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Knowledge Cultures in New Media Art

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Abstract

New Media Art reflects the dramatic creative and cultural shifts in science and technology of the past century. With these shifts, the multitude of forms of art-making have expanded to include a wide range of ideas and techniques. Following several decades of new contributions, this plurality of expression has resisted monolithic or curatorial approaches to organization along the lines of media.

This paper defines knowledge cultures as flexible, overlapping, non-exclusive, ideological sub-groups and seeks to identify such groups within the practice and theory of New Media Art. While practising groups may be associated with specific media such as games, 3D printing, or artificial intelligence, we seek to identify knowledge groups by their explicit, hidden or shared ideological principles.

Keywords

art and technology; knowledge cultures; post-medium; post-modernism; pluralism; curation

Culturas de conocimiento en el New Media Art

Resumen

El New Media Art refleja los dramáticos cambios creativos y culturales que se han producido en la ciencia y la tecnología del siglo pasado. Con estos cambios, la multitud de formas de creación artística se ha ampliado para incluir una extensa gama de ideas y técnicas. Después de varias décadas de nuevas contribuciones, esta pluralidad de expresiones ha resistido los enfoques monolíticos o curatoriales sobre la organización en los distintos límites de los medios.

Este documento define las culturas del conocimiento como subgrupos flexibles, superpuestos, no exclusivos e ideológicos y busca identificar dichos grupos dentro de la práctica y teoría del New Media Art. Aunque los grupos de práctica pueden estar asociados a medios específicos como los juegos, la impresión 3D o la inteligencia artificial, buscamos identificar grupos de conocimiento por sus principios ideológicos explícitos, ocultos o compartidos.

Palabras clave

arte y tecnología; culturas del conocimiento; posmedios; posmodernismo; pluralismo; curaduría

Introduction

The field of New Media Arts (NMA) does not have any single point of origin but rather has evolved from a variety of practices engaging with new technologies. Approaches to organizing NMA, such as Christiane Paul's *New Media in Art*, have grouped works and artists according to media practices (Paul 2005). Tribe and Jana define NMA according to a variety of themes such as computer art, collaboration, open sourcing, surveillance and hacktivism (Tribe & Jana 2007). These themes are loose incomparable sets. For example, computer art is a technique, collaboration is a social activity, and open sourcing is a decentralized licensing strategy. While these words convey various practices, an understanding of New Media Arts as a collection of themes tends to collapse ideologies of meaning.

In the context of academic disciplines, New Media Art may be defined as a form of "knowledge production". Beyond aesthetic considerations, Borgdorff draws from Kant and Adorno to compare art to other disciplines generally (Borgdorff 2011).

> "Art's epistemic character resides in its ability to offer the very reflection on who we are, on where we stand, that is obscured from sight by the discursive and conceptual procedures of scientific rationality".

Such comparisons are academic in the sense that they establish the uniqueness of art with respect to science or engineering but do not delve into the ideology or meaning of specific movements, or of New Media Art in particular. A superficial view of NMA as a "production of knowledge" suggests an accumulation of ideas for its own sake.

We seek to explore the knowledge cultures present within NMA and how these interrelate and evolve and define the discipline. For our purposes we may define a *knowledge culture* as a fluid, non-mutually exclusive subculture or group of people (artists or otherwise) with a particular ideology. Of particular interest are those ideologies defined here as the values held by creative practitioners (whether explicit or implied). The aspect of non-exclusivity is helpful since any particular artist or work might belong to multiple knowledge cultures simultaneously. Ten knowledge groups are explored in this work as loosely defined cultures based on value questions that often arise within the study of New Media Art. They are presented in no particular order, since that would imply a meta-value system. Instead, these knowledge cultures may be taken simply as distinct sets defined by their own internal system of values, which may overlap with others.

1. Cultures of practice

That the practice of New Media Arts has resulted in new subcultures is a natural outcome of the media on which it is based. Manovich identifies this in *Language of New Media* (Manovich 2002).

> "The computerization of culture not only leads to the emergence of new cultural forms such as computer games and virtual worlds; it redefines existing ones such as photography and cinema".

While the phrase "cultural forms" is not explicitly defined, we take it to mean a format (or media) produced by culture. New media leads not only to cultural *forms* but to new subcultures surrounding those forms. The computer game is a new cultural form, but also the people who make, play and create video games.

Such is the state of New Media Art that novel subcultures abound. Artists organize around database art, data visualization, computer games, virtual reality, artificial intelligence, and many other media which have emerged in the past few decades. We may view these as subcultures that are loosely organized, fluid and constantly changing.

