

New Media(tion) Art: On the non-triviality of mediation in electronic art

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Abstract

This paper draws on post-phenomenological philosophy of technology and contemporary discourse on interactive art in order to shed light on the role of technological mediation in electronic art, *i.e.*, the flows of audience's experiences into and through the artworks, and, the role of technology in facilitating these flows. The analysis results in a distinction between "interactive" and "mediating" art on the one hand, and "mediation as a tool" and "mediation as an end itself" on the other.

Introduction

This paper discusses the role of mediation in interactive art through analysis of some participatory and interactive artworks, including Lau Ho Chi's recent work *Learn to be a Machine* (2013), an interactive installation composed of a trackball, a bench and a projection showing the upper part of a human face. The audience can control the line of sight of the face via the trackball. This direct and shallow interaction is the initial appearance of the piece. While it is intended to give an impression of a simple responsive installation that is done with computer graphics or using a database of images put together according to the trackball movements, the artist is lying inside the bench that audience sits on while they interact with the work. The artist is staring at a cursor controlled by the trackball with a webcam pointing at his face and the resulting image is projected on the screen in real-time. In *Learn to be a Machine*, the audience moves the trackball, and the eyes in the projection will move accordingly. What appears to be interesting in *Learn to be a Machine* is neither the simple interaction the work affords nor the dialogical relationship the audience can enter into with the artist through the simple interaction. Both of these are trivial, and the focus of the work is elsewhere: perhaps on the initial masking of human/technology relations in the work as much more simple than they actually are.

In this paper we will briefly introduce a post-phenomenological account of human/technology relations from Ihde [1], and proceed to fuse it with Dinkla's [2] insights on the role of audience in participatory and interactive art. This allows for a framework with which to discuss the flows of audience experiences in new media

art. With this framework in mind, we argue that if the audience member interacting with *Learn to be a Machine* notices the artist's close presence, the human/technology relation between the audience member and the artwork shifts, from being "alterity relation" to an artwork as a technological pseudo-other, into a relation of embodied mediation between the audience member and the artist. The possibility of this shift raises questions on the role of technological mediation of human experience in new media artworks. Hence, we suggest that by contextualising *Learn to be a Machine* in the traditions of participatory and interactive art, we can highlight a possibly novel mode of audience engagement, in which the focus of the audience's experience is not on any "content", *i.e.* that which is accessed or achieved by the technological mediation of action and perception, but on the technological mediation of experience itself.

Human/Technology relations

Don Ihde, a philosopher of technology in the tradition of post-phenomenology, addresses how technologies affect the ways in which humans experience the world. Building on the phenomenological discourse of intentionality as the characteristic feature of human experience, he considers technologies as appearing in the intentionality relationships between humans and the world, in other words, as relationships between humans, technology, and the world. Ihde differentiates the human-technology relationship into four types, depending on how intentionality flows into, through, or past the technologies. These types are "embodied" and "hermeneutic" mediation relations, "alterity" relations and "background" relations.

According to Ihde [3], in both embodied relation and hermeneutic relations, the technology mediates the world to the human. For instance, we put on the corrective glasses to help us to overcome our short-sightedness or long-sightedness. The blurry world of a short-sighted vision is easily "fixed" with a pair of glasses with the suitable prescription. But what we see now in our clear vision is no longer the neutral/original world, but a world transformed in the mediation relationship to fit our otherwise blurry vision. The world we see now is a glasses-version of the world. The glasses are embodied to

us like an extension, and once we are habituated to the optically enhanced way of seeing, offer direct transparency on the level of micro-perception. Ihde [4] calls this type of relations the “embodied mediation relation”. Ihde [5] suggests that human-technology relations can be described through formal framework, in which arrows indicate the flow of intentionality, and in the below case of describing the embodied mediation relation between “I” and the eyeglasses, the parentheses describe a “partial symbiosis” of the subject and the technology:

(I/glasses) → World

Ihde’s account of mediation extends beyond transparent mediation of perception, to technologies we need to interpret to establish the mediation. Selinger [6] describes another type of Ihde’s relations of mediation: those, which “arise when we enter into practices with artifacts in order to ascertain knowledge about the world that would not otherwise be available (or, would at least be more difficult to ascertain)”, such as in the case of reading a thermometer telling us the temperature outside a window. The information we may ascertain from the thermometer is only meaningful if we know how to interpret the reading. A transformative mediation happens here not unlike in embodied mediation, but here something possibly directly sensible, such as the outside temperature, is transformed into something we need to interpret, such as the numbers on the thermometer dial. According to Ihde [7], the transparency that may occur in this kind of relationship is not direct perceptual transparency (like in the case of eyeglasses, for example), but transparency on the level of macro-perception that needs to be constituted through (learned) interpretation. Hence, Ihde refers to this type of relations the “hermeneutic relation.” In the below formalization the parentheses indicate the “immediate perceptual focus” [8] of the experience, the surface of the thermometer, off which we read the world:

