

Transvirt: Doing the Digital Body

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This exegesis is submitted to the Auckland University of Technology
Master of Creative Technologies, February 28th 2013

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List of Video Works

Video works accompany the media experiments listed in the *Shifting* and *Reflecting* sections of this exegesis and are listed in each entry.

Shifting DVD

- 1 *Observations*
- 2 *Suggestions*
- 3 *Assimilation*
- 4 *Emulation*
- 5 *Immersion*
- 6 *Imitation*
- 7 *Application*

Reflecting DVD

- 1 *Reflective Sketch*
- 2 *Reflecting the Digital*
- 3 *Performative Sketch*
- 4 *Performing the Digital*
- 5 *Installed Work*

Sketching DVD

- 1 *Performative Sketching – External view*
- 2 *Performative Sketching – Internal view*

Attestation of authorship

I hereby declare that the submission is my own work and that to the best of my knowledge and belief, it contains no material previously published or written by any other person nor material which to a substantial extent has been accepted for the award of any other masters, degree or diploma of a university or other institution of higher learning, except where due acknowledgement is made in referencing.

Signed

A handwritten signature in dark ink, appearing to read 'Mal.', is written below the 'Signed' text.

Acknowledgements

I would like to thank: James Charlton, Gurdrun Frommherz, the Creative Technologies staff, Linda T, Rudie Ceccato, Judit Klein and Jan Kruse, the Undergraduates, Vinay Lal, Ning Seizing, Mario Seeger, Jennifer Mead, my parents and brothers.

Also, Paul Vincent and Margaret Shortt for their proof reading service.

Abstract

This practice-led research project is an exploration of the artist's body as it relates to digital media. Grounded with feminist discourse, this is an emergent creative practice that uses collage and sketching to absorb that which is alien into an existing practice. This manifests as a shift in the artists perspective from an external point of view, observing the body to an internal perspective located within the artist's body. The process of sketching is identified as the common strategy through out the practice that enables this shift.

The artist's body relates to digital media through a process of translation between analog and digital. This relationship is explored using a system called the *Translator* that incorporates the Kinect camera, Synapse, programming, projection and the artist's body in an immersive digital environment. The *Translator* enables interaction with that digital environment. The system captures the artist's movement using and re-describes it as digital lines projected onto the screen through a process of Performative Sketching. Development of the *Translator* takes place over a series of media experiments that shift from pen on paper, through photography, video and programming to Performative Sketching.

The project relies on, Donna Haraway's notion of the Cyborg (1991), Ana Mendieta's *Siluetas Series* (1973), Katherine Hayles' *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999) and Judith Butler's essay *Gender Constitution and performative acts* (1988), to ground this research using feminist discourse. These works inform the research directly and are assimilated into the creative practice through sketching and collage techniques that re-enact their processes. The works provide a process through which the conceptual translation of the body, between analog and digital takes place.

What emerges from sketching and collage is a shift in the perspective of the artist. Initially the focus is on documenting the artist during the creative process, from an external point of observation. This shifts to documenting the creative practice from the

artist's point of view. Then, by using the *Translator*, the focus shifts once again to capturing the experience of the artist from the position of the body. This is done using Kinect to scan, recognise and capture the body and Synapse to map a digital skeleton to joints along the body. The central joint is located on the artist's torso from which data is read as the pivotal point in the experiment. This means that the center of the artist's body is the center of the digital environment when using the *Translator*.

The process above developed conceptually during the research across a series of multi-media experiments. The process of sketching was common to each experiment regardless of the type of media. Sketching began with drawing but developed into photography, video and programming. Sketching manifests as central in all the media experiments and enables the shift of perspective, by providing a process for the artist to identify with in each new environment.

Introduction

This research accepts, for the purposes of the project, that the human body is analog. That analog and digital are types of modalities that relate to both the body and technology. To translate from the analog is to translate to the digital. Analog is the artist and ‘self’ while digital is the ‘other’ and digital media. Translation takes place between analog and digital using the relationship between the artist’s body and the *Translator*.

The *Translator* is a sketching system. It is made up of analog and digital components. This includes the Kinect, an infrared camera that captures the body in 3D space and generates information about the movement of the body in that space. This information is sent to the Synapse Skeleton. Synapse is software that maps the body using specific joints on the hands and torso of the artist’s body. These joints are tracked in space and used to generate a line from each hand joint, enabling the artist to sketch using digital lines in the digital environment of the computer screen. The torso joint is the central reference point during the sketching process. This means that the artist’s body is the center of the creative process and the programmable ‘world’. All data generated during the sketch is relative to the torso joint, therefore all data is a documentation of the artists experience, from the within the artists body.

This project is conceptually framed by discussing the most influential theorists and creative practitioners. These are not just influences as their ideas are reworked directly into the creative process. Donna Haraway’s (1991) language is used to re-label the process of collage in reference to the Cyborg, which is itself, the process of collage. Ana Mendieta’s (1973) creative process, that assimilates her into the earth, is lifted and reconfigured to assimilate into the digital. Judith Butler’s (1988) constitution of an engendered identity is reconstituted to install a digital identity. Likening gender and modality as identities or ways of being. Katherine Hayles’ (1999) reflections on autopoiesis become the audio book soundtrack, during a media experiment that describes the creative process, as it takes place. By reworking these existing feminist works, this project takes position within feminist discourse and uses it as a vantage

point from which to explore digital media. This is how a feminist perspective is constructed through which to carry out creative practice.

This exegesis documents the practical work that emerged over the course of this research through video works located on DVD at the back of this document. Each video work is accompanied by associated documentation as images and written descriptions in the Creative Work section of the Methodologies chapter. Creative Work is separated into three sections.

The first section, *Translation*, documents the *Translator* and each part of this system, including the artist's body. It also discusses how the system is used for Performative Sketching. Video documentation of translating the body between analog and digital during Performative Sketching is included on the *Shifting* DVD and included in the next section.

The second section, *Shifting*, includes the most relevant media experiments using sketches, photographs and video that describe how the *Translator* developed and are discussed in relation to its formation. What emerges is the importance of sketching as the common process within each creative experiment with which the artists identifies in the digital environment, allowing the assimilation of digital media into the practice.

This section also describes how the artist's perspective shifts over the course of the creative practice. This begins with felt sketches on paper that observe the artist's body in relation with the Synapse Skeleton. The following experiments increasingly integrate digital media into the creative practice as video, photography and programming. They also show how live documentation of each sketch began from an external point of observation and gradually shifted to document from the perspective of the artist, until the artists body became the central point from which to create and document the sketch, using the *Translator* during Performative Sketching.

The third section is *Reflecting*. This documents using the *Translator* for Performative Sketching during experiments where the artist and digital media work in unison together and adjust to accommodate each other. This symbiotic relationship requires that the human and the computer mold to each other. The self-reflexive process is further developed into a feedback loop within the *Translator* system.

This comes from using the *Translator* while the artist is focused on making a potential part for the system, by hand. Movement generated while making stimulates a sketch with the *Translator*. This generates a sketch from generating a sketch. Creating a self-reflecting process. These experiments bring the project to its current state. The next description is of the proposed examined work that continues development of the feedback loop and is followed by a brief conclusion reflecting on the future of the project.

All works referred to in this document are located in the reference section at the back while a list of figures is located at the front of this document. The appendix documents a relevant but unused experiment.

All video works are located on three DVD's at the back of this document.

Conceptual Framing

Field Review

The following is a review of material that contextualises and influences this research. It is drawn from areas of science fiction, performance, feminism, and interaction design, with some sources transversing these categories.

Of a wide variety of open source and interactive works, the most relevant Kinect projects are by creative coder Patricio Gonzales Vivo. He designs interactive experiences for audience participation and shares his work online with regular updates of technical development and documentation of the live project. Vivo's *Efecto Mariposa* (2012) projects a changing topology onto a table piled with ash sourced from the Puyehue volcano that erupted in Chile in 2011. The projection, depicting low-lying rivers, mountainous peaks and developing vegetation, is sensitive to the form of the ash, which resembles an island. The participants shift the ash using their hands, the digital media responds by updating the projected topology, re-describing rivers, peaks and vegetation in line with the shift. The ash, projection, software and user become a system when collaged together in an ongoing dialogue during this creative process.

This system informs this research as an exploration of the relationship between humans and the digital environment, using nature as a analogy for transformation.

Transformation relates to translation as a process of change. Conceptual depth in *Efecto Mariposa* (2012) relies on the volcanic source material and its story to transfer significance when experiencing this system.

(This image has been removed by the author of this thesis for copyright reasons.)

Fig. 1. Vivo, P. (c. 2012). *Efecto mariposa 3.0*. From Patricio Gonzalez Vivo website. Retrieved from www.patriciogonzalezvivo.com

Ana Mendieta: Earth/Body by Viso (2004) is a detailed retrospective that contextualises the *Silueta Series* (1973) within Mendieta's lifetime body of work and recounts her multiple earth/body works. It outlines her processes, themes and biography in depth. I identified the image of a sand *Silueta* (1973) formed in Mendieta's surrender pose, as being similar to the cactus command pose for Kinect.¹ Her wider body of work showed similarities to this research including projected skeletons against Mendieta's nude body that recall the Synapse Skeleton and an emphasis on gesture during creative practice. A closer look at process from the artist's perspective is found in *Ana Mendieta: A Book of Works* by Clearwater (1993), which documents a work left incomplete upon Mendieta's death. Clearwater's book contains the artist's handwritten notes, plans for earth works, and paraphrases folklore from ancestral peoples relevant to the intended works. This intimately exposes the artist's preparation of her performative earth works.

Mendieta's work provided a creative process and reading of that process that I have stepped into through reenactment thus positioning in her place and symbolically assuming a feminist perspective. This treatment, the process of collaging her work into my own, is described as constructing a feminist perspective and is further strengthened by Judith Butler's (1988) work, discussed shortly.

¹ This is the position of the human body that the Kinect recognises and activates the skeleton to track the body.

(This image has been removed by the author of this thesis for copyright reasons.)

Fig 2. Two Silueta's holding the surrender pose.

Mendieta, A. (c. 1973-79). *Untitled Silueta Series*. From Artspace Virginia Miller Galleries

In an attempt to hijack the relationship between analog and digital for this research, Donna Haraway's text, *A Cyborg Manifesto*: (1991.) was key in describing this relationship. It is Haraway's discussion of "*lived social relations*" (1991, pp. 424) and the construction of "*women's experience*" (1991, pp. 424) that located the construction of a feminist perspective through which to explore digital media. Through this construct in programming the centre of the artist's body becomes the center of the sketching world using programming. In this example perspective is captured not just as the view of the world but also as the experience of being in the world, as the artist. Haraway (1991) describes women's experience as a "*crucial collective object*" (1991, pp. 424) and is captured here as Performative Sketching. The *Translator* documents the artist's experience during creative practice from the position of the body and makes this experience visible by sketching it out and projecting it onto the walls. Haraway's (1991, pp. 242) work enables the construction of a feminist perspective that situates this work within feminist discourse.