With the identification of media as one foundation of New Media Arts, efforts were made to form modern collections accordingly. Oliver Grau proposes a digital and "scholarly archive" to document the works

of NMA and the humanities generally, similar to such archives in other fields (Grau 2010). He acknowledges that an archival database would require a unified effort among institutions, artists and conservators. Such efforts are already undertaken by publishers (Hirsch 2019). However, these are not collated uniformly with other publishers while also discounting works solely shown in galleries, museums or solo venues. Despite the challenges of a unified archive, such a system would be of significant benefit to the field.

A digital archive of media artworks might compile the authors, visual records, or even the works themselves, but without further analysis, the ideas that motivate each piece of work may again be collapsed or lost within a literal database. An archival database of NMA would be a research tool, and this paper is not concerned with the digital curation of collections per se, but rather with the identification of ideologies embedded in New Media artworks.

Within the scope of this work, a "culture of practice" is one of the ten knowledge cultures explored as an ideological group – that is people, generally, who identify with their practice. However, it may also refer to multiple distinct cultures by type of media. Each *specific* culture of practice is a group of people that identifies according to a given media, such as video game creation or internet art.

2. Social or explicit cultures

2.1. Explicit cultures

Certain artists focus on an explicit value system driving their works to a greater degree than form. One such example is ecological art, defined here by Aaron Ellison and David Borden.

> "Ecological art is purposeful and often prescriptive: the intended actions and directions for activists are clear" (Ellison & Borden 2019).

Their work *Warning Warming* consists of a series of large hemlock timber triangles painted in yellow, red and black to indicate the average global temperature from 1880 to 2001, with carbon dioxide emissions on the opposite side. The artists seek to engage the viewer in ecological activism and ask questions such as: "Can it [ecological art] also provoke emotional responses that inspire immediate action or long-term activism?" (Ellison & Borden 2019).

An intriguing aspect of *Warning Warming* is that it operates fluidly between sculpture, public art, and data visualization. Its purpose is guided by a shared vision of ecological art toward environmental activism. Cultures of practice (e.g. database art) may evolve from their media, whereas the presence of an explicit value or ideology defines a *social culture* of knowledge. This is not to say that the choices of media are irrelevant but rather that the intentions are explicit beyond merely "experimenting with the media". These social cultures of art grow from an immediate or perceived human need that the artists are compelled to address.

Contemporary artists frequently participate in multiple value cultures. The artist Shu Lea Cheang is a pioneer in video, cyberfeminist and internet art. Her work *Brandon* (1998-1999) focuses on the murder of a trans man, Brandon Teena, and was the first web-based commissioned artwork by the Guggenheim Museum of New York (Phillips, Engel, Dickson & Farbowitz 2017). The explicit value structure in feminist art is observed by Lucy Lippard in *Framing Feminism* where "[feminist art] is neither a style nor a movement but instead a value system, a revolutionary strategy, a way of life" (Parker & Pollock 1987).

More recently, Cheang's work *Composting the Net* (2012) takes the recorded legacy of online communities such as IDC and Spectre – lists of artists and works – and turns them into digital pixels, thus "poetically, composting them" (Dekker 2022). The culture of internet ecology posits the Internet as a digital landfill of accumulated information.

An explicit social culture is a knowledge group that defines its shared value structure and membership a priori. Members are those who support the value system and may also simultaneously participate in multiple cultures, such as Cheang's cyberfeminist work (*Brandon*) and works in internet ecology (*Composting the Net*).

2.2. Non-explicit cultures

An explicit shared culture may not always be defined or present in socially meaningful works. In the video game *Vietnam Romance* by Eddo Stern, players experience the Vietnam War as a "mash-up" of cultural artifacts, creating a colourful contrast between players' nostalgia with the surrounding military activity (Anderson 2011). This work functions as a commentary on war and the loss of history.

The video game *Papers, Please* by Lucas Pope takes place in a fictional Eastern Bloc country with the player as an immigration officer at a migration checkpoint, with actions "mostly confined to shuffling papers and confirming or denying someone's entry into Arstotzkan" (Machkovech 2022). The game thus creates an uncomfortable power struggle in the player as their duty and its impact escalate.

Vietnam Romance and *Papers, Please* are related in their role as political criticism – this is their social culture. Even so, Eddo Stern is often described within the culture of practice as a video game artist, since this is a medium with which he frequently works. Social cultures may be defined informally and non-explicitly around groups of artists with similar ideological themes (e.g. politics, war), *in addition* to any identity with practice or media.

Non-explicit cultures are loosely defined by shared interests among artists that may or may not know one another. Social cultures, as a consequence of meaningful work, and whether they are explicit or non-explicit, *transcend* media and cultures of practice.

