Permeability and Media Art

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Abstract

This paper serves as a proposition for an alternate taxonomy regarding systems and media practices. With *the digital* no longer an adequate term for describing the specificities of media art, we briefly track the histories of various nomenclature with respect to their characteristics. Drawing on a biological metaphor of the living cell membrane we pay particular attention to systems and systems art and suggest an inclusive approach to the specificities of art that sits across numerous classifications. Open and closed systems are recognized as offering a broader approach; however, we see these as embedded in particular chronologies and disciplines. Our proposal is that the term *permeability* is more descriptive of the breadth of practices that fall into the media art category, and in fact this new nomenclature may be applied to all art forms.

Keywords

Permeability, Digital, Systems Art, Media Art, Closed Systems, Open Systems

Context

This brief paper proposes an alternate taxonomy for thinking about media art practices. This taxonomy is grounded in our concept of permeability. We both come to the world of media art with backgrounds in biology, and we are of a generation that started with discrete analog-based media and gravitated towards systems and New Media practices. We bring combined experience as artists, curators, thinkers, and faculty working inside the Canadian higher education sector. We have had the privilege of engaging in a discussion about media, liveness, and systems for roughly 20 years.

Our conversation, like many others that attempt to characterize media art, began with our common histories in biological systems and how those conceptual patterns manifest in media art's transformation into *The Digital*. Thinking through and with systems infers exchanges and relationships between the audience, the artwork, its effects, and its environment. Over the years we have sought more solid ground in richer paradigms. In that time Langill, in collaboration with Lizzie Muller has ;

developed liveliness as a framework for thinking about the dynamical systems that have been explored by artists. [1] Daniels has tracked a creative practice from analog image creation to hardware agents supported by digital tools. [2,3,4]

Introduction: The Prevalence of Systems

Significant among the influences on our respective thinking is a consideration of the role of systems in media art histories. Dramatically introduced in exhibitions like *9 Evenings* (1966), *The Machine: As Seen at the End of the Mechanical Age* (1968), *Some More Beginnings* (1968), *Cybernetic Serendipity* (1968), and *Software* (1970) systems were often seen as synonymous with the then emerging field of cybernetics and the new technology of the computer. The dominant narrative of this history celebrates an explosion of interest in the 60s and early 70s, a disappearance through the remainder of the 20th C, and a recent return that is more slow burn than triumph.

Art historian Edward A. Shanken has made visible the analytical work of Jack Burnam in *Beyond Modern Sculpture (BMS)*. [5] Burnham's line of thinking shows that systems were engaged by artists before the first computers made their way into a gallery. Artists such as Agnes Denes, Hans Haake, and Sol Lewitt had begun to explore relational works that created meaning not through objects but through art that employed systems and feedback.

We are living in an historical moment when systems of all kinds have made themselves devastatingly visible. We are grasping, reaching towards being post-pandemic while facing a global climate crisis and escalating geopolitical unrest and violence. Critically (re)turning to relational paradigms is essential to addressing these crises collectively [6,7]. In turn, we need to grapple with the diverse lessons of the last decades of media and forge new frameworks and discourses moving forward from this moment in time. Rachel Carson's *Silent Spring* was written in 1962. [8] In that work she called out the world view that says nature is subordinate to humans. Her cries were only partially heard. Artists were there, exploring systems and

trying to make sense of a new paradigm of art and technology [9,10]. They too were sublimated. A return to systems thinking [11,12], with the intention of seeing the richness of organizational principles embedded within works – principles such as permeability -- may be a vital step towards understanding how larger phenomena are connected.

Proposition

What would happen if we extended the biological notion of open and closed systems and remapped and applied this thinking onto our consideration of systems in art and media?

Of particular interest here is the observation that some media artworks exhibit properties like that of a living cell. The envelope of a cell, its semi-permeable membrane, creates a partial barrier between the organism and its environment. The continuum from 'inside' environment to 'outside' environment unifies *and* envelopes cells such that both positions can be true.

Similarly, some media art works exhibit a kind of envelope that mediates exchange between themselves and their context, be it audience or environment. These works problematize the idea of boundary. They foreground context over content and enter into relationships with audience and environment.

We propose that this relational envelope in media art works transforms objects into parts of systems.

The idea that media art includes open systems is frequently alluded to and openness is often implied but less often overtly articulated. [13] Nam June Paik being one exception. [14] Curators Beryl Graham and Sarah Cook situate openness in relation to participatory art, but more explicitly with open software. [15] If we claim open systems as a way of considering the early works from the 1960s and later media art made possible from the information and digital revolutions onward, we surface the fact that many of these works are moving towards increased permeability.

Significant consequences of this line of thinking immediately arise. We can now consider a wider range of artworks as systems themselves, or as existing within systems frameworks. This is consistent with system theory's consideration of all phenomena as parts of systems. [16, 17] It also logically follows that we could start to understand some art modes/media as closed systems. These closed works help to define a larger ecology. And, most interesting, with these points of attraction defined, we could then construct a topology that considers *permeability* as a measure of openness/closedness.