A Cyborg Manifesto (1991) was read in conjunction with Haraway's *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse: Feminism and Technoscience* (1997) in which the author reinterprets of technoscientific history through which she re-describes the female body. Haraway (1991) deconstructs these histories and turns them back on themselves, using examples from science fiction such as Joanna Russ' novel *The Female Man* (1975) and the paintings of Lynn Randolph (1992) to emphasise her points. The process of collaging existing ideas together in order to articulate my own is position supported by the style of this text from which, I draw language to label aspects of this research practice. Many of Haraway's ideas revolve around the idea of The Cyborg offering endless possibilities for assimilating identities. The function of the Cyborg is discussed in further detail in the following section.

(This image has been removed by the author of this thesis for copyright reasons.)

Fig. 3. (Left) Randolph, L. (c. 1992). *La Mestiza Cosmica*.

Fig. 4. (Right) Randolph, L. (c. 1995). *Transfusions*.

Lynn Randolph's (1992) paintings punctuate each chapter of *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse: Feminism and Technoscience* (Haraway, 1997). Reading Randolph's work, *La Mestiza Cosmica* (1992, Fig. 3.), in light of this research shows the female character's torso is central to the world within the canvas, the earth is the environment from which she emerges to stand poised in space, mid motion in a stance reminiscent of performative sketching using the *Translator* (see section Translating the Artist's Body). A second pair of hands mimics her movements just like the Synapse Skeleton mimics my own during performative sketching with digital lines using the *Translator*. A snake that emits from her hand recalls the programming example with digital lines using the *Translator*. In *Transfusions* (Randolph, 1995, Fig. 4.) which impacted this project as seen in *Imitation* (Lal, 2012. Ref: *Shifting* DVD), the female's body is centrally located within the canvas and lit by the dim, blue light of the medical environment. *Imitation*, named in reference to the body tracing process taken from Mendieta (1973), also visually mimics *Transfusions* (1995) in the central location of the artist's body within the frame and the blue light of the projector that saturates the video. Like the figure in *La Mestiza Cosmica* (1992) and my own artist's body during performative sketching, the figure in *Transfusions* (1995) is captured mid movement as bats and medical equipment track to and from her body (Fig. 4), they seem to make lines in the environment around her. These paintings, made with the help of models, friends of the artist who embody Randolph's (1992) ideas, externalise her experience so that she can observe and recreate it as a way of knowing herself and her environment.

Like Haraway (1991), N. Katherine Hayles (1999) uses examples from both technoscientific history and science fiction to discuss the relationship between the human body and technology. While Haraway's (1991) focus is on collision, Hayles (1999) examines the mind/body split in relation to cybernetics in an effort to explain the current mindset that humans are like computers.

In *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999), Hayles discusses the relationship between human and computer as a mutual exchange. "The computer moulds the human even as the human builds the computer." (Hayles, 1999. Pp. 47) This idea is explored through this research during use of the *Translator* that requires the artist to adjust the motion of the body to accommodate for lag and scale within the programmed digital environment. The *Translator* is adjusted through its programming to accommodate the artist's body. This exchange is necessary as neither the artist nor *Translator* is functional in the digital environment without the other. Hayles' discussion of self-reflexivity and autopoiesis impacted on the conceptual development of this research and was directly inserted into an experiment as read aloud text from an online book during creative practice. This involved inserting thousands of straws into holes cut into MDF board while listening to the first two chapters of *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (Hayles, 1999). These chapters² discussed autopoiesis and self-reflexivity within cybernetics. These self-making processes were detrimental to cybernetic theories discussed at the Macy conferences and influential to the point of instructional during creative experiments in this project.

This text by Hayles (1999) informed the use for the *Translator* not just as a means of becoming digital but also as a self-reflective system for documenting process during the translation. When translating to the 'other' of digital this self-reflective process turns the focus back on the 'self'.

Transcending is an integral idea in William Gibson's novel *Neuromancer* (1984) that is interpreted here through Grant's *Transcendence through Detournement in William Gibson's Neuromancer* (1990). This text analyses *Neuromancer* (1984) with

2 Ch.1: *Toward Embodies Virtuality*. Ch. 2: *Virtual Bodies and Flickering Signifiers*. Ch. 3, *Contesting for the Body of Information: The Macy Conferences on Cybernetics* (Hayels, 1999).

Detournement³ as the central idea in the novel and also Gibson's (1984) writing technique. The characters in *Neuromancer* (1984) deconstruct and reconstruct technology for their own purposes, specifically to transcend the body by passing from it into the matrix. Examples of Detournement from Gibson (1984) and Grant (1990) idea of Detournement is used in this research to develop the *Translator* by creating a system combining open source software and the Kinect, a tool originally used for gaming, now used for performative sketching. Grant (1990) text has been key in locating the idea of Detournement, leading to collage and currently the umbrella term "Mimesis" in this research. It describes Detournement as an enabler of transcendence, saying that to hijack one idea and turn it into something else is a way of debunking or "jumping out of a system" (Grant, 1990) this statement relates to the process of visualising experience of the artist while sketching using the *Translator*.

Digital Unconscious (2006, pp. 115) by Mary Flanagan is "a downloadable Director program that thinks it's a psychoanalyst" (Ippolito, 2006. Pp. 115) by dredging up images, text and sound it compares memory and the unconscious via a hard drive and makes a "feminist map" (Ippolito, 2006. Pp. 115) as the user gives up creative and reproductive control to the machine which is programmed for non-hierarchical organisation. The program uses existing source material to produce a 3D audiovisual image.

Flanagan uses of psychoanalysis, feminism and the structure of language to rewrite the basic, everyday practice of storing and relocating data with a highly politicised meaning. *Digital Unconscious* (2006) relates to this research as an example of process that is fractured and translated using feminist discourse to explore our relationship with digital media. Flanagan (2006, pp. 115) uses the digital storage process as an event through which to explore feminism and psychoanalysis. This is a comparable use of the *Translator* and the digital processes through which it eventuated that are a structure through which to explore feminism and digital processes.

Digital Unconscious (2006. Pp. 115) is explored in *At the Edge of Art* by Ippolito & Blais (2006). This anthology surveys interactive, conceptual and process-driven digital projects and helps to contextualize this research within the wider field of digital practice

³ Detournement is a tactic used by the Situationist movement (1960's) that subverts the initial meaning of an existing work, turning meaning back on itself.

by identifying it as part of a wider conceptual exploration of everyday digital processes and technologically current as it uses contemporary tools, the Kinect and Synapse for Kinect.

To understand the technical aspects of the Kinect I used Greg Borenstein's *Making Things See* (2012). Borenstein (2012) discusses computer vision and relates the origins and inner workings of the Kinect. This instructional guide includes technical examples beginning with how to utilise the tool's multiple functions, adjust the range and position the camera, etc., and enables the reader to progress to more sophisticated example projects. It includes information about libraries and compatible tracking software. Borenstein's (2012) instructions were helpful in exploring the basic capabilities of Kinect. The interviews with a select group of Kinect developers discussing their approach were particularly useful. One example *Be Your Own Souvenir* (2010, pp. 17) by BlablabLAB, involves the audience in the creative process using Kinect. Pedestrians on the streets of Barcelona are invited to be scanned by Kinect and receive small plastic 3D prints of themselves as souvenirs. Taking the artists' creative process to the street, the audience participate in, and also are privy to, the creative process, starting with a scan using three Kinect's to create a 360 point cloud, then a mesh reconstruction via MeshLab, cleanup through Blender, and on-the-spot printing with a CNC machine. The artists' began to display their monitors after pedestrians became interested in the digital processing as well as the spectacle of the participants and the CNC printer. Reading this work in the light of this research suggests that artists and audiences are interested in experimenting with digital media processes.

Alejandro Crawford (2011, pp117) is an experimental VJ who uses Kinect to create visual effects for the band MGMT and installs multiple Kinect/projection setups for each stage show. Interviewed in *Making Things See* (2012, pp17), he describes his working process as developing, collaborating and experimenting, on the run. He approached Kinect and MaxMSP as an explorer seeing what would happen. His artistic background is in poetry and video so his approach to Kinect, like mine, meant that the technology and the concept informed each other. Crawford's (2011) desire to capture each band member to initiate visuals specific to each musician had not been attempted before. It required five Kinects and developed through experimenting over the course of the bands tour. As the band turned the Kinects on the audience, Crawford's (2011) plans

were disrupted leading to further developments. It is notable that due to the live nature of Kinect projects development happens live, and fine tuning through experimentation takes place in a state of constant updating. This sketching process collages new ideas into the creative practice and is the approach to Kinect taken in this research. The collection of ideas presented in *Making Things See* (2012) provides a contemporary community of Kinect users outside of the AUT Creative Technologies Department and acknowledges the recent contributions to a relatively new technology (2010). The process of sketching through programming is apparent when exploring possibilities not just in this research but also in that of innovators all over the world.

The Function of the Cyborg

In this research the Cyborg is the embodied example of translation between analog and digital and like Mendieta's *Siluetas Series* (1973) and Butler's essay "Performative Acts and Gender Constitution" (1988), the Cyborg offers a template, like the examples in MaxMSP, of how to do the analog/digital body.

Haraway describes the Cyborg as a perversion of nature that is beyond gender or ethnicity (1991, pp. 429) as "densely packed condensations of worlds, shocked into being" (Haraway, 1997, pp. 14). It is a hybrid, a "cybernetic organism" (Haraway, 1991, pp. 424), that is both analog and digital, in a constant state of assimilating itself.

The artist is the Cyborg during performative sketching using the *Translator*. When captured, the artist's body and the Synapse Skeleton work in unison to generate digital lines in the digital environment. This is a necessary symbiosis, as the Synapse Skeleton cannot function without input from the body, via Kinect. Likewise the artist has no hold in the digital environment without the Synapse Skeleton. The Skeleton and the artist work in unison to navigate the digital environment.

Haraway's (1991, pp. 429) Cyborg is the other and the self and as such is beyond gender, race and class. It is a structure through which to explore feminism as it relates to technology and through it, transverse boundaries. In this research the Cyborg is a collage of ideas that unite conceptually through the creative practice. It does not transcend gender, race and class specifically and is not rooted into the biology of the artist. The connection is conceptual and takes place within the creative practice. Performative sketching as the Cyborg, in unison with the Synapse Skeleton, is the embodiment of translation. It enables translation on a practical level utilising Synapse and on a conceptual level integrating ideas.

This Cyborg, like collage, fractures the worlds it inhabits by sourcing from both simultaneously, becoming both and neither. It is self and other, an unstable identity, disrupting balance; it is a paradox, a system performing its function. The Cyborg is a collage, a "figure[s] that must be read, too, with mixed, unfinished illiteracies" (Haraway, 1997. Pp. 14). It is a juxtaposition of opposites, "the coupling of two realities, irreconcilable in appearance, upon a plane which apparently does not suit them" (Ernst cited in Ronca, 1979. Pp. 46).

The Cyborg both lives the process of translation and is a source of translation; it exists in the world as a fiction and a social reality (Haraway, 1991) that can be explored by both self and other. The Cyborg is the female body re-described through Technoscience for Haraway, the mixed-race body displayed by LeiLani Nishime in *The Mulletto Cyborg* (2005), the modified body of Stelarc, and the semi-living bodies of Oran Catts and Ionat Zurr. To cite the Cyborg commands to mind multiples from popular culture, like the characters in *Neuromancer* (1984) fitted with digital media to extend themselves into their environment. In *Transvirt: Doing the digital body* (2013), this research, the Cyborg is the artist during the process of performative sketching, during the process of translating the body from analog to digital.