3. Mainstream contemporary art

A well-established knowledge culture can be found in mainstream contemporary art (MCA), the values of which are summarized by Edward Shanken. MCA is the "primary arbiter of artistic quality and value through its control of the market" (Shanken 2015a). The ideology of MCA is thus equated with, among other ideas, money and market capitalism. Shanken establishes a dichotomy between MCA and NMA along the lines of the technological divide introduced by Claire Bishop and goes on to criticize MCA for being technically illiterate (Shanken 2015b).

> "mainstream discourses typically dismiss NMA based on its technological form or immateriality, without fully appreciating its theoretical richness".

The issues of capitalism and technological innovation are not easily resolved. At times, Shanken appears to contradict himself: for example, when speaking of MCA's ability to "commodify relatively ephemeral art forms" such as video, while later stating that MCA "remains tightly tethered to more or less collectible objects" (Shanken 2015c). The one constant in mainstream contemporary art, however, is the continuing value structure of art as a marketable good.

4. Three technological sub-cultures

In evaluating the relationship between MCA and NMA, Shanken reveals multiple ideological relationships with technology. By setting aside market-driven discussions, we can extract these value systems as follows:

- Techno-philic: many artists and people embrace a technological future, or at least one in which technology plays a prominent, positive role, as for example in La Plissure du Text, referred to by Shanken.
- Techno-critical: some cultures within New Media Art are meta-critical, embracing technology while simultaneously reflecting on it "in a manner that self-reflexively demonstrates how new media is deeply imbricated in modes of knowledge production" (Shanken 2015a). Shanken describes this as the best of NMA.
- Techno-phobic: some cultures are against technology, either explicitly or indirectly. Shanken questions Bishop for posing the Digital Divide with no exposure to NMA: "could a contemporary art historian/critic be taken seriously if s/he stated that performance or video or installation lay beyond their expertise?" (Shanken 2015d). As a critic of NMA, a better question is how Bishop became interested in confronting the "digitization of our existence" in the first place.

Artworks within a techno-philic culture may be described as innovative but not necessarily reflective on its limits. Those who are techno-phobic are generally not new media artists themselves if their dismissal of technology is complete. Artists who adopt new media must at least embrace it in practice and thus become techno-critical at a minimum.

The confusion in Shanken arises because MCA, while always a capitalist value system, is not one people with a singular technological outlook but rather a multitude of subcultures consisting of curators, directors and institutions which may be techno-philic, techno-critical or techno-phobic.

4.1. Case Study: Artificial Intelligence and GANs

A recent techno-philic culture that has rapidly gained acceptance in mainstream contemporary art is Artificial Intelligence. In 2018, the work *Edmond de Belamy, from La Famille de Belamy* was created by a generative adversarial network (GAN) developed by the French art collective Obvious and sold for $432,500 at Christie's New York (Cohn 2021).

The monetary values of MCA shift instantaneously with shifting demand. Aaron Hertzman (Adobe) attempts to describe this rapid rise in popularity with the concept of *visual indeterminacy* (Hertzmann 2020).

> "Visual indeterminacy describes images which appear to depict real scenes, but, on closer examination, defy coherent spatial interpretation. GAN models seem to be predisposed to producing indeterminate images, and indeterminacy is a key feature of much modern representational art".

Hertzmann misses the fact that GAN-generated artwork is more properly defined as NMA and thus better compared with other AI-based art forms. Nonetheless, his description might explain why mainstream art has rapidly adopted this style.

New Media Artists have been producing important work in AI since the 1950s. Michael Noll developed algorithmic drawings with compositions similar to Mondrian (Verostko 2022). As members of the Algorists, a culture dedicated to algorithm-as-art, Noll, Verostko, Hebert, Mohr, Nake and others have been exhibiting work in galleries and museums for decades. In 1968, Harold Cohen developed AARON, a programme that could produce child-like drawings of people and gardens. As a work of symbolic AI in art, while not a learning-style AI like GANs, this is nonetheless an early example of machines creating captivating visual imagery.

Artificial intelligence as an art form has developed many knowledge subcultures. Works of art that are accepted by mainstream art are difficult to ascertain on a conceptual basis alone. The AI artworks of Refik Anadol have been featured in prominent venues globally. His recent project, *Quantum Memories* "utilizes the most cutting-edge, Google AI publicly available quantum computation research data and algorithms to explore the possibility of a parallel world" (Anadol 2022). Interestingly, given the description provided, this AI is likely not a GAN, since its presentation is abstract, more akin to abstract expressionism than to modern representational art. One might make the case that AIs which can mimic any style of early modern art are destined for acceptance by mainstream contemporary art.

It is also important to note that any hint of techno-criticality, or self-reflection on the limits or dangers of AI technology, is absent in this work by Anadol. Thus, it remains firmly within the techno-philic culture surrounding affirmative trends in artificial intelligence.