In media, works aligned with closed systems have their own internal logics such as authorship, representation, topography, and narrative structure as fundamental to the construction of their meaning. Closed systems can be seen as self-contained worlds. For the most part, these structures figuratively and conceptually cut off flows and encourage the separateness of the work. Time based closed systems are linear, offering a single pathway. These are systems that speak, but do not listen to their context. [18]

Art engaging open systems propose exchange and flux as key to their construction of meaning. They find new contexts and actively negotiate sites of exchange. The logics of these works align with circularity, feedback, topology, and interaction in the structuring of meaning. Open systems are deeply contextual [19, 20], and have boundaries that are porous and permeable. They often chafe in the gallery (though some find success in such spaces) and spill into public spaces and alternate sites. The temporal experience of open systems is elastic and multiple pathways tend to be generated and unfold in real time. These are systems that listen in a plurality of ways and speak directly to their context.

In considering artworks that fit this proposition one immediately turns to conceptual/telecommunications works such as those of Hans Haacke, which in some instances have incorporated open systems to engage institutional critique and further critiques around the economy and power. *News* initiated in 1969, consisted of a telex machine, and received wires from news services, first in Germany and then in New York bringing the full breadth of the world into the gallery. In speaking of an earlier sculpture, *Ice Stick*, 1969, Haacke considers the external factors affecting its demise and suggests, "It merges with the environment in a relationship that is better understood as a 'system' of interdependent processes…. A system is not imagined; it is real. [21] Vera Frenkel's *String Games: Improvisations for Inter-City Video*, 1974, involved players based across two cities who enacted a virtual string game via teleconferencing technology provided by Bell Canada. Too involved to describe here, the work had a set of rules emulating the children's game cat's cradle and followed a call-and-response process. Argued as the first piece of telematic art, its permeability was based on the human actors and their interpretation of instructions. [22] Allan Kaprow's *18 Happenings in 6 Parts,* 1959 comes to mind as somewhat of a precursor here sans technology. Doug Back and Norman White's *Telephonic Arm-Wrestling,* 1986, involved arm wrestling via an electronic device, across telephone lines, between two cities – Toronto and Paris. Participants could presumably resolve disputes this way. White has been creating permeable media for some time with the most salient

being *Facing Out Laying Low*, 1976-1986, where information was drawn from the robotic sculpture's environment to respond to patterns of change. Contemporary iterations of permeable possibilities in art come through many avenues. Nell Tenhaaf's *Push/Pull*, 2009, reads and represents the audience's presence through a change in a light array across the sculpture, as well as shifts in the soundscape that emanates from around the work. Jane Tingley's recent work *(ex)tending towards*, 2023, produced with collaborators Faadhi Fauzi and Ilze [Kavi] Briede uses live sensor data from a nature reserve to create 3D visualizations and other sense-related phenomena to enable a forest-based experience in a gallery space [23].

A New Taxonomy
In this expanded matrix we propose *permeability* as an inclusive term that provides conceptual handles for considering the adjacencies of these various media works. Permeability suggests a hypothetical topological surface described by the parameters of open and closed systems above. In this sense, permeability may simultaneously be a category (like a biological phylum), a property (potentially quantifiable, though that is not our concern here) and an underlying collection of processes. It is not a singular notion. Permeability invites new forms of systemic relationships. It manifests itself most directly along information, energetic and material lines, though other modalities may be identified. Permeability also has the added benefit of breaking apart the juggernaut, and no longer sufficient divide, between digital and analog.

By 2023, we have decades of examples of systems-based works, and we need articulations that allow us to consider them in relation to each other. A new vocabulary and framework would allow us to leverage, and where possible, juxtapose and articulate the properties that have been used over the decades to describe works that embrace permeability along different axes.

A broad range of terms have been used to capture the boundary shifts witnessed over the last century [24,25,26,27]. A trajectory that flows from activated works to agent and AI driven systems can be mapped. Networks invited responsive, participatory, and eventually interactive systems. [28] Recently gaming has gained prominence holding multiple cultural positions in the realms of art, design, commerce.

Each of these ever-shifting viewer positions reflect forms of exchange and engagement that emphasize novel ways that permeability is manifest. Early forms of exchange were physical and energetic. These gave way to contextual exchanges with environments and human actors that were both energetic and informational. More recent networked exchanges are strongly biased towards information exchange.

For these writers, the fall out of a new taxonomy grounded in permeability is significant. Within this reticulation, we can step away from the omnipresent and often opaque divide of digital vs analog. A divide that is often used as synonymous with new vs old media. Permeability allows us to start asking questions about *HOW* is this work an open system? Why is this work permeable and how is its porosity constrained? Do open systems become closed, and if so, how? [29] What frictions remain inside the work? Because *all* works are now brought into systems framework, including works that are explicitly analog and those that are closed – we can begin to reterritorialize our interpretations of systems in media art. Such a position could also help to make visible the non-screen-based media works that have been in dialogue with systems since the mid 20th Century.

Further we can begin to ask what relationalities do our media systems reflect? Permeability gives us a mapping of friction that stretches from the closed hierarchical modes of traditional media to the open systems practices of the last decades. It does so without relying on the digital divide as a landmark. The authority of institutions and privileging of authorship has resentfully given way to alternate more permeable modes of meaning making. As artists shed the plinth and frame as standard modes of presentation as they shed the last century, they created works that came into dialogue with their environment (context) and audience, often merging the two.

Within this expanded understanding of media works as permeable and listening, we make visible pathways that shift our discourse away from isolation and extraction, and towards modes aligned with mutualism. By identifying and privileging permeability, we can begin to foster dialogs of resistance, solidarity, and acceptance. We can align with influence rather than control.

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