Analog and Digital

Analog and Digital are types of modalities with different mimetic qualities. Analog, a continuous stream of variable data, is physical and analogous in the sense of being similar to something else but not the same. Digital is discrete, made up of distinct packets of information, specific in its binary pattern and generic in that it can be copied over and over again. It repeats itself, which is a kind of mimesis. This similarity provides a bridge from which to extend into the other. To become digital the artist must translate her body conceptually between analog and digital by imitating the digital, assimilating through creative practice, becoming digital in order to know it.

For the purpose of this research it is accepted that the human body is analog as described by Lewis (1971)⁴. The digital is the ‘other’ to analog and is explored by becoming it.

⁴ Lewis, D. (1971). Analog and Digital.

Critical Methods: Mimesis, Collage, Detournement, and Sketching

First I will define the mimetic methods integral to this research and contextualise them using critical examples before discussing their relationship to each other. Examples of the method in practice are documented in the Methodology.

Mimesis is the process of imitation and assimilation, a method of coming closer to the other, of becoming it in order to know it. Mimicry directly shapes our ideas by *ways* of knowing as the experience of being or being like changes the way we know (Reilly, 2011). Walter Benjamin (cited in Leach 2005) attributes mimicry to “a natural human urge” while Adorno states “a human being becomes human at all by imitating other human beings” (Adorno cited in Leach, 2005). It is in our nature to “forg[e] a link between self and other” (Leach, 2005). In a coupling of irreconcilable ideas, collage “thus becomes the instrument or agent for the estheticization of the cogito” (King, 2003) as new meaning is created by the absorption of multiple, varying ideas.

Mimicry provides the key methodological approach during which I absorb that which was alien to this practice and is further refined as collage, Detournement and sketching. Collage is a process that sources existing media, created outside this research, and appropriates it in mimetic processes. It then fractures that media by breaking them apart either analytically or physically and updates them by recombining it with information specific to this research project. It is both an analog and digital process, that is, analog is analogous, similar to something else but not the same and digital is discrete packets of information (analog’s opposite); these discrete packets are grouped together as a collage.

Within this shifting practice, it is sketching that is recognisable in the digital environment. Benjamin (cited in Leach 2005) states “Humans need to recognise something of themselves in their environment. This is what allows them to relate to their environment, and find meaning in it.” Initial media experiments began with pen on paper and increasingly assimilated digital media and methods. This involved a slow extension towards the other while maintaining something identifiable in the digital environment. The process of sketching is applied to programming using the graphic

interface of MaxMSP; by updating example patches live through trial and error with the *Translator*.

Detournement is a tactic that subverts the initial source and meaning of an existing work so that meaning is turned back on itself. The French term is translated into English as “derailment” and was most prominently used by the Situationist movement of the 1960s⁵. Detournement is explored through William Gibson's *Neuromancer* (1984) and Glen Grant's interpretation of it in *Transcendence through Detournement in William Gibson's Neuromancer* (1990).

Creative Kinect projects detourn the hardware's intended use (for gaming via Microsoft Xbox 360) to construct interactive experiences promoting creativity and community exchange. Grant states, “It's a revolutionary gesture, a protest, to turn something away from its officially-sanctioned meaning, to pervert it to your own ends” (Grant, 1990).

However, such examples are now commonplace and focus predominantly on applications of the technology intended for audience participation and outcome. These projects fail to progress the conceptual impacts of working with Kinect in creative practice for interactive design. Drawing on ideas of detourned technology, this project goes one step further by commandeering the Kinect to explore the process of interaction with the self via Kinect. Thus the focus is not on application or artefact but on development of the research through creative practice with the Kinect at its centre. Grant highlights how transcendence is sought or achieved by the characters in *Neuromancer* through detourned technology. This research endeavours to “jump[ing] out of the system” by “turn[ing] a product of that system against itself” (Grant, 1990), the analog of the artist's body transcends digitally through the *Translator*.

5 <http://www.cddc.vt.edu/sionline/>

Constructing a Feminist Perspective

A position is constructed to explore digital media by collaging sources from feminist discourse, specifically Ana Mendieta's *Silueta Series* (1973) and excerpts from Judith Butler's essay "Performative Acts and Gender Constitution" (1988). The process of mimesis is used to assimilate with these examples as a way of knowing them and grounds this research with feminist discourse. Collage here can be seen as a process with three steps: Source, Fracture, and Update.

Source 1 *Silueta Series*, Ana Mendieta (1973)

(This image has been removed by the author of this thesis for copyright reasons.)

Fig. 5. Mendieta, A. (c. 1973). *Untitled Silueta Series*.
From Artspace Virginia Miller Galleries.

Fracture

Mendieta translates her body from flesh to earth by a series of performative acts. By laying her body against the ground she unites the two; the tracing in the ground re-describes her form and marks out her position in the natural environment. By digging down into the tracing, she recreates her body in the earth, assimilating herself with nature and becoming the earth as a way of knowing it.

Mendieta chose specific locations in nature to assimilate to and had clear objectives as described by Viso (2004).

Once at the site, she disrobed and lay face up in an open Zapotec grave....By placing her body in a pre-Hispanic gravesite Mendieta not only connected her body to nature but also to ancestry. She was interested in exploring commonalities between cultures across time and invoking rituals related to rebirth, purification and cleansing.

Update

Sketching parallels between Mendieta's gestures in the natural environment and my own in the digital environment, provided an entry point into the new digital environment generated by the *Translator* and a process to translate the form of the body between analog and digital. Like the graves in the *Siluetas Series* (1973) this digital location is attributed a history from fictional accounts of cyberspace, namely William Gibson's *Neuromancer* (1984) and Verner Vinge's *True Names* (1981). These iconic works of science fiction detail the interactions between physical bodies and digital worlds.

Performing the Digital

Having the ability to be similar but not the same as something else is at the core of the human condition, according to Benjamin in *The Doctrine of the Similar* (1933).

Benjamin states that mimesis is a way of knowing. We look for similarities in the other, imitate the other, and try to become it in order to know it. To know the digital, one must become digital, to become digital one must mimic it.

Source 2

“Performative Acts and Gender Constitution”, Judith Butler (1988)

Excerpt from the essay:

When Simone de Beauvoir claims, “one is not but born but rather becomes a woman” she is appropriating and reinterpreting this doctrine of constituting acts from the phenomenological tradition. In this sense, gender is in no way a stable identity or locus of agency from which various acts proceed; rather, it is an identity tenuously constituted in time – an identity instituted through a stylised repetition of acts. Further gender is instituted through the stylisation of the body and, hence, must be understood as the mundane way in which bodily gestures, movements, and enactments of various kinds constitute the illusion of an abiding gendered self.

Fracture

Gender, a bias toward male or female, is not stable as a way of being what you are or a place from which to exert power. Rather, gender is a way of being, weakly enacted over time. Identity is established by an artificial treatment of repetitious doings. Gender is established through an artificial treatment of the body in ordinary everyday movements that establish the deception of a stable identity.

Update

Modality (analog and digital), like gender, is a way of being. It is possible to constitute an identity, a way of being (albeit unstable) by instituted mimetic acts over time and by the artificial treatment of the body in ordinary everyday processes such as creative practice.

Source 3

“Performative Acts and Gender Constitution”, Judith Butler (1988)

Excerpt from the essay:

Significantly if gender is instituted through acts, which are intentionally discontinuous, then the appearance of substance is precisely that, a constructed identity a performative accomplishment that the mundane social audience, including the actors themselves, come to believe and to perform in the mode of belief. If the ground of gender identity is the stylised repetition of acts through time, and not a seemingly seamless identity, then the possibilities of gender transformation are to be found in the arbitrary relation between such acts, in the possibility of a different sort of repeating, in the breaking or subversive repetition of style.

Fracture

If gender can be instituted through repeating a process of doing, which is already deliberately made discrete, then an external show of a definite essence is a combined way of being, an achievement that constitutes a performance. Belief in the performance is key in constructing the identity. In being oneself, one must believe one is what one is, even if this is a construction, indeed especially if it is a construction. If the basis of gender identity is an artificial treatment of repetitious doings over time and not a way of being that appears flawless, the possibilities for translation from analog to digital come from relating random acts, by choosing a different kind of mimesis, by choosing digital processes such as collage and Detournement.

Update

If gender can be instituted by performative acts to create an unstable identity, then the mimetic process can constitute a digital identity over time. This is not a stable way of being what we are (analog), but it is a sufficient process for assimilating to the digital, becoming digital as a way of knowing it, albeit in an unstable way.

Choosing and believing that the body can be translated through established mimetic acts over time and an artificial treatment of the body as performative sketching with digital lines, can establish a digital identity.

Butler (1988) expands her idea as follows: “The ‘I’ that is its body, is of necessity, a mode of embodying,” a preferred way of embodying and “the ‘what’ that it embodies is possibilities”, the possibility of translating between analog and digital, “for the

possibilities that are embodied are not fundamentally exterior or antecedent to the process of embodying itself.” To embody the digital one must enact digital processes such as Detournement, collage and sketching. “As an intentionally organized materiality, the body is always an embodying of possibilities both conditioned and circumscribed...” (Butler, 1988. pp. 521) These conditions are constituted, through a series of enactments and translate between the analog and digital modalities of identity.

Methodology

Emerging

This research project develops through creative practice as a series of media experiments exploring the relationship between the artist's body and digital media, during translation of the artist's body between analog and digital.

By immersing in feminist discourse via Donna Haraway (1991), Ana Mendieta (1973) Katherine Hayles (1999) and Judith Butler (1988); through mimetic processes of collage, Detournement and sketching; using varied media including pen on paper, video, programming and performative sketching; I assimilate that which is alien into the practice. "Thus collage becomes the instrument or agent for the estheticization of cogito." (King, 1948. pp. 109). The impact of these ideas, collaged into the practice, sourced, fractured and updated, manifest in the creative experiments.

The practical work showed the emergence of two main ideas:

The Feminist Perspective

The first manifestation is the change of perspective from an external view, observing the artist at work to an internal position within the artist's body.

Sketching

The second manifestation is the sketching process that is identifiable in each media experiment. All the experiments can be described as sketches, the content of which emerge and is not pre determined.

The methodological idea of emergence is supported by the practical creative work that follows.

Creative Work

This section documents and discusses the practical work, which is divided thematically into Translating, Shifting and Reflecting.

Translating

The first section outlines in detail the translation of the artist's body between analog and digital using the *Translator*. The *Translator* is a system used for Performative Sketching with digital lines and includes the Kinect camera, Synapse, programming software and the artist's body. Each part of this system is documented in relation to the other. It also describes how Ana Mendieta and Judith Butler's work was used to translate the artist's body using the mimetic process of collage. How these processes emerged is documented in the *Shifting*.

Shifting

The second section documents the series of media experiments that generated the *Translator* and shifted the artists practice. The creative practice initially focused on sketching with pen on paper and developed through video and photography to performative sketching with digital lines using the *Translator*. A reflection on each experiment discusses the mimetic processes used and outlines aspects of the work that manifest as the final *Translator*. Each experiment is documented as figures accompanying the text and most have video works accessible on DVD and located at the back of this document.