On the other hand, artists such as Ian Cheng develop AI artworks as a form of critique. In *Emissary Forks at Perfection* (2015-2016), as described by Tromble, an agent-based AI must attempt to complete a quest within a dynamic, ever-changing environment (Tromble 2020). Cheng views this contradiction between control and change as a central feature of what makes AI interesting to humans, and thus places his work within a tecno-critical culture. Artificial intelligence raises many questions, yet we are primarily concerned here with how human ideologies and values are transformed by its presence.

5. Post-modernism

What other knowledge cultures are embedded within New Media Arts today? We have surveyed those within cultures of practice, those with explicit or non-explicit social values, those of mainstream contemporary art and those based on future technological outlooks. To appreciate NMA more deeply is to address cultural ideologies which may be assumed or embedded within the culture of New Media Art itself.

One may begin by appreciating that New Media Art developed on the heels of post-modernism. It is no coincidence that New Media Art arose at the same time that media theorists such as Jean-François Lyotard were reflecting on the condition of post-modernism (Lyotard 1979a).

> "Simplifying to the extreme, I define postmodern as incredulity toward metanarratives. This incredulity is undoubtedly a product of progress in the sciences: but that progress in turn presupposes it".

Scientific progress is intertwined with the modern condition, as it is with New Media Art. Lyotard understands science, in part, as "searching for and 'inventing' counterexamples, in other words, the unintelligible" (Lyotard 1979b). Only within a plurality of hypotheses can one seek the more correct one.

5.1. Distance and objectivity

Within the digital humanities, the post-modern condition is reinterpreted by Franco Moretti as a distinction between close and distant reading (Moretti 2000).

> "Distant reading: where distance, let me repeat it, is a *condition of knowledge* [sic]: it allows you to focus on units that are much smaller or much larger than the text: devices, themes, tropes – or genres and systems. And if, between the very small and the very large, the text itself disappears, well, it is one of those cases when one can justifiably say, less is more".

This distance is an intentional space between the reader and the narrative. Distant reading examines text as fragments of knowledge similar to or derived from the methods of science in questioning a multitude of hypothesis of manageable size. The premise is that *distance* confers *objectivity* via comparison, with fragmentation as a by-product of tried-and-failed ideas.

Under the system of science, all untried ideas are equally valid for Lyotard, who recognizes that "science does not expand by means of the positivism of efficiency" (Lyotard 1979a). Human intuitions that might move more "efficiently" toward readily viable ideas are suppressed, as every hypothesis is valid until tried (bias being undesirable). Thus, science proceeds slowly with repeatable, testable, comparable ideas.

How do the scientific conditions of post-modernism influence the knowledge cultures of New Media Art? Previous methods of narrative, artistic movement and cultural dialogue become passé. The tenets of science must be reframed for adoption. Within NMA there are no hypotheses, only artworks, and therefore the scientific theory of objective testing translates poorly to art. Duchamp began the experiment of art as idea, and since then, each conceptual work has had to be evaluated on its own merits. The lack of an objectifiable (comparative) metric for works of art, combined with the literal technological outcomes of science, has resulted in an explosion of viable forms and meanings.

5.2. Fragmentation and the End of Art

The accumulation of information was anticipated by Paul Virilo and Vannevar Bush (Bush 1996).

> "There is a growing mountain of research. But there is increased evidence that we are being bogged down today as specialization extends. The investigator is staggered by the findings and conclusions of thousands of other workers".

The art object has fit within this accumulation ever since the appearance of the readymade. For Danto, this signifies the "end of art", since it can no longer be distinguished from everyday objects (Danto 1998). Vassiliou reflects on NMA and concludes that "Danto's theory for the 'end of art' seems to withstand the advent of digital media". According to his reasoning, NMA does not "escape" from or "distinguish" itself from common objects, nor from the "institutional norms of art" (Vassilou 2018). One must concede that NMA, through a proliferation of media forms, appears to support this fragmentation.

The "end of art" is the end of the artistic object as an institutional form, with NMA forging new pathways for distribution. Additionally, the pluralism of NMA is not equivalent only to a growth of information (or objects) for the lack of scientific metrics in art also undermines a unified sense of purpose. Nonetheless, scientific theorists (non-artists) continue to pleasantly make the case for a scientific interpretation of art pluralism. For example, Magnus and Uidhir, offer "species concept pluralism – a well-explored position in philosophy of biology – provides a model for art concept pluralism" (Uidhir 2011). The problem is that art objects are not comparable in the way biological species are. Unlike species, which are naturally (physically) comparable, meaning in art depends on the ideology of knowledge cultures of both the creator *and* the viewer.