I → (thermometer/world)

In addition to relations of mediation, there are also technologies which do not mediate the intentionality of our experience, but in which intentional experience terminates. These are alterity relations, which are very different from the relations of mediation. While embodied and hermeneutic relations, no matter directly or indirectly, let in the world, alterity relation does not. Verbeek [9] suggests that in alterity relations, the technological artefact is the “terminus of experience”. A kaleidoscope, as an optical device that does not mediate, is an interesting example of technologies we encounter in alterity relations: while we look *into* a kaleidoscope, our experience terminates on the coloured fragments moving inside the device and our focus is on the intriguing, unworldly images that the kaleidoscope produces. Alterity relation

with a kaleidoscope can be described as follows:

I → Kaleidoscope (- world)

In addition to relations of mediation and alterity, Ihde [10] mentions also “background relations”, which refer to technologies such as heating and air-conditioning, with which we do not enter into direct relations. In the following, we shall see how these types of relationships map with the ways in which different kinds of interactive and participatory artworks appear to their audiences.

Technology as a means of dialogue in a participatory performance

Dinkla [11] suggests that the roots of the current tradition known as interactive art can be found in participatory art. These traditions are similar in terms of how the works regard their audiences: works in both traditions cannot exist without the participation of the audience. Considering what happens in the exhibition space, the forms of participation do not seem too dissimilar: the audience needs to perform an action of some sort to complete the work. As paradigmatic examples of participatory art we consider Allan Kaprow’s *Happenings* and Yoko Ono’s participatory performances. These shifted the role of the audience from a pure spectator to a participant: the audience became a crucial part of the realization of Kaprow’s and Ono’s pieces. In the famous participatory piece – *18 Happenings in 6 parts* (1959), the visitor could only experience the performances by participating in them. In Ono’s participatory performance *Cut Piece* (1964), the artist sat kneeling on the stage with a pair of scissors in front of her. Instructions were then given to the audience, for each of them to cut out a piece of Ono’s clothing. The performance ended with cloth barely covering the artist’s body.

Participatory art can be described, in relation to the traditions that preceded it, as aiming to close the gap between the artwork or performance and its audience. A participatory performance like *Cut Piece* invites the audience to join the performance, and suggests a possibility to free the audience from the restraints of their traditional role as spectators, to merge the audience with the artwork or the performance, even to invite the audience to actively contribute in the creative process resulting in the ‘complete’ artwork. One ‘ideal’ for what participatory art could be can be found from in Chandler’s [12] interview of Kit Galloway and Sherrie Rabinowitz who, when discussing their performance *Mobile Image*, refer to Gene Youngblood’s notion of “creative conversation” as “a creative and constructive act of collaboration”, a “process through discourse, which leads to the discovery and understanding of the points of view and meanings of the other person.” Despite the relatively low-tech nature of a performance like *Cut Piece*, we may describe the

technologies – scissors and clothes – as positioned in between the audience and the artist, mediating the relationship between the two. The artist is present in the form of cloth to be cut, and, it is the task of the audience to interpret the human being behind this medium of interaction. In a somewhat hypothetical and experimental fashion, we may suggest that there is something vaguely resembling a hermeneutic relation:

Audience → (Scissors and clothes / Yoko Ono)

However, despite their shared lineage, the participatory and interactive traditions can be described as inherently different, and an initial difference comes in when we further examine the nature of technological relations afforded by the artworks. Let us look at interactive artworks in the following.