Reflecting

In the third section the idea of reflection manifests through a set of experiments using the *Translator* to record the artist's creative process. It is through this work that the idea of self-reflection becomes known. These experiments are discussed in relation to autopoiesis and self-reflexivity that manifest after immersion in Katherine Hayles text *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics* (1999). This text was absorbed as an audio book while documenting the artist at work.

Translating

The Translator



Fig. 6. Example of Microsoft Kinect. Photograph.

The Kinect is both a camera and projector. Developed by Microsoft for the gaming industry it is part of Xbox 360 gaming unit and enables hands-free game play using whole-body and gesture recognition. Launched in 2010, the Kinect is one of the most widely available marker-less motion-tracking systems. A contest run by Adafruit produced open source drivers and enabled the use of both the RGB camera and depth sensitivity functions.⁶

The Kinect sends out multiple infrared (IR) dots that are trained to a specific distance within the camera's range. When the IR dots are either side of this specified point their position is registered and mapped. This data is used to generate a 3D model of the space and anything captured within it.

This project utilises data captured by Kinect and translates it via Synapse into MaxMSP where it is visualised as digital lines and numerical data.

⁶ Greg Borenstein's *Making Things See* (2012).

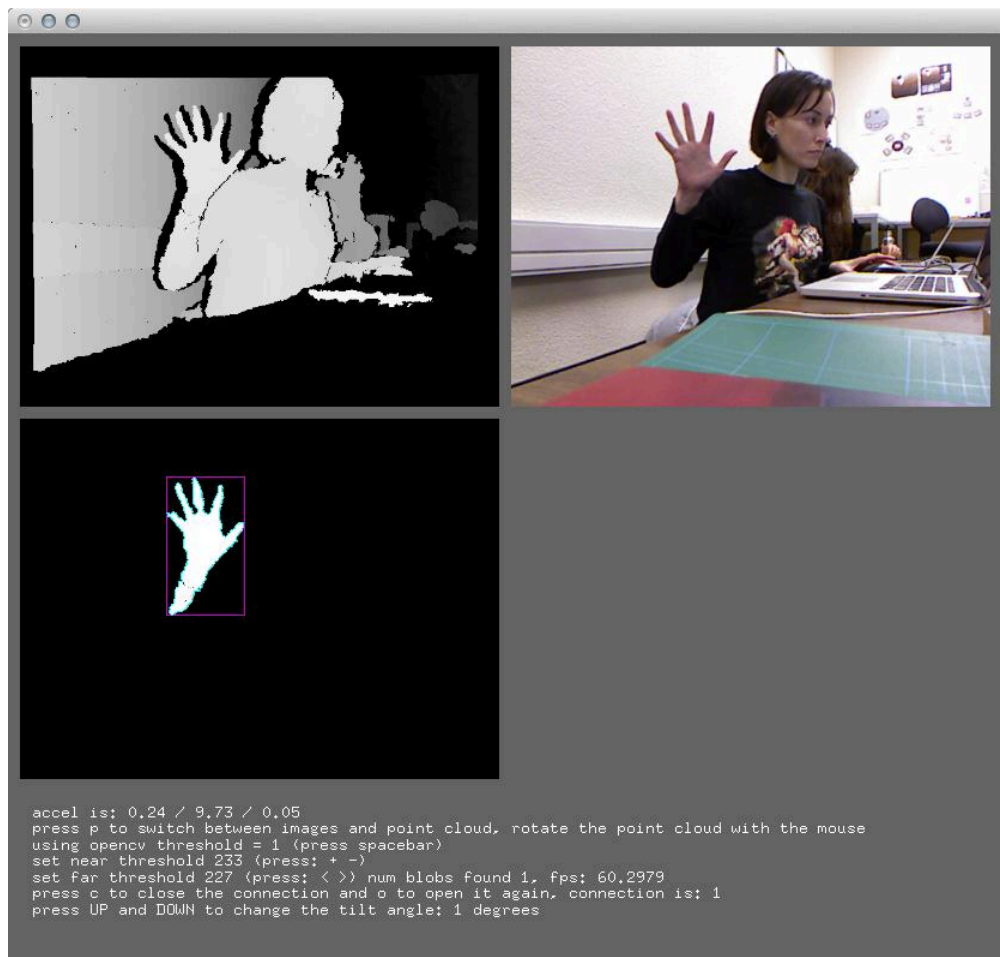


Fig. 7. Testing Kinect's range. Screen shot.



Synapse

Synapse is a free application distributed online.⁷ It uses OpenNI, an open source software framework that is able to read sensor data from the Kinect, and send it on to the relevant programming software. Synapse was designed for a sound work at *Burning Man* (2010) by Ryan Challinor, a programmer experienced in performance-related design using Kinect.

Kinect recognises the body when the cactus⁸ (command) pose is struck and captures it, by mapping a skeleton frame to the human body. The skeleton, made up of joints along the frame that relate to specific locations on the body and is visible in the Synapse window. Synapse collects data from each joint position as x,y,z coordinates and sends this data via OSC⁹ to the MaxMSP patch.

Fig. 8. Cactus command pose. Screen shot.

Fig. 9. Synapse Skeleton attaching. Screen shot.

Fig. 10. Synapse Skeleton attached. Screen shot.
Chalinor, R. (c. 2011)

⁷ <http://synapsekinect.tumblr.com/post/6309421487>)

⁸ The “cactus pose” is renamed the “surrender pose” for this research.

⁹ Open sound control is a protocol for communication among computers.

MaxMSP

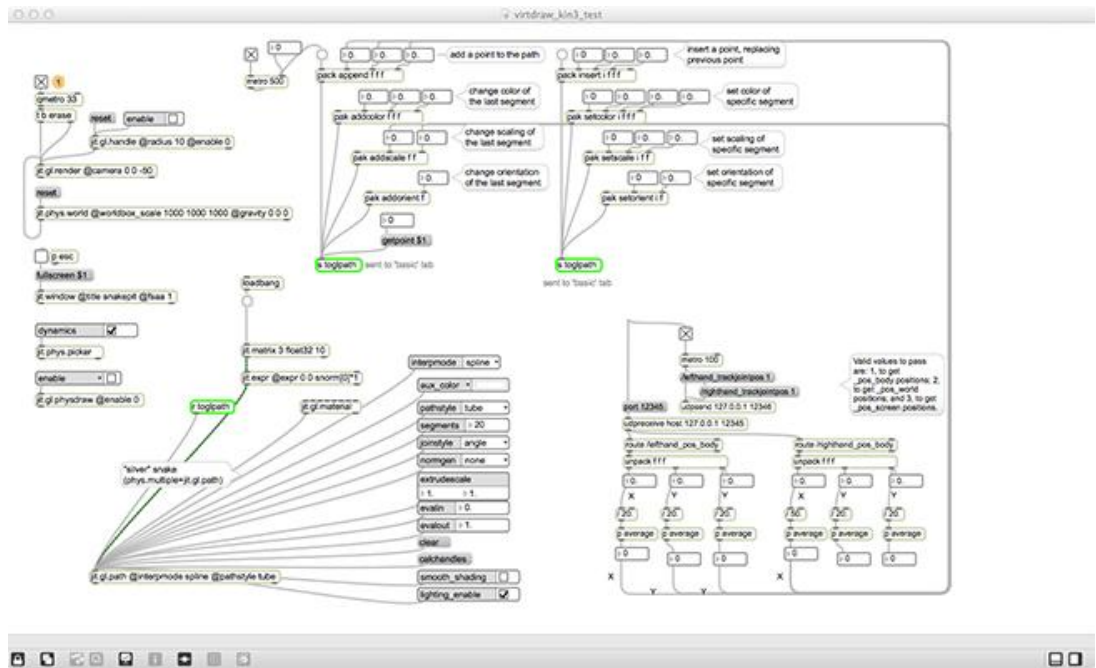


Fig. 11. Example of MaxMSP patch. Screen shot.

MaxMSP is a visual programming language for multimedia often used by creative practitioners due to its graphic interface. The producers Cycling '74 and groups of unaffiliated users extend the software through shared libraries (externals) and other open source software.

The interface, like the Synapse Skeleton, enables interaction between the artist and the computer. MaxMSP reads incoming OSC messages from Synapse via data ports declared in the MaxMSP patch. This data is unpacked and redefined as data from a specific joint, such as the head, hands or torso. Each joint is further unpacked into x, y, z coordinates that describe the position of that joint in space. Space is the area within the Kinect's range. MaxMSP works with a set of objects whose functions can be customised by attributes and messages that connect via cords and send information between the functions. The order in which objects are connected controls the way the programme works. Number boxes carry either integers or floating-point numbers and contain data coming into a patch. Their function is to specify info about incoming data and transcode or scale data, allowing controls to be implemented.

MaxMSP includes a library of examples that can be modified and merged with other patches and functions. Examples include, Jitter Physics that enables physical simulations to be programmed by applying formulas to objects and environments within the MaxMSP world. A group of objects called Jitter control graphic functions such as drawing within a 2D MaxMSP world.

Prior to this project I had limited programming experience and learnt MaxMSP through Cycling '74 tutorials, examples and online forums. The patches for this project (made jointly with my supervisor¹⁰) are sketches, collaged and rewritten examples that are refined during live sketching with the *Translator*.