In science, forward movement is guided by nature, that is, reality. In art, every direction is viable. Thus the "end of art" is not only the end of the art object, or artistic creation, but the end of the artist – one who guides our reflections on where humanity stands. Fragmentation leads to the loss of sense of the *artistic self*; a unified ideological direction forward in art is no longer achievable.

The knowledge culture of fragmentation is the acceptance of pluralism: an ideology stating that any object, any media, and even any idea may be the subject of art, hence the proliferation of art-science-engineering crossover disciplines such as biological art, database art, and AI-based art.

5.3. Pluralism

Object pluralism, presently discussed, may be distinguished from social pluralism, that is, diversity and inclusion. Both are embraced by venues of NMA despite the increasing difficulty of defining artworks by thematic categories.

A practical experiment will demonstrate the challenges of pluralism. Choose several artworks at random, preferably using a computer to ensure randomness, from the pages of the International Symposium on Electronic Art (ISEA) catalogue for any year. See figure 1 for an example. A knowledge culture in favour of pluralism would argue that each piece of work found deserves equal attention without bias. Pluralism in NMA accepts the premise that all art experiments are of value: immeasurable until tested.

The random art selection experiment was conducted with the following Processing code (see processing.org):

```
for (int n=0; n<4; n++) println ((int) random(0,300));
```

For example, results from a single run gave four randomized page numbers in the ISEA 2016 Catalog:

#1, p.212, Julien Ottavi & Jenny Pickett, *Electromagnetic Spectrum Research:* explores "inaudible sounds" recorded by VLF (very low frequency), especially the hum of manmade devices such as electrical pylons, to discover musical complexity.

#2, p.136, Sandra Heinz, *Haitus:* pull cords trigger a dark patch within a grid of 6x3 light panels, with gaps and random behavior that give a "dust", glitch-like aesthetic.

#3, p.160 Jinku Kim, *"What Is Seen was Not Made Out of What was Visible":* sound, which creates a physical vibration of air molecules, is visualized as geometric patterns on an oscilloscope, giving a "hyper-tactile" experience.

#4, p.26, Nurit Bar-Shai, *Objectivity: Soundscape:* applies lab techniques to visualize the "chemical tweets" of microorganisms as beautiful patterns.

Figure 1. Experiment to demonstrate the challenges of pluralism
Source: own creation

The issue raised is the curation of New Media Art. A culture of pluralism must accept Bourriaud's criteria for the evaluation of art (Bourriaud 2002).

> "…this 'arena of exchange', must be judged on the basis of aesthetic criteria, in other words, by analyzing the coherence of this form and then the symbolic value of the 'world' it suggests to us…".

Criteria for New Media Art in a pluralist framework is judged according to internal self-consistency. Absent are any preferences for greater significance or meaning and, since they are lacking in Lyotard's "efficiency," where selections are intended to be unbiased. Thematically and in current practice, the efficiency in selection is achieved by venue according to the historicity and evolution of currently selected knowledge cultures (e.g. AI, database art, etc.) and, to a significant degree, industry and market trends.

Knowledge cultures of NMA may view pluralism positively or negatively. Those in favour of pluralism accept that all works are deserving of equal attention in accordance with the tenets of scientific non-bias and based on the self-consistent merits of the work. Arguments against pluralism are currently rarer but must be founded on the notion that art is not science; there will never be a universal arbiter of creative truth (as nature is to science) as the vast range of ideas is too overwhelming to receive our equal attention. Therefore, we must ask: *what do we value?*

There can be no singular answer in a global culture – hence the embedded condition of pluralism. A recent plea that calls for a culture of non-pluralism can be found in Alexandra Bal's "Sentience as The Antidote to Our Frenzied Mediated Selves" (Bal 2020).

> "Contemporary western tools of perception have adapted to a human consciousness that exists in hybrid techno-natural spaces… We exist in a frenzy of online social performances and simulated realities, constantly moving from one network node to another".

Bal cites the history of Western science as the arbiter of our sentient selves and our subsequent "disembodiment" from the world. Her conclusion is that, with respect to our social products and activities, the final metric of humanity – to which pluralism is a detriment – is our ecological and environmental relationship with the planet.

Pluralism, defined here as the selection of artworks based solely on self-consistency (e.g. quality, coherence), is an outcome of the global embedded knowledge culture of the scientific and industrial revolution. The result is a vast range of works whose value structures overlap with other disciplines.

5.4. Post-medium and remix culture

Some extremes of pluralism are described by Rosalind Krauss as "post-medium" (Krauss 2009).

> "As medium specificity fell out of fashion, it seemed retrograde for artists to attempt it or for critics to praise it. Art had, it seemed, entered a 'post-medium condition' in which the inauthentic seemed more daring and up-to-date than the exploration of limits and materials".

