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Screens as Gestures in Interactive Art Assemblage

Abstract: The interaction in the contemporary media art installations can be viewed as a process of transformation as the parts of the installation engage and respond to each other. This paper considers interactive media art as assemblages and argues screens to be gestures of this assemblage. The screens activate and rearrange the relations between the elements of the assemblage by providing multiple connections between them. By examining two artworks, *Breath* (1991/92) by Ulrike Gabriel and *Shadow 3* (2007) by Shilpa Gupta, the paper extrapolates the aesthetic experiences gestured by the screens.

Keywords: assemblage theory; screens; gestures; interactive art; capacity

The interactive media art set-up can be considered an assemblage, where numerous elements connect, interact, affect and influence each other. The concept of assemblage – first discussed by Gilles Deleuze and Felix Guattari at various times throughout *A Thousand Plateaus* – has been utilized in numerous discussions in the fields of arts and social sciences.[1] The original French word used by Deleuze and Guattari was *agencement*, which according to John Phillips, implies an "*arrangement* of (these) *connections*".[2] Even though the paper will continue to use the English word 'assemblage', I want to point out that the English word 'assemblage' is insufficient to the implications that this paper aims to highlight; rather it is the meaning of the French word *agencement* that is of relevance to this paper. Assemblage in this sense is not merely putting together or creating a whole out of numerous parts, instead it is the particular connections of the heterogenous parts. As the parts exist independently, the assemblage is the composition of parts in a specific relation to each other. It is the complex rendition of the correspondence between the parts, their interaction and the mechanisms that influence their connections. This means that assemblages are plural, multiple and unfixed. Moreover, when the parts of the assemblage make

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[1] Such as: Manuel De Landa has written extensively on assemblage theory to study the social organisations of the society.

[2] John Phillips, "*Agencement*/Assemblage," *Theory Culture & Society* 23, 2–3 (May 2006): 108.
The difference in the meaning of the two words, assemblage and *agencement* has also been pointed out by Thomas Nail, "What is an Assemblage," *SubStance* 46, 1 (2017): 22.

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more connections, the assemblage changes. As Deleuze explains, assemblages are an "increase in the dimensions of a multiplicity that necessarily changes in nature as it expands its connections".[3]

Discussions on interactive art have taken into account its entwining with the development of participatory and cybernetic art.[4] However, this paper explores another aspect of interactive art. Interactive art is not just participatory and responsive: it is about modifications between its numerous parts due to their interaction. The parts of the interactive art, human and non-human, are transformed as they engage and respond to each other. In this way interactive art can be understood as 'formation of forms' where the parts are responding to each other and altering in the process.[5] Interactive art installation can be conceived as an assemblage where the elements produce multiple connections and changes. Ryszard Kluszczynski identifies the relations in interactive art between the participant, artwork, along with the social, cultural and technological factors as "dynamic nets".[6] There is constant movement between these elements where the parts are pushing and pulling, interacting with and against each other, unraveling their abilities. Whilst the capacity of a component used by the artist is somewhat known or can be gauged, it is the multiplicities of connections constructed by the components that makes the art installation an assemblage. The same components utilizing different capacities in disparate artworks result in different configurations producing diverse effects, situations and experiences. This can be a product of not only the objects of the assemblage but the setting of the artwork in a particular institution, country and socio-economic setting.

The idea to employ assemblage theory in the study of screens is not to burden it with a theoretical framework, but to lead a genuine enquiry into how screens can be used to understand the techno-cultural space that they have come to occupy. As part of the interactive media art set-up, screens display high propensity towards facilitating communication between parts. They engage in numerous interactions, undertake roles, participate in processes, and produce new events and configurations. The capacities and emergent properties of screens point to the instability of the assemblage and its space of becoming. The lack of scholarship on the operations of screens is notable considering they are seen in various capacities in media art assemblage. Moreover, it is not just the paucity of the analysis of screens in media art, but also the multiple roles that the screens play in the media art assemblage that makes them a relevant subject of this paper.

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[3] Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (Chennai, India: Bloomsbury, 2017), 7.

[4] See Katja Kwastek, "Interactivity – A Word in Process" in *The Art & Science of Interface & Interactive Design (Vol. 1)*, ed. Christa Sommerer and Laurent Mignonneau (Berlin Heidelberg: Springer-Verlag, 2008), 15–26; and Dieter Daniels, "Strategies of Interactivity," in *The Art & Science of Interface & Interactive Design (Vol. 1)*, ed. Christa Sommerer and Laurent Mignonneau (Berlin Heidelberg: Springer-Verlag, 2008), 27–62.

[5] Joke Brouwer and Arjen Mulder, "Interact or Die!" in *Interact or Die!* (Rotterdam: V2 _Publishing/NAi Publishers, 2007), 4.