Alterity relations in interactive art: technology as pseudo-other

This essence of participatory art – *i.e.* what Galloway & Rabinowitz call “creative conversation” – often appears in a somewhat ‘reduced’ form in interactive art: often, in interactive art, the audience resembles a part of machinery functioning to make the piece exist. This observation echoes how Dinkla [13] describes participation as enabling audiences to contribute to the creative process that results in the artwork, compared to interactivity being essentially an “automatized dialogue” between the artwork and the audience: “The artistic material of interactive art is the automatized dialogue between program and user.” The “automatized dialogue” refers to the back-and-forth interaction between the user and the program. The conditions programmed in the machine to which we refer as an interactive artwork limit the range of interactions possible. In Dinkla’s view, in interactive art the artist is hiding behind the machine and the machine has taken the artist’s position as the authorial leader of the performance. In this light, let us look at *Rain Room* (rAndom International, 2012) as an initial example of an interactive installation. This interactive work is a system, which creates artificial rain in the space is installed in. Audience can walk through the rain and stay dry. The work consists of a sprinkler matrix hanging from the ceiling, with sensors detecting the position of a participant in the room. Participant’s position controls the sprinklers: the sprinkler above the participant is always switched off. Describing *Rain Room* in the human-technology relations framework, it appears as resembling an instrument, using which a spectacle can be performed. *Rain Room* does not mediate, *i.e.* let the outside world in, but rather utilises its audience in order to enclose them in a spectacular world of its own. Hence, the human/technology relationship in *Rain Room* is an alterity relation: our experience terminates in the work and the world is present only indirectly.

Audience → *Rain Room* (- world)

Khan [14] writes about *Rain Room*: “walking towards the rain and knowing it will stop is a bizarre yet enthralling sensory experience that provides an unnatural sense of control that needs to be felt first-hand.” Perhaps the attraction of *Rain Room* is its spectacular artifactual nature: Khan’s impression of “unnatural sense of control” seems reminiscent of Ihde’s observation, that when interacting with technologies within alterity relations, we are impressed by their “quasi-otherness”. Perhaps the appearing as a pseudo-other which does not mediate, but rather as something in which the audience’s experience terminates, could be a characteristic of works in a tradition we call “interactive art”. However, there are also artworks appearing in relations other than alterity relations. Let us look at these in order to shed light on how technological mediation of experience can be utilised in art.

Technological mediation as a tool

In contrast to alterity relations, Ihde suggests there is a category of relations in which experience goes through the technology into the world. These are relations of mediation. Consider *Memopol* (Timo Toots, 2012), an artwork which can be described as appearing in a hermeneutic relation of mediation. An audience member inserts their ID card into the machine, and the machine will search online for publicly available information about the user, ranging from drug prescriptions to annual income. The machine will show this data on multiple screens in the exhibition space. The visual aesthetic resembles a war room with screens of data on the walls. Looking at the diagrams and charts, the user is supposedly invited to understand the amount of personal data about herself out there on the internet. Whereas *Rain Room* did not let the world in, *Memopol* operates as a portal connecting the user to their online data footprint, this reaching out to the world. In the human/technology relations framework, *Memopol* appears in a hermeneutic relation, and, as is characteristic to hermeneutic relations, we “read” the world “off” the technology, illustrated as follows:

Audience → (*Memopol* / Audience’s data footprint
online)

Memopol does not appeal to its audiences with spectacular pseudo-otherness, but by allowing the audience experience to go “through” the artwork, into the world. We can see the relation between the audience and the compilation of their data footprint as shown in *Memopol* as similar to Ihde’s [15] account of a relation of mediation: “the technology is actually between the seer and the seen”. To explain the “artistic material” of *Memopol*, “the seen” [16] has to be mentioned: if instead of seeing their own

online data footprint on the screens, the audience was seeing data about someone else, or knowing that it was all randomly generated, the experience would be much less interesting. Perhaps the mediation itself in *Memopol* is a means to access a compilation of data that would otherwise remain hidden, not unlike a thermometer allows accessing temperature through a closed window. In this light, one might propose describing *Memopol* as resembling a tool for finding out how much data there is online about oneself. If *Memopol* is one such tool, it is an effective one, inviting a host of considerations about privacy and surveillance. Nevertheless, describing *Memopol* as “interactive” (as in “interactive art”) would be a superficial reference to the ways the interface of this tool operates. To describe *Memopol*’s orientation toward the world, we would be better off describing it as ‘mediating’ rather than interactive.