Post-medium is established by Krauss by its opposite; hold-out artists who make use of 'technical supports', specific non-traditional media, to avoid the post-modern condition of medium irrelevance. Shanken is critical of Krauss by noting that she "misses the richness" of artists who join multiple media (Shanken 2015).

Interestingly, similar observations on the loss of medium specificity are made by Manovich in his description of deep remixability (Manovich 2007).

> "But software is like various species within the common ecology – in this case, a shared computer environment. Once 'released,' they start interacting, mutating, and making hybrids. The invisible revolution that took place in the second part of the 1990s can therefore be understood as *the period of systematic hybridization between different software originally designed to be used by professionals working in different media*. [sic]".

Manovich describes those engaged in the remix as forming a "remix culture": in our parlance, a knowledge culture based on the resampling of content and the intermixing of media. Remix culture is one cause of the post-medium condition.

Whereas post-modernism introduces the notion that *any* object (readymade) may be taken as a medium, Vassiliou observed that the response of New Media Art was to adopt the *media of technology* as the new normal form – code, database, VR/AR, internet, and so on. The post-medium condition takes this exchange further by eliminating the boundaries of media altogether – remix culture is the lack of medium specificity.

Post-medium fits naturally within the pluralist paradigm because the "interaction, mutating, and making hybrids" is easily adopted by scientific hypothesis-generative thinking. Pluralism, at its most extreme, is no longer even a branching taxonomy of the evolution of distinct media, but rather the boundless, multi-dimensional crossbreeding of media.

6. Modern meta-narratives

The ideological frameworks of the present are embedded deeply in the knowledge cultures of scientific thinking, distant reading, objective analysis, pluralism, and remix culture. The conditions of knowledge are not mere conveniences or temporary infatuations; they reflect the values of our times.

Each knowledge culture has adherents and detractors. For those technophiles who see no contradictions within the present global system, the contemporary cultures of NMA are a playground for novel experimentation. Reflected aptly in the documentary *Surviving Progress* by Roy & Crooks, the science-driven technophile conceives the only relevant future for humanity is as a spacefaring civilization (Roy & Crooks 2022).

However, many others are unconvinced, citing our rapid global impact on the planet. Alexandra Bal summarizes these concerns (Bal 2020).

> "Our challenge is not so much to seek ever more sophisticated technological solutions to existential and environmental problems, as it is to re-establish a moral, emotional, and perhaps spiritual, relationship with the biosphere: living with empathy and consciousness, with respect for the land, the plants, the animals, and people".

If art merely offers a "reflection on where we stand", as Borgdorff suggests, then it has little to say on how we proceed to resolve conflicts between knowledge cultures. That would be the purview of politics and economics. NMA is arguably in a worse position to address such issues since it largely embraces the post-medium scientific pluralism of the present.

We feel, however, that art can offer much more. Art, unlike science, is *not* bound by the terms of fragmentation and hypothesis testing – it has the capacity to coherently synthesize and integrate knowledge.

Within Lyotard's post-modernism there are self-contradictions. He states: "the grand narrative has lost its credibility," yet the argument for the condition of post-modernism is itself a meta-narrative. Perhaps he means that the narrative promise of early modernism has shifted to means versus ends, in which "capitalism has eliminated the communist alternative and valorized the individual enjoyment of goods and services" (Lyotard 1979), yet the ends of technology, in other words its impacts and outcomes, are even more relevant now in our present global narrative. Perhaps meta-narratives are no longer linear; but they are not absent.

The meta-narratives of our times *are* the knowledge cultures of scientific fragmentation, pluralism, presumed objectivity and their paradoxical relationship to globalism and ecological disaster. These are recurring grand narratives that are neither regional nor temporary. From the perspective of NMA, regardless of the plurality of expression, these knowledge cultures are embedded in our present condition.

6.1. Balance and Post-pluralism

A balanced relationship with nature requires that humanity have a global, structured and *organized* relationship with our environment. It must be at least sufficiently organized to be self-sustaining, to be efficiently non-wasteful, and to conform to natural limits. The structures of institutions, hierarchies and governments may or may not be needed – this is outside the scope of our discussion.

Herein lies the problem: we have yet to discover a structured organization for humanity that achieves this balance with nature while also allowing for a cultural pluralism of ideas and expression. Scientific thinking argues that pluralism is necessary for hypothesis testing, yet pluralities of technologies, media, hypotheses, ideas and artworks compete directly for resources and energy. The production of NMA is a relatively small consumer of energy compared to the human creation and consumption of media generally.