[6] Ryszard W. Kluszczynski, "Strategies of interactive art," in *Journal of Aesthetics & Culture* 2, 1 (2010), article 5525.

This paper specifically argues that screens be conceived as gestures in an interactive art assemblage and analyses the emergent properties that it produces as a result. By examining two artworks, *Breath* (1991/92) by Ulrike Gabriel and *Shadow 3* (2007) by Shilpa Gupta, I will extrapolate the aesthetic experiences gestured by the screen by activating and rearranging the relations between the elements of the assemblage. I will start by analyzing the concept of capacity and its relational associations. Using Agamben's concept of gestures as being 'in the middle', I will argue for the consideration of screens as gestures. Further on, the discussion on artworks by Gabriel and Gupta will examine the modes of operation of screens as gestures in the instance of interaction with the works.

Screens in a media art assemblage

The *capacity* of a component in an assemblage depends upon the capacity of other parts. Manuel DeLanda has connected Deleuze's idea of *capacity* to Gibson's concept of "affordances"[7] as a set of relations that occur between two or more entities. Capacity of an entity is beyond its physical properties and has been related towards power to "affect and be affected".[8] Let's say a television screen currently available in the market has certain formal properties – standard dimensions, classified as LED or LCD, and displays a certain quality of image onscreen. However, for the screen to display images, it has to be connected to a power outlet and to a television service provider or an external data storage device. If these two conditions are not fulfilled then there will be no image, or there will be static if the television is connected to a power outlet but not a service provider or data drive. While the capacity of the television screen is to display images, it does so only in certain conditions, and if those conditions are not met then that particular capacity of the object is not utilized. This does not mean that the capacity of a television screen is only to display images; other abilities of the television screen such as forming a local area network for communication[9] have also been developed. In diverse scenarios, we see different capacities of screens as they interact with different components of the interactive art assemblage. Arguably, the capacities of screens most employed are their ability to display images 'on' and 'through' as seen mainly in television and cinema respectively.[10] The screens are in a different relationship with the components of these assemblages. As a display,

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[7] Manuel DeLanda, *Intensive Science and Virtual Philosophy* (Chennai, India: Bloomsbury, 2013), 66.

[8] Brian Massumi makes this connection in his notes to translation of *A Thousand Plateaus: Capitalism and Schizophrenia*, page xvi.

[9] Several artists have used open-circuit television system such as Shaina Anand's *Khirkee-yaan* (2006) where television network was developed for communication feedback and intervention within a small locality in New Delhi, India.

[10] W. J. Thomas Mitchell argues that we not only see 'on' and 'through' screens, but also 'in', 'behind', 'between' and 'from' the screens in the modes of contemporary image making and display. See W. J. T. Mitchell, "Screening nature (and the nature of the screen)," *New Review of Film and Television Studies* 13, 3 (2015): 233.

the screen may be physically part of a computer or television or externally connected to a hard drive, and as a projection surface it is external to the body of the machine. The frame size, quality of the image recorded, and strength of the signal are among several factors that determine the image seen on the screen. This means that capacities are *relational* and are dependent on a number of factors including the relative size of the components interacting.[11] The instances above imply that the capacities are about what the component *can be* and not just what *it is* at that particular instance. Therefore, capacities are also potentialities. They are not known unless they are employed.[12] The capacities are constantly being negotiated during the interaction of the components.

The capacities of screens in the contemporary media art assemblage are visible in their unique position of being between the machine and the viewers. These potentialities give rise to different experiences for other components of the assemblage. Moreover, in several instances as discussed below, the screen is able to amplify the emergent properties of these assemblages. Some of these occasions are: in a touch screen interface, screens allow the participant's body to directly modulate some actions of the assemblage; buildings in 3-d projection extend the screens from being projections of light to architectures of light. Artists have also employed unconventional surfaces as screens to complicate the relationship of the components of the assemblage. For instance, sand is the interface in *Plus Minus Now* (2008) by Jen Seevinck/smARTnoise. The sand gives the participant a unique interface that effects the kind of images that are created. The expressive capacities of screens are observed in the probable connections that can be developed by screens. Several interactive media art installations utilize this to highlight the gestural agency of screens. While considering screens as gestures, human bodies are also a part of the assemblage that are interacting, among other parts, with and through the screens. I will focus on their role more since their relation with screens tends to catalyze changes throughout the media art assemblage in the works of Gabriel and Gupta. When addressing the gestural agency of screens, firstly the term gesture has to be unpacked.

Capacity of screens as gestures

In *Notes on Gesture*, Agamben describes gestures as offering "pure and endless mediality", referring to their in-betweeness.[13] He draws upon Aristotle's *poiesis* (production/making) which is means to an end, and *praxis* (action) where the action itself is the end, making it end without means. Gestures are situated in the *middle of*

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[11] DeLanda, *Intensive Science and Virtual Philosophy*, 67.