¹⁰ James Charlton

The Artist's Body

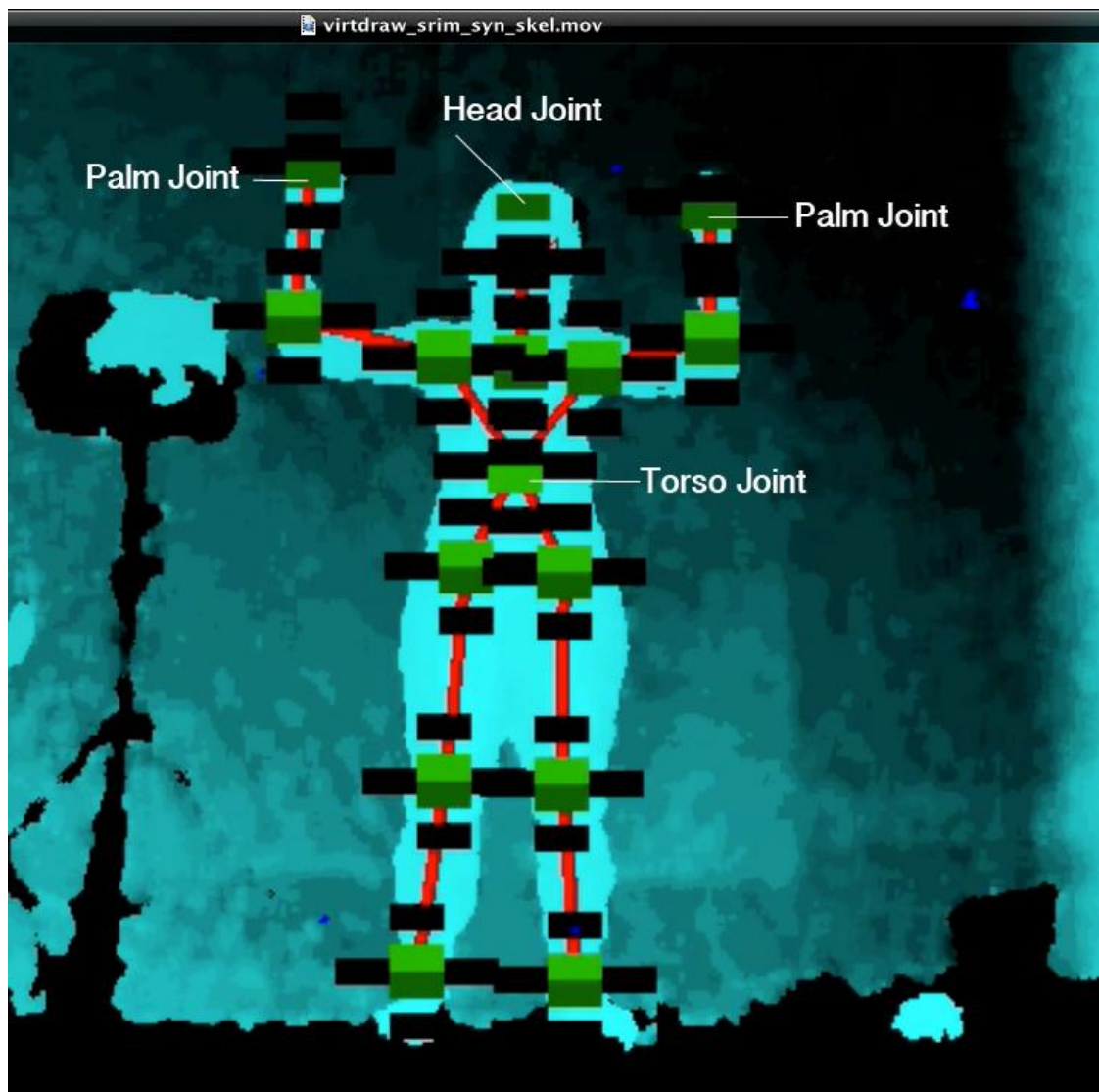


Fig. 12. Chalinor, R. (c. 2011). *Synapse Skeleton with joints*. Screen shot.

The artist's body is included in the *Translator* and assimilates into the system when recognised by Kinect using the surrender pose¹¹ (in reference to Ana Mendieta's *Silueta's*, 1973). This pose activates the Synapse skeleton that maps to the body and tracks the joints located along its frame. These joints receive and output data to MaxMSP. Each joint is specific to its location on the body.

The torso joint on the Synapse skeleton is positioned at the centre of the MaxMSP world during performative sketching. All data entering the MaxMSP patch, from Kinect and generated by the movement of the body is referenced to the torso joint. Therefore the centre of the body is the centre of the world in MaxMSP.

The sketching process takes place in the space surrounding the body and the body is at the center of creative practice. Perspective is captured not just from the view of the artist but also from the experience of the artist creating in the world. The torso joint is in line with the solar plexus on the human body, which is the stomach or abdomen in medical terms and relates to the Manipura Chakra in Eastern spiritual practice. The Manipura Chakra governs emotional transition and expansiveness, digestion, personal power, and spiritual growth.¹² A person with a clear Manipura Chakra is said to have a clear picture of who they are. The connection to Eastern spirituality and Western medicine are not the focus of the project. However in the context of collage, which creates new meaning by juxtaposing seemingly unconnected material together, it is important to note the connections between the torso joint on the Synapse skeleton, the stomach ache/MaxMSP patch relationship (see *Shifting*), Judith Butler's (1988) identity theory and the Manipura Chakra, as potentially significant relationships for future exploration. The hand joints are located on the palm of each hand and generate a line within the MaxMSP world that reference the making hands of the artist. When the head of the Synapse skeleton is tracked to the head of the body the view in the MaxMSP window shifts based on the position of the head, indicating the perspective from the artist's point of view during translation.

After prolonged use of the *Translator* a build-up of lines fills the MaxMSP window. It appears as a dense ball of lines with an empty core where the body is situated. The lines show the path of the hands and re-describe the body by creating a trace of its form.

11 Cactus command pose.

12 Mercier, P. (2007). *The chakra bible*.



Fig. 13. Lal, *Translating the artist's body using the Translator*. Video still.

Translating Form

This involves translating the body between analog and digital form in a process collaged from Ana Mendieta's *Silueta Series* (1973).

First I lay my body against the digital landscape by positioning myself in front of the Kinect. An outline of my body appears in the Synapse window. I strike the surrender pose – surrendering to the digital media and by this act uniting with the digital environment as the skeleton attaches to me. By moving my hands in space I generate a build-up of lines that re-describe my form in digital media, both marking out a position in the new environment and re-describing my body in the earth, assimilating with the digital environment, becoming digital as a way of knowing it.

Translating Identity

This involves translating a digital identity to the digital body in a process collaged from Judith Butler (1988).

A digital identity is established by an artificial treatment of mimetic doings over time. Digital identity is established through an artificial treatment of the body in ordinary everyday movements that establish the deception of a stable identity. My analog body becomes similar to the digital as a way of knowing it. Through performative sketching using the *Translator*, my body performs mimetic acts in imitation of the digital; the digital lines are an artificial treatment of the body and these acts are established over time during movements in creative practice.

Within this research the “other” is the digital environment enabled by the *Translator*. Growing closer to the other is initiated in the development of the *Translator*, which is itself created by a process of mimesis. Through sketching with the *Translator* I assimilate into the digital environment, becoming digital through imitation and assimilation.

Re-enacting feminist processes in Mendieta (1973) and Butler’s (1988) work manifested in a series of media experiments, discussed in detail in the section *A Shifting Practice*.

Shifting

This section details a series of media experiments focused on the process of making with digital media and mimetic processes that succeeded in shifting the existing creative practice and from which developed the *Translator*.

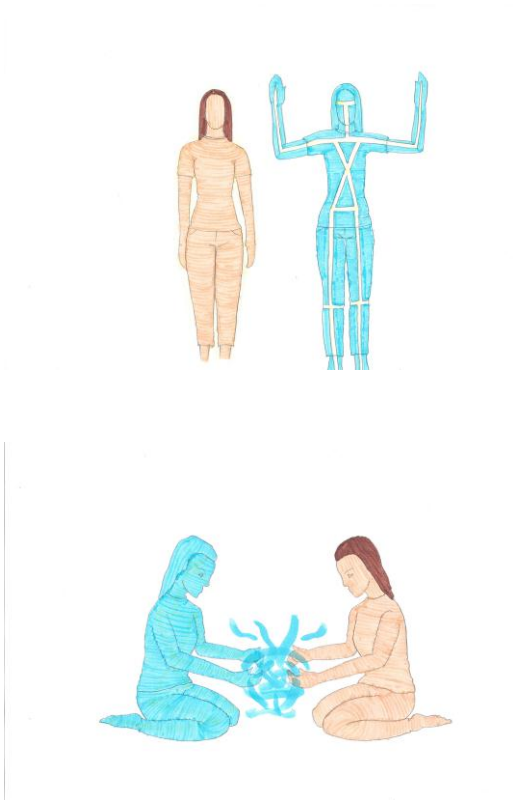


Fig. 14. & 15. *Observation: the body 1 & 2*. Felt on paper.

Observations

These sketches imagine working with digital media before the *Translator* was functional. The figures above both depict the body from an external view of the self through the Synapse window, (Fig. 12). The next sketches show an internalisation of the Synapse Skeleton (Fig. 17,18 and 19) and shift from observing ones body, to being ones body. The colour scheme reflects a combination of the blue/green of the Synapse window and the skin colour of the hands.

The *Observation* drawings use mimesis in a process of imitation to relate the artist's body to the digital environment of Synapse. The sketching process is the strategy in every experiment that follows regardless of the media.

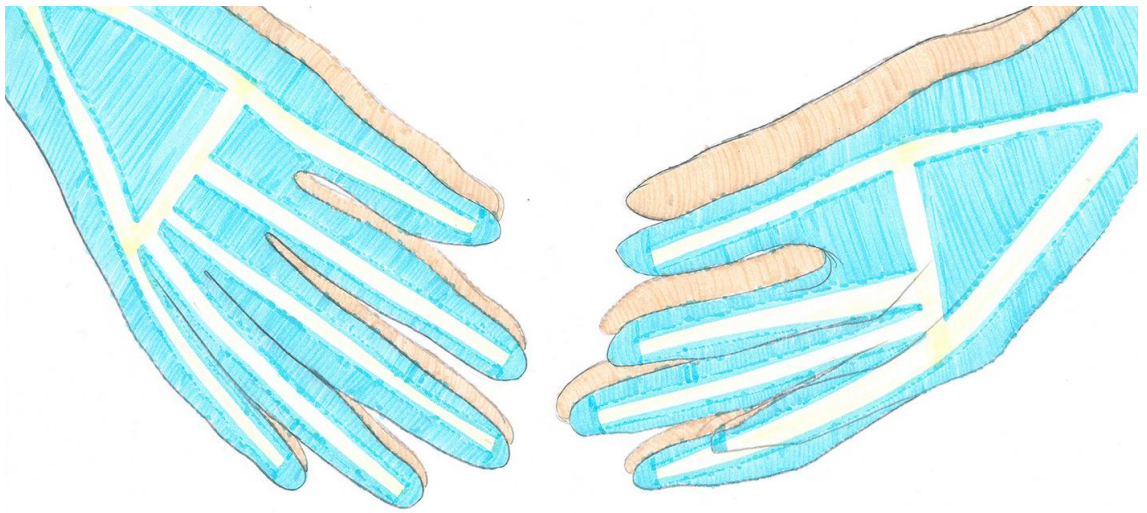
On the following three pages:

Fig. 16. *Observation: Synapse, artist follows.* Felt on paper.

Fig. 17. *Observation: artis, Synapse follows.* Felt on paper

Fig. 18. *Observation: artist works in unison with Synapse.* This pre-empts the use of digital lines. Felt on paper.

Lal, P. (2012).







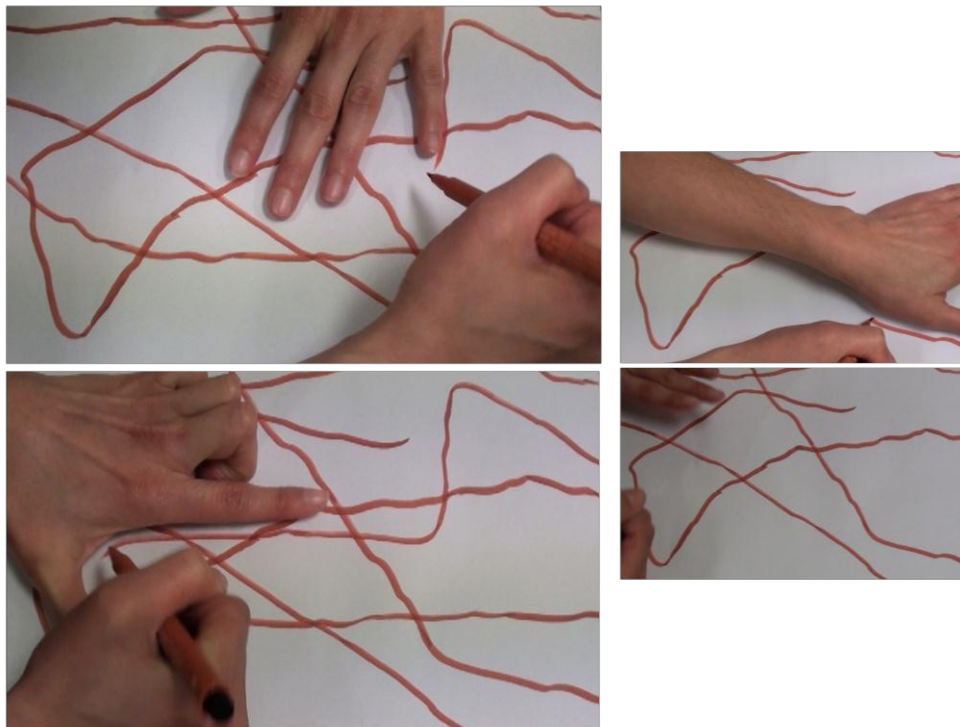
Suggestions

The *Suggestion* series continues sketching from the previous experiments and utilises the side of the hand to trace short sections of the body. The video documentation captures the performative nature of sketching that develops into performative sketching with the artist's whole body in the *Translation* experiments. The perspective, from which the sketch is documented, changes over the course of the four videos, each approx 15-20 minutes. Side on, (below) becomes bird's eye view becomes the front of the artist's body. The process of constructing a feminist perspective is emerging.