Technological mediation as an end itself

Consider *Artvertiser* (Julian Oliver, 2010), a portable installation that lets users replace advertisement billboards with images of art in real-time. Despite the relative heaviness of the augmented reality “*Artvertiser* Binoculars” device, especially if compared to eyeglasses and such, looking at how experience goes through the artwork into the world, *Artvertiser* exemplifies Ihde’s “embodied relations”: within the limitations of camera and display resolution and graphics processing speed of the embedded computer, it aims at providing pure perceptual transparency with the little twist of advertisements being removed in the process of mediation. The embodied mediation relation with *Advertiser* can be formalised as follows:

(Audience / *Artvertiser*) → World with images of art
on advertisement billboards

Not unlike *Memopol*, also *Artvertiser* is, “between the seer and the seen”, like Ihde [17] describes relations of mediation. We noted that a description of *Memopol* must make reference to “the seen”: one’s personal data. In case of *Artvertiser*, it is especially interesting to note that the pictures of art, i.e. “the seen”, is rather irrelevant compared to the attraction of the mediation itself. That in some of the documentation of *Artvertiser* only a purple placeholder square with text “Your art here” is displayed, does not take away any of the work’s significance. Perhaps the transformative mediation in *Artvertiser* is not a means to an end, i.e. to seeing art instead of advertising, but the “artistic material” of *Artvertiser* are not “the seen”, i.e. the images of art, but the very mediation itself. A similar focus on the mediation itself could perhaps be described in *Descriptive Camera* (Matt Richardson, 2012): while its interface is easily associated with a traditional visual instrument, – a camera – when audience takes a picture

with the installation, the camera will print, instead of an image, a textual description acquired by sending the image to have its contents textually described by employees of Amazon’s Mechanical Turk service. Here it is important to note that the artist has a limited say in regard to what is being captured, and, the textual descriptions themselves are of very little artistic merit: it is the transformative hermeneutic mediation where the work’s artistic material is to be found.

Cleland [18], discussing *Artvertiser* in the context of artistic applications of augmented reality, suggests that “this type of experience is more accurately described as ‘Diminished Reality’ or ‘Directed Reality’ rather than Augmented Reality.” Cleland (ibid.) suggest that AR applications like *Artvertiser* “extract, emphasise and interpret a limited slice of the reality that is available to us in our unaugmented visual field. They frame and direct our understanding by giving pre-fabricated and partial interpretation and analysis, thereby limiting and constraining our perception and understanding.” However, as is characteristic to technologies appearing in embodied mediation relations, what Ihde [19] refers to as an “amplification/reduction” structure is manifested also in *Artvertiser*. Ihde (ibid.) describes how a telephone can ‘amplify’ your voice from the other side of the world for me to hear, as a “monosensory instrument” it also reduces “your phenomenal presence” into “that of a voice.” In this light, perhaps the partiality of mediation in *Artvertiser* pointed out by Cleland [20] is better described as characteristic to the work’s nature as an embodied-mediating technology. Through transformative, amplifying/reducing mediation of microperception, *Artvertiser* reveals to the audience a cityscape without advertisements, and may trigger considerations like those of Lussana & Novati [21]: “our public city landscapes are bulging with publicity, we want to take that space back and personalize it”. Perhaps these reflections do not arise thanks to seeing a particular previously inaccessible “seen” – i.e. the particular images of art – through a new mode of technological mediation between “the seer” and “the seen”, but thanks to experiencing the technological mediation itself, regardless of what exactly, if anything, is shown. If *Memopol* failed to show us our data footprint and showed the previous participant’s data footprint instead, we would perhaps be disappointed in the work’s ability to deliver what it promises. However, finding inadequacies in that which *Artvertiser* allows us to perceive would be to overlook the possibility that perhaps the “artistic material” of *Artvertiser* is the technological mediation itself, that which happens “between the seer and the seen” (cf. [22]). While both *Memopol* and *Artvertiser* are best described as ‘mediating’ rather than ‘interactive’, *Artvertiser* focuses on the mediation itself, not on anything resembling “content.”

With these insights in mind, let us look at *Learn to be a Machine*.

Learn to be a Machine

Learn to be a Machine is an interactive installation consisting of a screen showing the video of an upper part of a face, a trackball and a bench. The eyes projected on the screen follow the instructions given by the audience using the trackball. Initially, the work gives an impression of a video being generated algorithmically. The banal appearance is intended as giving participants an “old-school” impression. Initially, the work appears to the audience in an alterity relation, as the technological pseudo-other of interactive art, which we may formalise as follows:

Audience → *Learn to be a Machine* (- world)

Interacting with the work for a while, the audience may find tiny signs of humanity in the image, perhaps a twitch in the eye or an uneven reaction time, something too ‘real’ to be algorithmically generated. Looking around themselves, the audience finds holes in the bench they are sitting on, or, discovers that the bench has the proportions of a coffin. Perhaps another audience member informs them that something may not be what it seems. Participants who pick up these hints are led to focus on the production of the video feed instead of the video itself. The actual mechanism of the work is totally different from algorithmic generation: it is a live camera feed from within the bench, where the artist is lying down. There is a monitor above the artist’s face, showing a cursor controlled by the movement of the trackball in front of the bench, and a webcam pointing at the face of the artist, who concentrates on staring at the moving cursor. What seemed to be an alterity relation, is actually an embodied relation of mediation, and, what seemed to be a technological pseudo-other, is actually a human being.