[12] Manuel DeLanda, *A New Philosophy of Society. Assemblage Theory and Social Complexity* (London, New York: Continuum, 2006), 13.

[13] Giorgio Agamben, "Notes on Gesture," in *Means without End. Notes on Politics* (Minneapolis: University of Minnesota Press, 2000), 58.

poesis and praxis, where they become means without end.[14] Giving the example of pornographic film and mime, Agamben argues that both have gestures that are "suspended in and by their own mediality", as reaching the goal in both these cases would complete the act.[15] If gestures are means that do not arrive at a certain goal, then they "endure and support"[16] the action. These features of gestures can be consociated with screens at two inter-related levels: the physical position of screens in the assemblage, and how responses on and through screens are recorded. Screens *support* the actions of a machine and the humans. They provide the interface that communicates with the participant and the machine. They conceal the algorithmic functions, calculations and signal transfers made by software, and show only the part understandable by the participants. In this process screens express what can be understood by the participant and leave out the processual information of the task. However, the concealment of the backend functions is not the gestural agency of screens. Instead, in being situated between the machine and the participant, screens present new instances of interaction that may be used for further actions, continuing the interaction between the parts of the assemblage and the human participant.

In another text, Agamben argues for the consideration of author being a gesture in the way that she is present in the work – she disturbs the continuity of the story by constantly unfolding the plot.[17] As a gesture, the author is seemingly absent in the story, but is present as the characters of the story take a particular course among other possibilities. This makes gesture an undercurrent that directs other elements. The intermediality and opaqueness of screens makes them an interface that offers the absence-presence similar to gestures that remain "unexpressed in each expressive act".[18] As gestures, screens are not transcendent as they are situated in the mediality of response, without a completion, always providing another possibility or continuation of the action. The *in-betweenness* and *support* that screens provide is not only their spatial positioning, but also delivered through the prospect of further action.

To consider screens as gestures, it is important to ascertain their operative roles, and the movement and expressions they facilitate. Some gestures of screens that are emergent in the media art assemblage include display of mediality, responding to and facilitating the actions of the participant with other components. As it will be discussed below, the examination of these instances cannot be done in isolation since these are interconnected.

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[14] Ibid, 57.

[15] Ibid.

[16] Ibid, 56.

[17] Giorgio Agamben, "The Author as Gesture," in *Profanations* (New York: Zone Books, 2007), 70.

[18] Ibid, 66.

Artworks by Ulrike Gabriel and Shilpa Gupta

Ulrike Gabriel's work *Breath* (1991/92) consists of a belt made up of sensors, offered to the participant to wear. A graphic made of polygons is seen on the screen in the space. The sensors in the belt capture the breathing of the user which transform the polygons on the screen into different shapes. An audio output accompanies the changing shapes on the screen. The geometric shapes change according to the person's breathing as the rhythm of the breathing and the amount of breath generate the shapes of the polygons. The work can also be regarded as a generative artwork where the images on screen are produced by the breathing of the participants. The screen here is not merely displaying the data, but actually regulating it. The participants look at the shapes on the screen and modify their breathing accordingly. This impacts the input of the data and hence the image on the screen.

Shilpa Gupta's work *Shadow 3* (2007) takes the form of a large screen on which shadows of the viewers are seen. Soon after entering the space, the participants can see shadows of objects falling towards them on the screen. The participants can interact with these objects by grabbing and moving them. The participants can be seen gesticulating in front of the screen as they interact with the shadows of the object. Eventually, the shadows of the object fuse with the shadows of the participants. This leads to a gradual filling up of the screen with shadows of the objects and drowns all shadows of the participants. The screen is used by the participants to connect and interact with the shadows. It is an object of orientation for the participant through which she can engage.

The components of the two artworks, *Shadow 3* and *Breath* broadly consist of the actual materials in each artwork such as the screen, a projector, motion sensors, software, hardware, the bodies of the participant and the space. The works also consist of the artist, museum or gallery space and its infrastructure, the technological innovations and socio-political set-up that enables the presentation of the work to the public. In *Shadow 3*, the display of participant bodies as shadows seems to be a simple computational task but, it is based on intricate processes of a camera capturing the video, which is then treated by an image processing software that displays it only as black silhouette without details. In *Breath*, the sensors of the belt detect the amplitude of the muscles while breathing and take the average of two subsequent breaths.[19] This data controls the images of polygons onscreen. There are several steps and components that interact with each other almost instantaneously, and the information generated by one component constitutes the input for another component. Arguably, the software has been programmed to give a certain output. But, the focus here is not the motives and intentions, but rather the elements that together enact something. More importantly, it is not a linear causality that leads to the interaction with the artworks. As part of an assemblage, the relationalities between the various parts of the

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[19] Archive of digital art. Last, https://www.digitalartarchive.at/database/general/work/breath.html, acc. June 15, 2018.

assemblage generate the shadows of the objects in *Shadow 3* and the movement in the shapes in *Breath*.