Refer: *Shifting DVD, Suggestion video #1*

Fig. 19. *Suggestion*, video stills.

Sketching records the movement of the hands as it explores the page, redescriving, fracturing and recombining the artists body, as a collage in a mimetic process of imitation.



These sketches show the body re-described Note how the body is fractured and recombined to suit the scale of the page environment. These abstracted versions of the body resemble digital sketches generated by the *Translator*.



Fig. 20. *Suggestion #1-3*. Pencil on paper.

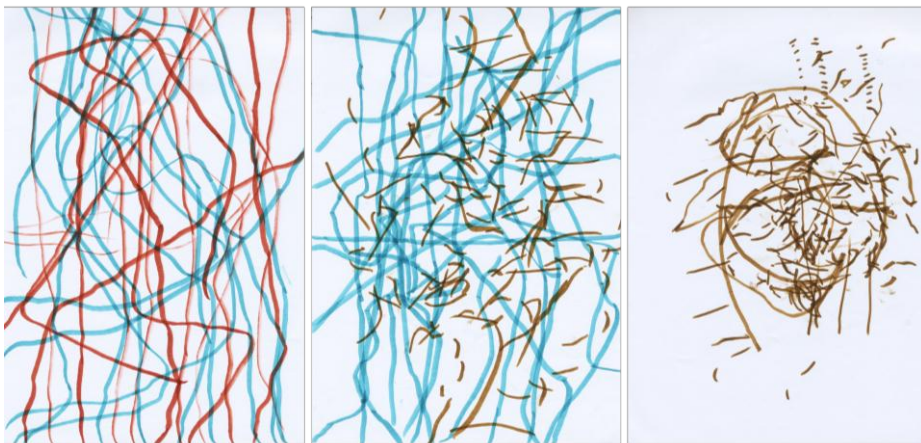


Fig. 21. *Suggestion. #4-6*. Felt on paper.

Assimilation

Here the artist's perspective is strongly in place as the redescribed cardboard hands point back at the artist, mirroring the artist's stance at the desk. For this experiment the artist's hands are photographed using the laptops iSite, traced to paper, cut from card, deconstructed with a scalpel, documented as video and later composited with found digital footage of digital lights. In this early translation the cardboard is replaced with digital video through a series of repetitious acts that enable the artist's redescribed hands to host the digital material, exploring digital media by becoming digital.

Refer: *Shifting DVD, Assimilation*

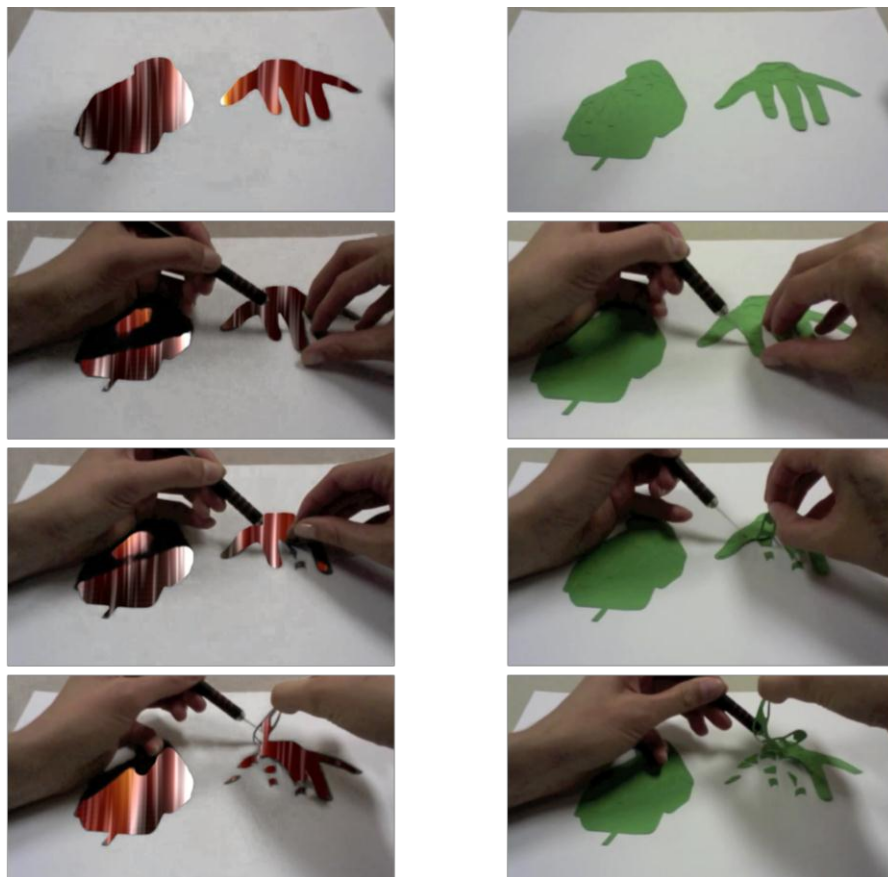


Fig. 22. *Assimilation*. Video still.

Emulation

Artist and supervisor separated by mirrored glass mimic each other, becoming ‘self’ and ‘other’, sketching out movements using the whole body. This process manifests as performative sketching in later experiments using the *Translator*. The mirror obscures the view of the supervisor as the reflection of the artist creates gaps, breaking up the information. As ‘other’ follows ‘self’ there is a lag and the two are not perfectly in time. In the later experiments the Synapse skeleton also lags and freezes if over loaded with data or the artist's body goes out of range. The *Emulation* experiment is documented from behind the mirror, from the perspective of the other and pre-empt's a series of reflective sketches documented in the next section.

Refer: *Shifting DVD, Emulation.*



Fig. *Emulation*, video still.

Immersion in Programming

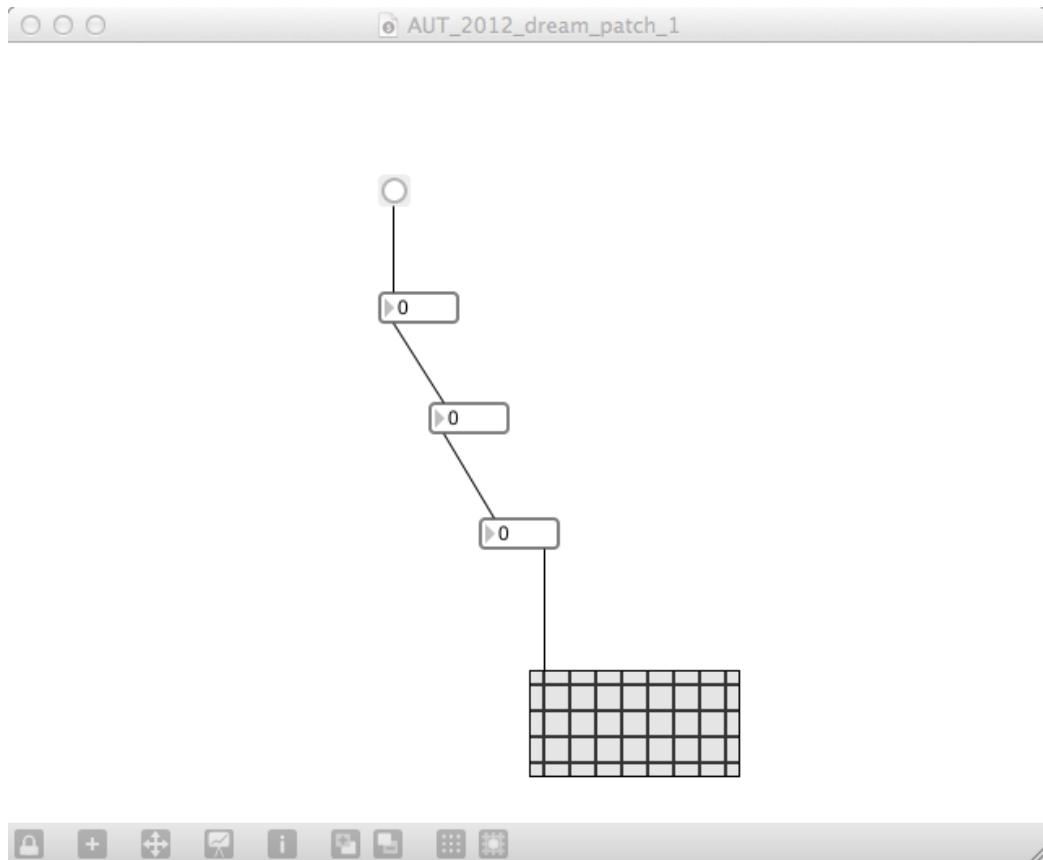


Fig. 24. Immersion in MaxMSP patch, screen shot.

Immersion into the digital involved; MaxMSP example patches in the morning, researching specific patches through the day and watching Cycling '74 web tutorial in the evening.

After a week immersed in programming I dreamed a MaxMSP patch. It coincided with a stomachache, which eventually woke me completely. The stomach pains came in waves and corresponded to number boxes – containing integers that adjusted in the dream. The numbers increased or decreased in time with the waves of discomfort in my stomach.

I woke up and instantly noted the connection between the control from the MaxMSP patch of the dream and the sensation in my body. The experience could be interpreted as a continuous stream of data coming from the nauseous body into the patch that was re-described by integer boxes using discrete numbers to specify information about the data. Data came into the patch from the unconscious and the integers boxes directed that data

to administer sensation in my body, giving myself a stomachache.

The period of immersion in programming software led to the embodiment of the MaxMSP world and a direct relationship between the actions of my analog body and digital media, in my unconscious at least. Immersion led to assimilation with the MaxMSP environment as a technique to learn programming.

The patch (recreated above) was not functional outside the dream but did utilise some basic functions.

Imitation

Imitation explores the relationship between the body and space. These experiments step away from the desk and focus on the hands to include the whole body. Video documentation captured the artist's immersion into the space using the blue light from the digital projector to saturate the space, reminiscent of Lynn Randolph's (1995) *Transfusions* painting. The artist imitated Mendieta's process for the *Siluetas Series* (1973) by lying against the floor on paper and re-describing the body with a marker pen. This combined sketching and whole body movement in space.