Every individual is a creative actor in the world of social media, consuming resources to fuel their participation in a wide variety of overlapping knowledge cultures. NMA is a participant in that pluralism. However, *art is not bound by the terms of science*, and we believe that interesting future contributions of New Media Art reside in the capacity of art to synthesize and integrate knowledge.

We will avoid speculating on the future contributions of New Media Art, for one can hope they are still many and varied, since knowledge cultures are not mutually exclusive: synthesis does not negate pluralism. Consistent with our analysis, we might instead observe that a knowledge culture of *synthesis* need not deconstruct (fragment through excess questioning), propose hypotheses, conduct experiments, or invent media types. It does not require "novelty" to legitimize itself, but might instead draw from that which exists to define similarity and consensus. A synthesis of knowledge objects such as the "digital archive" of Grau is interesting, but how might we gain a better understanding of ideological synthesis?

One of the most valuable aspects of New Media Art may be that a deep appreciation for media uniquely places it to formulate ideas or systems that address pluralism and social organization. At a minimum, we can see that pluralism of creative expression is not necessarily inconsistent with a sustaining, structured, relationship with nature, since the former is only indirectly related to consumption.

Aside from individual efforts the challenge of pluralism requires us to address social discord and ideological differences. What restructuring of our media, devices and lives would enable collective actions to be defined more readily by our shared values? How are shared values discovered? What operations allow us to combine or unify disjoint values? The post-modern condition would suggest that all methods and devices tried – every application, every idea, every image – are equivalent in value and that the whole of this space shall be tested. However, we question the scientific basis for post-modernism in art as self-contradictory. The culture of scientific thought is one approach to art, but it need not apply to the whole of art, for which the contributions of creative synthesis and intuition may be of greater value. A generic, efficient (non-exhaustive) metric, which is implied by this, is the evaluation of a given piece of work on its ability to discover or unify shared cultural values.

One possible approach for artists working within a knowledge culture of synthesis would be to define, in real terms and more precisely, where our shared values lie. What systems or media could measure this more directly? From there the next, more difficult, challenge is to imagine approaches that would enable these shared values to surface ubiquitously (i.e. regardless of politics). New lines of inquiry that might arise are: how should social media function? What would the internet look like if it were nature-sustainability ranked as opposed to popularity ranked? This reorientation of New Media Art is not a universal metric but it need not be. We seek new ways of thinking beyond the knowledge cultures of our past. Outside the limitations of scientific thinking, but not lacking in it, these issues of value ideology in media and culture seem to be the kinds of problems that New Media Art is well positioned to address. The above dialogue is just one approach by which a better grasp of embedded knowledge cultures might enable new directions in New Media Art.

This work has explored ten knowledge cultures: **1)** cultures of practice, **2)** explicit cultures, **3)** non-explicit cultures, **4)** mainstream art, **5)** technophilic, **6)** technocritical, **7)** technophobic, **8)** post-modern/post-medium, **9)** pluralist, and **10)** post-pluralist or synthesizing. This is not a hierarchical taxonomy, but instead a loose collection of overlapping cultures. These knowledge cultures were selected as representative of common issues on values found within the study of New Media Art and its relationship to science and technology over the past century. The goal of which was to make explicit the new meta-narratives of our times so that the future of New Media Art might avoid being bound by the same narratives.

References

Anadol, Refik. "Quantum Memories". *Refik Anadol*. Website. [Accessed: 9 October 2022]. https://refikanadol.com/

Anderson, Steve F. *Technologies of History*: *Visual Media and the Eccentricity of the Past*. (Hanover: Dartmouth College Press, 2011), 149.

Bal, Alexandra. "Sentience as The Antidote to Our Frenzied Mediated Selves". *Proceedings of the 26th International Symposium on Electronic Art*. ISEA (2020): 21-28.

Bush, Vannevar. "As We May Think". *The Atlantic Monthly* (1945, July), republished in *Interactions*, vol. 3, no. 2, (1996, March): 35-46. DOI: https://doi.org/10.1145/227181.227186

Borgdorff, Henk. "The Production of Knowledge in Artistic Research". *Routledge Companion to Research in the Arts*. (New York: Routledge, 2011), 45-63.

Bourriaud, Nicolas. *Relational Aesthetics*. Paris: Presses du reel, 2002.

Cohn, Gabe. "AI Art at Christie's Sells for $432,500". *The New York Times* (2018, October). [Accessed: 18 October 2021]. https://www.nytimes.com/2018/10/25/arts/design/ai-art-sold-christies.html

Danto, Arthur. "The End of Art: A Philosophical Defense". *History and Theory*, vol. 37, no. 4 (1998, December): 127-143. DOI: https://doi.org/10.1111/0018-2656.721998072

Dekker, Annet. "Shu Lea Cheang: Composting the Net". *NetArtWorks: Online Archives* (2012, May). [Accessed: 9 October 2022]. http://aaaan.net/shu-lea-cheang-composting-the-net/

Ellison, Aaron and David Borden. "Ecological Art: Art with a Purpose". *The Goose*, vol. 17, no. 2, art. 3 (2019a).

