing resource extractivism behind the scenes? Beyond simply presenting relevant themes, how can artwork incorporate and digest these issues of energy?

As mentioned in the introduction, cultural traditions, particularly in Western societies that have held human acts of composition and creation in high regard, have frequently portrayed them as a means to resist death and decay. However, even if this understanding is true to some extent, it does not escape criticism for the “anthropocentrism” that has been frequently pointed out in recent years, especially in the field of anthropology (Kohn, 2013; Ingold, 2006). Furthermore, although the term “Anthropocene” may be an opportunity to think about this topic, the name itself seems to be a residue of modern anthropocentrism, as it endeavors to perpetuate the prefix “anthro-” on a planetary scale transcending the human domain.

The sources of such criticism are not irrelevant to the current situation, in which diverse technologies permeate all aspects of art scenes and daily life, accelerating economic and political disparities. Consequently, the predicament of Occidentalism, which has pushed for technological innovation, has led to a growing argument dedicated to nonhuman beings that are positioned as equivalent to humans. To this tendency, we may add the claims of some scholars in the fields of art history and visual studies (Belting, 2011; Mitchel, 2005) who argue that the image itself has a certain agency that has historically controlled human beings (not vice versa). In sum, these critics of anthropocentrism call for a reassessment of the human position within a dynamic meshwork (Ingold, 2011) that encompasses nonhuman entities such as technology, animals, plants, inorganic objects, and living images.

From this perspective, it is possible to remember historical examples of (media) art that appear to have incorporated decomposition. For example, there is a famous episode in which, when *Bride, Even if Naked by a Bachelor* (1915–1923, also known simply as *Large Glass*) was broken during transport, the author,

Marcel Duchamp, was happy to leave accidental fractures during repair. Alternatively, Kurt Schwitters' *Merzbau* reconstructed abandoned trash or dumps to create avant-garde plastic work.

More recently, Christian Marclay's *Record Without a Cover* (1985) incorporated the scratches left on the surface of a record during transport into the work itself.

Whether accidental or intentional, these examples certainly use decomposition as part of themselves. However, we chose the term “decompose” because, unlike the mere destruction or decay of works, we believe it sheds light on the aspect that could not be grasped by the simple dichotomies of creation and reception, or production and consumption. In other words, by showing decomposition as something intrinsic to artworks, we can detract the humanistic subject from its exclusive position and transform it into something equivalent to nonhuman agencies, which leads to the actualization of post-anthropocentric art.

6. Conclusions: Post-anthropocentric Media Art

To conclude this paper, we would like to refer to a book entitled *Philosophy of Decomposition* written by Japanese historian Tatsushi Fujihara (2019). This ingenious work actually uses “decomposition” as a keyword to develop theoretical reflections that, for example, reconsider Negri and Hart's famous concept of *Empire* or Agamben's philosophical arguments, or critically examine the historical establishment of ecology as a scientific discipline.

In relation to the last point, Fujihara does not hesitate to express his sheer criticism of using environment and ecology frequently as rhetorical clichés to conclude recent arguments. This is because the term “ecology” often leads to the innocent and naive notion of “nature,” but also preserves the human-centric belief in its ability to control them uniformly. In contrast, decomposition is a crude and brutal process that sometimes swallows everything without regard to the distinction between humans and nonhumans, as we observed above. According to Fujihara (2019), the phenomenon called circulation or sustainability is indeed “a rough, grafted, flayed, content-popping, harsh, bustling, odor-filled phenomenon” (p. 24, translated by authors), which is an ongoing reality within ecology similar to intestinal activities in our body. He argues that grasping and describing such processes has particular significance in our time, when the balance between production and consumption, or the economy and environment, has become unstable on an unprecedented scale.

Our attempt is to connect his argument to the context of media art and develop it in our own way. In the first example, *A record without prior acoustic information* by Jo excavates the dimensions of materials, such as wood, paper, metal, and porcelain. This leads to decompose not only the notion of composition on which conventional music is predicated, but also the technical or mechanical foundations that make it possible. As a result, what is heard from his works may be the texture of sounds or even something like “noise,” but foregrounding such “a rough, grafted” features induced by material agencies allows for the

decomposition of the communication model supporting the established music.

The second case, *Chromatophony* by Yokokawa, was an audiovisual work using a chromatophore, the biological tissue of a squid, which is literally a nonhuman being. It is important to confirm that this work does not intend to communicate with an individual squid. Rather, the vivid colors and pulsating rhythms provide a critical perspective that decomposes digital technology into an alternative to the pixels that we normally see in our daily lives. In addition, they remind us that decomposition is always a brutal and “harsh” process and should not be enclosed within an anthropocentric framework, but rather situated within and open to nonhuman agencies.

Unlike these two works, which extend decomposition from the material or vital to the conceptual level, *Making Soil* by Mihara presents its organic and material processes. In this work, we can see soil as matter entangled with microorganism life and media technologies, and their “odor-filled phenomenon” could become sensible as a miniature of planetary circulation. The vastly different time scales intrinsic to decomposition become apparent here and generate a dynamic assemblage in which the binary oppositions of the organic and inorganic, or life and death, are swallowed.

Ultimately, the dynamic process of decomposition beyond the human scale is a critical feature common to all these works. They allow us to experience or embody this process through the visual, auditory (and sometimes tactile and olfactory) senses. Thus, decomposing media art cannot be a nostalgic return to innocent nature or a mere critique of the technology that attempts to control matter and life, but rather shows the possibility of moving beyond both paths. In other words, it is crucial to locate the process of decomposition as immanent to the material and organic agencies, which can reveal the critical potential of media art in times of planetary crisis. When the dynamic process of decomposition proceeding inside the “ecology” can be transformed into something sensible and tangible even to humans, a post-anthropocentric form of media art would emerge as a genuine resource for our future.

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