Refer: *Shifting DVD, Imitation*

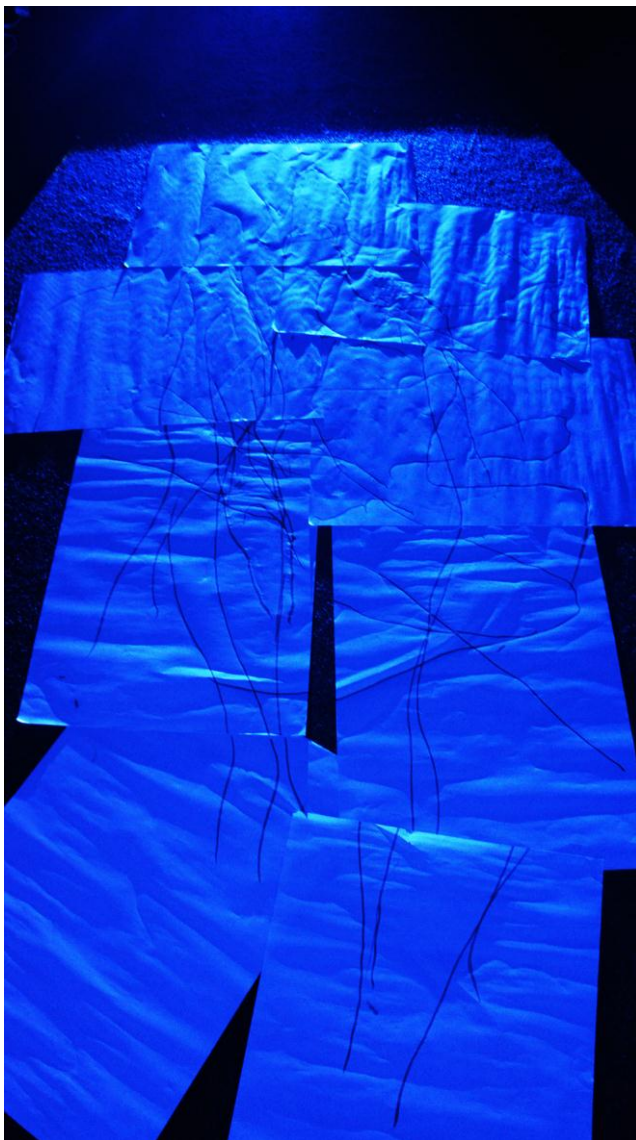


Fig. 25. *Imitation*. Body remnant, pen on paper.

Application

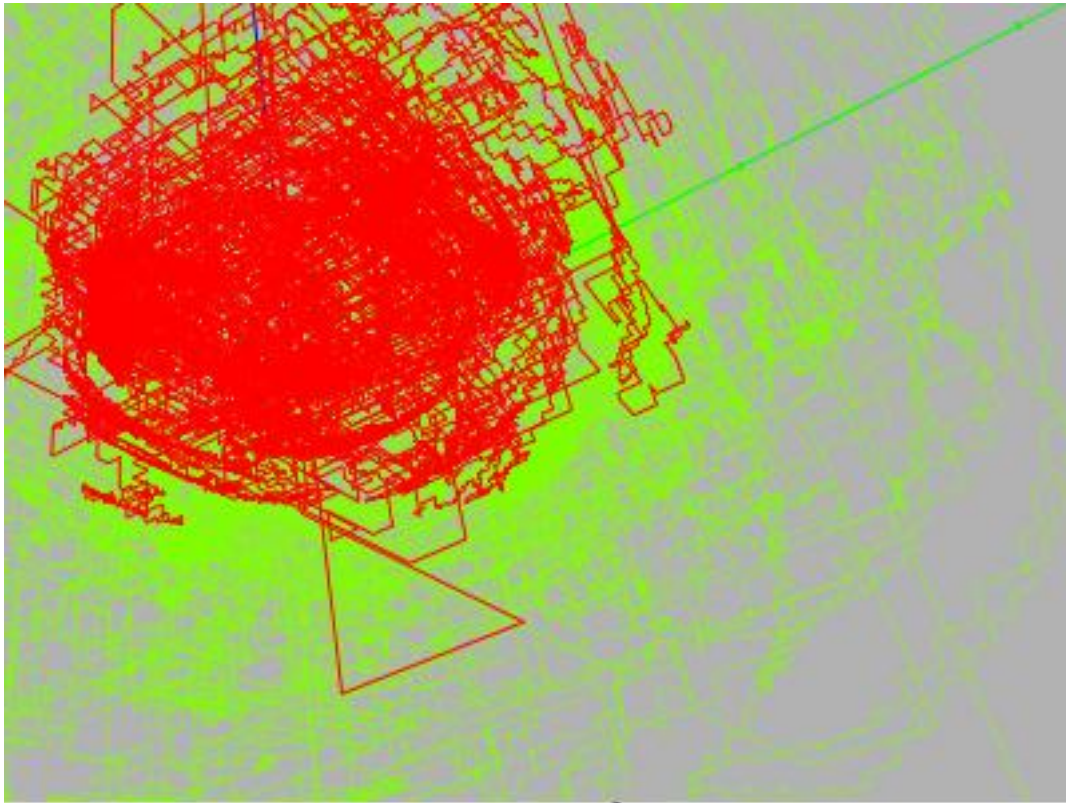


Fig. 26. *Digital lines*, screen shot

These experiments extend on the earlier ones and combine outcomes from many of the works. Including sketching and a focus from the perspective of the artist's body. The Translator, generates a mass of digital lines during Performative Sketching in the digital environment of MaxMSP and the projected computer screen. The Kinect captures and Synapse maps the body using the torso and hand joints. This data traces the artist's body, hollow at the core, it indicates the body by its omission¹³. The body is translated conceptually between analog and digital using reconstructed processes from feminist discourse; Ana Mendieta's (1973) creative process for translating form and Judith Butler's (1988) constitution for identity. This is the digital body.

Refer: *Shifting DVD*, Translation #1 & 2

¹³ The hollow core of the digital body is currently being explored through the research.

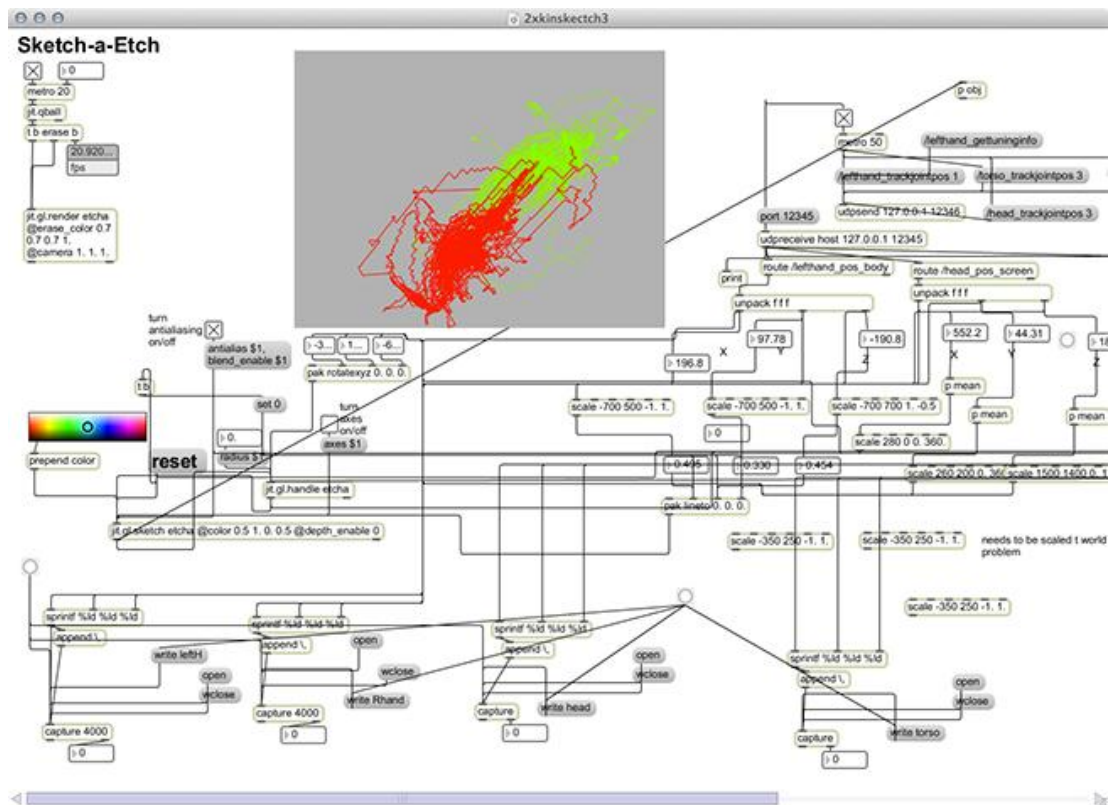


Fig. 27. The sketch-a-etch patch in MaxMSP. This example has been updated and modified through a sketching process to suit the needs of the artist's body and translation process.

[illegible]

Fig. 28. Translation experiments, xyz coordinates map the position of the head and torso, screen shot.

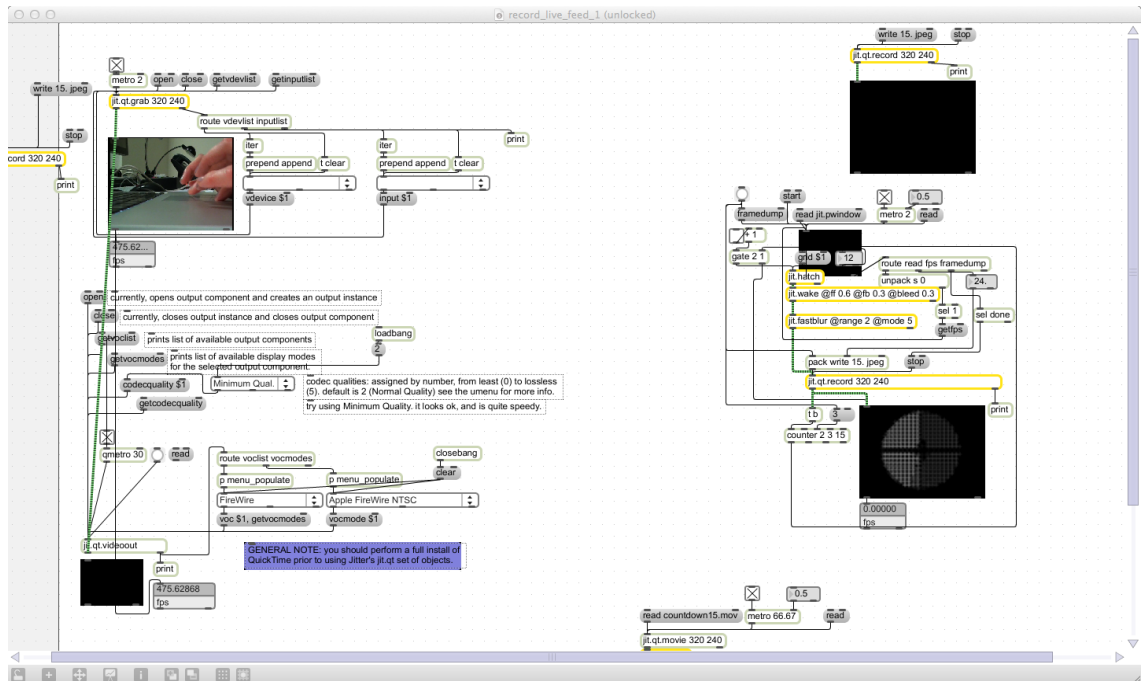


Fig. 29. *MaxMSP example*, screen shot.