(Audience/*Learn to be a Machine*) → Artist

In regards to technologically mediated interaction between audience and the artist, *Learn to be a Machine* seems to resemble a performance, in that technology facilitates interactions between the artist and the audience. Also, the involvement of the artist, another human being, in the human-technology relation in which the work appears to the audience certainly seems to invite justifications for referring to the interactions in *Learn to be a Machine* as a form of conversation. Consider *Cut Piece*, which we described before as a paradigmatic example of participatory performance. Despite the relatively low-tech nature of *Cut Piece*, the technologies – scissors and clothes as positioned in between the audience and the artist – mediate the relationship between the two. The artist in *Cut Piece* is present in the form of cloth to be cut, and, it is the task of the audience to interpret the human being behind

this medium of interaction. However, despite the presence of human being at the other end of the relation, *Learn to be a Machine* cannot be exhausted by describing it as a performance.

In *Learn to be a Machine*, the form of interaction with the artist is constrained in a fashion characteristic to technological interactive installations, like for example *Rain Room*. There is relatively little variety in the range of inputs the participants can give to the machine in *Learn to be a Machine*. The constraints placed on the dialogue by the circuit of trackball, cursor, camera, and the screen, prevent the dialogue from turning into anything resembling a “creative conversation” (cf. [23]). The dialogue remains “automatized” (cf. [24]), and not only the audience but also the artist appear to have been subjected to the “technical means of control” (ibid.) that constrain the form of interaction afforded. After discovering the artist inside the bench of *Learn to be a Machine*, the playful qualities of the interaction with another human being through technology can sustain audience’s interest for some time, but soon the superficial and shallow nature of interactions with the artist becomes evident, and the audience understands that their ‘conversation’ with the artist is not going anywhere interesting. The artistic material of *Learn to be a Machine* is not to be found in the automatized dialogue between the audience and the artist, as Dinkla [25] suggests is the case for interactive art. Also, an observer will relatively quickly grow tired of watching eyes move on a projection. In regards to how the work appears from an observer’s position, an interesting contrast can be found for example in Stelarc’s *Ping Body* (1996), which despite affording only a relatively constrained form of interaction, constitutes a sufficiently interesting performance for non-participating observers. In terms of “the seer” and “the seen”; whereas in *Memopol* that which is ‘seen’ needs to be accounted for in order to describe the work, in *Learn to be a Machine* “the seen” – i.e. the artist’s performance following audience’s instructions – is trivial, like are the particular pictures of art in *Artvertiser*. The artistic material of *Learn to be a Machine* is the embodied relation of technological mediation between the audience and the artist.

Conclusions

In this paper, building on insights from post-phenomenological philosophy of technology, we have discussed the role of technological mediation of experience in electronic art, with hopes to invite a re-examination of the role of mediation in what is often colloquially referred to as ‘new media art’. Describing a range of examples, we have proposed that a distinction could be made between ‘interactive’ and ‘mediating’ artworks, based on the flow of the audience’s experience. We have suggested that it might be feasible to consider interactive art as those works which appear in alterity relations, i.e. as a pseudo-others in which

the audience's experience terminates, and, as 'mediating' artworks, those which appear in either embodied or hermeneutic relations of mediation, i.e. those *through which* the audience's experience flows. We have further distinguished between two ways in which technological mediation can be implemented in an artwork. We have referred to 'mediation as a tool', as demonstrated by works which reach out to the world surrounding themselves and which cannot be exhaustively described without reference to that which is 'seen' through the mediation (i.e. something resembling 'content'), and, to 'mediation as an end itself', as demonstrated by works in which the triviality of the 'seen' or the 'content' invites focusing on the mediation itself. This allowed us to contextualise Lau Ho Chi's installation *Learn to be a Machine* in terms of its participatory, performative, interactive, and mediating qualities. Articulation of the ways in which these relations can be nested and stacked together, and an account extending the discussion into the direction of post-human intentionality are both possibly interesting topics of further enquiry, but unfortunately their exposition would be too lengthy to fit into this paper.

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