It may seem that both the artworks, *Shadow 3* and *Breath*, are similar in the positioning of the participant with respect to the screen. However, this similarity does not mean that the gestural agency of the screen is the same in both artworks. In fact, these pieces help in illustrating how the gestural agency of screens is performing different functions in an apparently similar situation. The screens in both the artworks are an important component of the assemblage whereby the participants orient themselves to other components. The screens are not merely an outlet or simply present images. Instead, as gestures of the media art assemblage, screens express the emerging properties of the artwork as new aesthetic experiences. They do so by relating various components of the assemblage such as: the participant with the image on the screen during the interaction, and the software with the movement of the participant. This movement encompasses the physical as well as the affective movement. The gestural capacity of the screens also gives an expression to the assemblage where new connections are highlighted. In both *Breath* and *Shadow 3*, screens are effectively reconfiguring the relations between various parts of the installation. This rearrangement springs the emergent properties of the assemblage.

In *Breath*, numerous parts of the assemblage, such as the sensors on the belt, the program where the data from the sensors is processed and others, experience the action of breathing by the participant. This encounter is leading them to form new connections and transforming them. When the participant suspects that the changes on screens are a direct result of her breathing, she adjusts her breathing; heaving slowly or fast according to the changes in the image onscreen. The more relaxed and rhythmic the breathing is the more complex and random the structures of the polygon and the sound get. The gestures of the participants are regulated according to the movement of polygons on screen. However, it is not a simple case of the breathing of the participant regulating the image onscreen. The shapes on the screen are also affected by the previous breaths. As mentioned earlier, the data that is recorded by the sensors feeds a mean value of the previous and the subsequent breaths. As the polygons take previous data into account, the images onscreen are not a direct result of the breathing of the participant. Conversely, the changes on screen are leading the participant to regulate her breathing. For the participant's body, the screens are combining the *seeing* with the *performing*.

The residual data on the screen effects the perception of the participant. The screen is not merely displaying the shapes; it is actively transforming the relationship of the participant with the sensors on the device, the images onscreen and computer that transform the data into images. It seems the participant is having a conversation with the screen. As a result of this conversation, both the participant and the image are affected. The images are more autonomous and dependent both on the participant and the data at the same time.[20]

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[20] Arjen Mulder and Maaike Post, *Book for the Electronic Arts* (Amsterdam: V2 Organisation, 2000), 55–6.

In *Shadow 3*, a string appears on the shadows of the participant through which shadows of objects start falling towards the shadows of the participants. The objects are mostly unidentifiable and can be perceived as a metaphor for the baggage that we keep attaching to ourselves, till we soon drown in the shadows of the objects. When the participant moves, the string and the object move with her. The screen marks the shadow of the participant to attach the object to it. Once the shadows are attached, it is difficult to differentiate between the shadows of the object and the participant. The participant observes her new attachments that exist only in her shadow on the screen. The participants can transfer the shadows of the objects to each other. The screen relates the bodies of the participants to the objects and to other participants by opening up their shadows to fuse with shadows of the objects. Looking at the combined shadow on screen, the participant can reflect on what they have internalized – feeling the object without its actual presence. It also offers a contemplation of the human body, although self-contained, is open to the changes and re-formations with other objects. Through its gestural operation of showing the unseen, the screen is intensifying the emergent properties of the art assemblage.

The gestures of screens in *Shadow 3* are also operational in the emergence of the collective experience of the work. As mentioned earlier, the shadows of objects can be transferred from the shadow of one participant to the other. This way the relational experience of one participant is transferred to another. In *Breath*, the collective experience is subtle and indirect. It is experienced as remnants of the breaths of previous users visualized in the graphics on the screen. The relationship of the current participant to the previous ones is carved in the current and the subsequent images. Furthermore, both artworks require different nature of performativity by the participant in order to utilize the capacities of screens to make connections with other components of the assemblage. In *Shadow 3*, the participant can stand still without interacting with the shadows on the screen. Regardless, the object shadows will fall and combine with her. In *Breath*, if the participant does not wear the belt, she will only be able to see some insignificant movement of the graphics. Unless she wears the belt and participates in the assemblage, she will not be able to relate to its several components. Nonetheless, both pieces highlight the numerous operations, movements and expressions of screens as gestures. The screens are gestures that are set in motion by human and non-human forces. Considering screens as gestures provides an avenue to explore the relationships that the screens rearrange, the affect and emergent properties that they facilitate in a media art assemblage. This paper has tried to spell out a few of these possibilities, but the scope has only widened, particularly to the ones held by technical and material forces of the screen.

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