Ellison, Aaron and David Borden. "Ecological Art: Art with a Purpose". *The Goose*, vol. 17, no. 2, art. 3 (2019b): 10.

Grau, Oliver. "Renewing knowledge structures for media art". *Proceedings of the 2010 International conference on Electronic Visualization and the Arts* (2010, July): 286-295. DOI: https://doi.org/10.14236/ewic/EVA2010.38

Hertzmann, Aaron. "Visual Indeterminacy in GAN Art". *Leonardo*, vol. 53, no. 4 (2020): 424-428. DOI: https://doi.org/10.1162/leon_a_01930

Hirsch, Andreas J. *Creating the Future: A Brief History of Ars Electronica* 1979-2019. Linz: Ars Electronica, 2019.

Krauss, Rosalind. "The Guarantee of the Medium". *Studies across Disciplines in the Humanities and Social Sciences* (Helsinki: Helsinki Collegium for Advanced Studies, 2009), 139-145.

Lyotard, Jean-François. *The Postmodern Condition: A Report on Knowledge*. (UK: Manchester University Press, 1979a), chap. XXIV.

Lyotard, Jean-François. *The Postmodern Condition: A Report on Knowledge*. (UK: Manchester University Press, 1979b), chap. XXIV, 54.

Machkovech, Sam. "Papers, Please Review: Paper trail of tears". *Gaming & Culture* (2013, August). [Accessed: 9 October 2022]. https://arstechnica.com/gaming/2013/08/papers-please-review-paper-trail-of-tears/

Manovich, Lev. *Language of New Media*. (Cambridge: MIT Press, 2002), 9. DOI: https://doi.org/10.22230/cjc.2002v27n1a1280

Manovich, Lev. "Deep Remixability". *Artifact*, vol. 1, no. 2 (2007): 76-84. DOI: https://doi.org/10.1080/17493460701206751

Moretti, Franco. "Conjectures on World Literature". *New Left Review*, no. 1 (2000, January-February): 57. London.

Parker, Rozsika and Griselda Pollock. *Framing Feminism: Art and the Women's Movement 1970-85*. New York: Pandora Press, 1987.

Paul, Christiane. *New Media in Art*. Thames & Hudson, 2005.

Phillips, Joanna, Deena Engel, Emma Dickson and Jonathan Farbowitz. "Restoring Brandon, Shu Lea Cheang's Early Web Artwork". *Guggenheim Checklist* (2017, May).

Roy, Mathieu and Harold Crooks. "Surviving Progress". *National Film Board Canada*. Website. [Accessed: 9 October 2022]. https://www.nfb.ca/film/surviving-progress/

Shanken, Edward. "Contemporary Art and New Media: Digital Divide or Hybrid Discourse?". *Art Research Journal Brazil*, vol. 2, no. 2 (2015a, July): 75-98.

Shanken, Edward. "Contemporary Art and New Media: Digital Divide or Hybrid Discourse?". *Art Research Journal Brazil*, vol. 2, no. 2 (2015b, July): 76.

Shanken, Edward. "Contemporary Art and New Media: Digital Divide or Hybrid Discourse?". *Art Research Journal Brazil*, vol. 2, no. 2 (2015c, July): 77-78.

Shanken, Edward. "Contemporary Art and New Media: Digital Divide or Hybrid Discourse?". *Art Research Journal Brazil*, vol. 2, no. 2 (2015d, July): 79.

Tribe, Mark and Reena Jana. *New Media Art*. Rome: Taschen, 2007.

Tromble, Meredith. "Ask not what AI can do for art… but what art can do for AI". Artnodes, no. 26 (2020). DOI: https://doi.org/10.7238/a.v0i26.3368

Uidhir, Christy Mag and P.D. Magnus. "Art Concept Pluralism". *Metaphilosophy*, vol. 42, no. 1-2 (2011, January): 83-97. DOI: https://doi.org/10.1111/j.1467-9973.2010.01678.x

Vassilou, Konstantinos. "The 'End of Art' in the Era of Digital Pluralism". *Konsthistorisk tidskrift/Journal of Art History*, vol. 87, no. 2, (2018): 103-114. DOI: https://doi.org/10.1080/00233609.2018.1435563

Verostko, Roman. "The Algorists". *Roman Verostko*. Website. [Accessed: 9 October 2022]. http://www.verostko.com/algorist.html.

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