Example patch: used to create a grab for video. This screen shot shows multiple examples in a process of trial and error.

Reflecting

During the previous experiments the relationship between each part of the *Translator* system comes into focus. When coupled together they make a sum greater than the number of its parts, enabling the translation of the body between analog and digital.

This symbiotic relationship is discussed by Hayles stating “working with VR simulations the user learns to move his or her hand in stylised gestures that the computer can accommodate.” (1999, Pp. 47). The artist customised the MaxMSP patch to accommodate her body and adjusts her sketching movements in space to account for lag and the functionality of the Synapse Skeleton. “In the process the neural configuration of the users brain experiences changes, some of which can be long lasting. The computer moulds the human even as the human builds the computer.” (Hayles, 1999, Pp. 47) The digital sketch is generated by another kind of digital sketch. The creative process is stimulated by another creative process, a system within a system.

The relationship between the parts of the *Translator* is amplified in the *Reflective* experiments by creating a feedback loop. Information about the system is fed back into the system. These experiments continued the use of the *Translator* for Performative Sketching but exchange the unspecific movements of the artist for a purposeful creative practice. (See Fig. 31 & 32)

Hayles (1999) discussed autopoiesis, a self-making process. Derived from the Greek *poiesis*, to make. Not just to make a product but an action that transforms and continues in the world.

NB: Initially straw/MDF models were made for use as a fog screen to be incorporated into the *Translator*. After much experimentation (See appendix) the fog screen was abandoned due to it’s cumbersome nature in an otherwise portable system. What did come from these experiments was the possibility of feedback in the system.

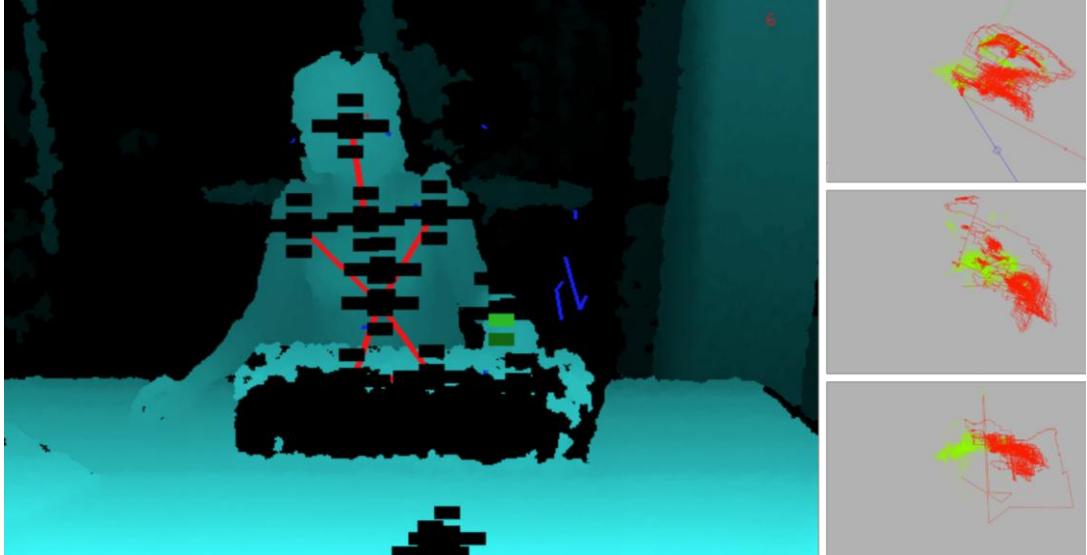


Fig. 30. The Synapse and artist work in unison during the making process, inserting thousands of straws into holes cut in MDF board. The *Translator*, tracked to the artist's head, traces the path of the hands/ Green is the left hand, red the right. The sketch changes the angle based on the position of the head.

Refer: *Reflecting DVD, Reflective Sketch*



Fig. 31. Thousands of straws cut by hand are placed into MDF board.

Hayles (1997) discussions are absorbed into the practice as audio during the creative practice and inform the work as it takes place.

Refer: *Reflecting DVD, Reflecting the Digital.*

Proceeding

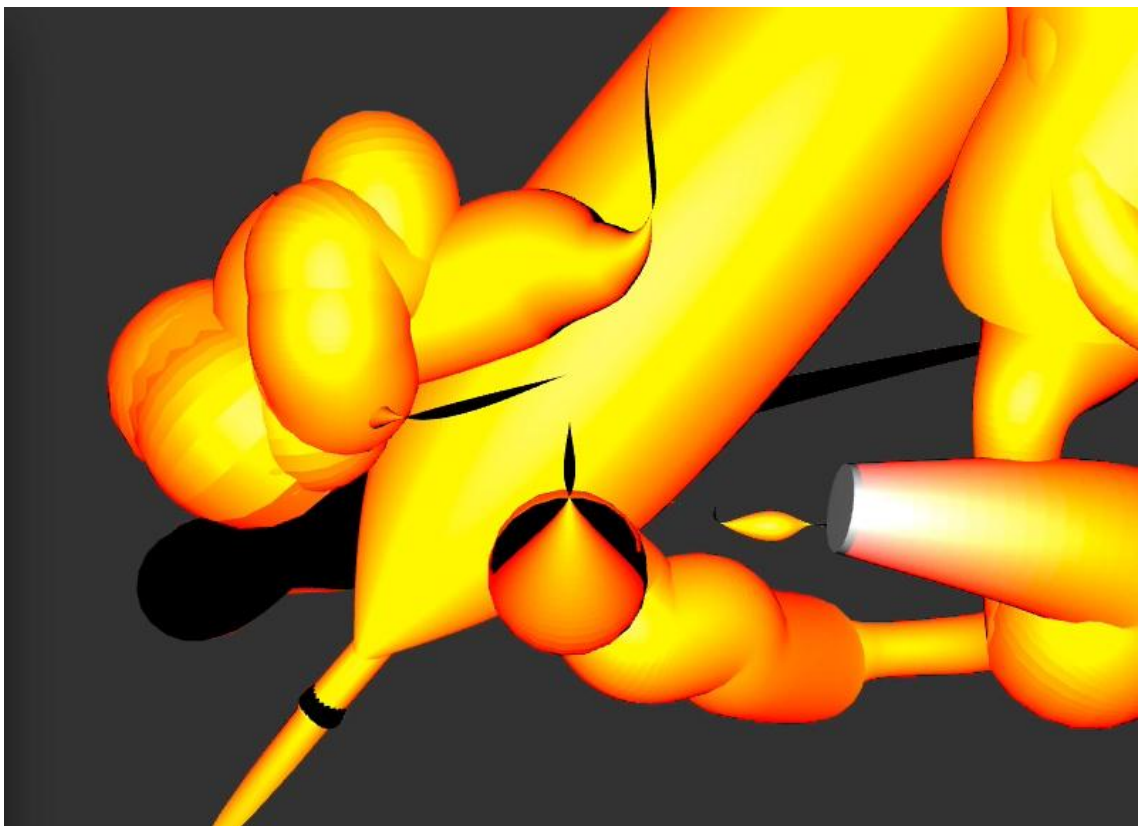
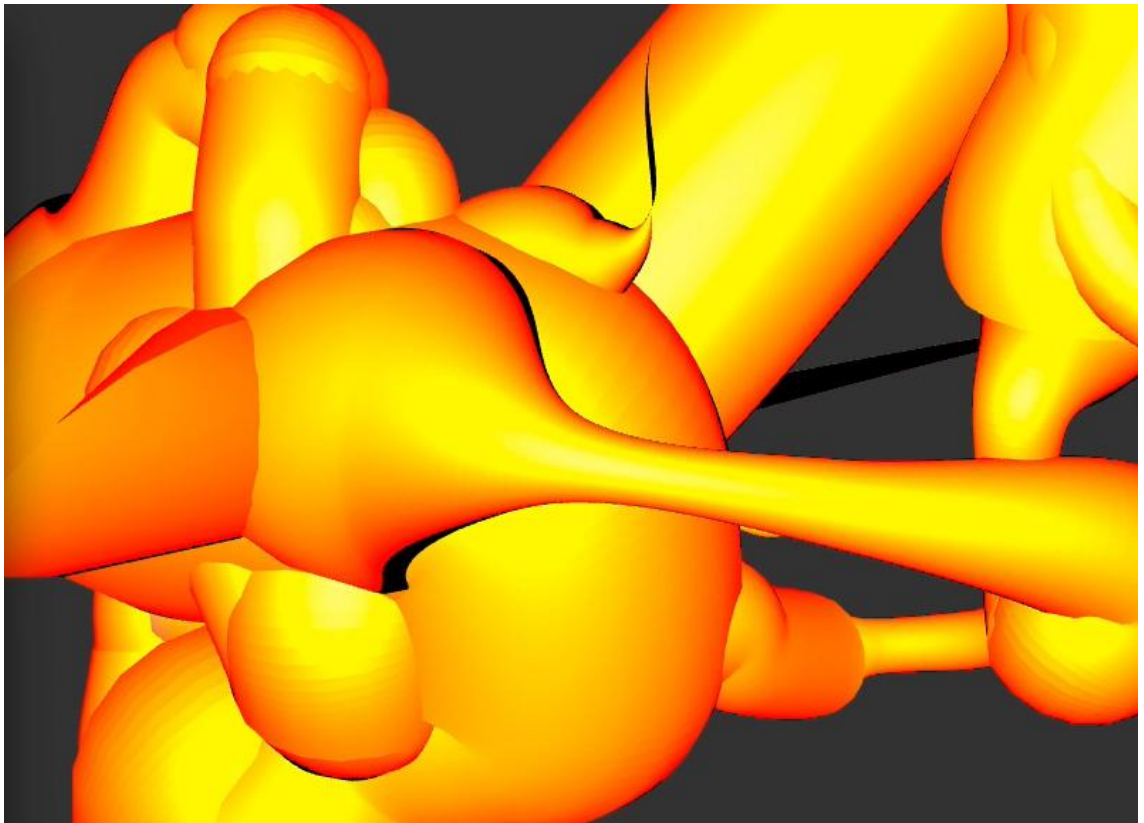


Fig. 32. *Performative sketching*, video stills.

Performative Sketch and Performing the Digital

The most recent experiments with the *Translator* utilise a more articulate line from MaxMSP. This line has an organic look and mirrors the form of the artist's body, while it articulates movement more accurately, it is also more sensitive. The artist's movements shift from continuous sweeping arm movements to discrete, limited hand gestures that return the focus to the artist's hands. As Hayles (1999, pp. 47) predicted the "the computer moulds the human even as the human builds the computer." These experiments continue with the installed work.

Refer: *Reflecting DVD, Performative Sketch & Reflecting the Digital.*

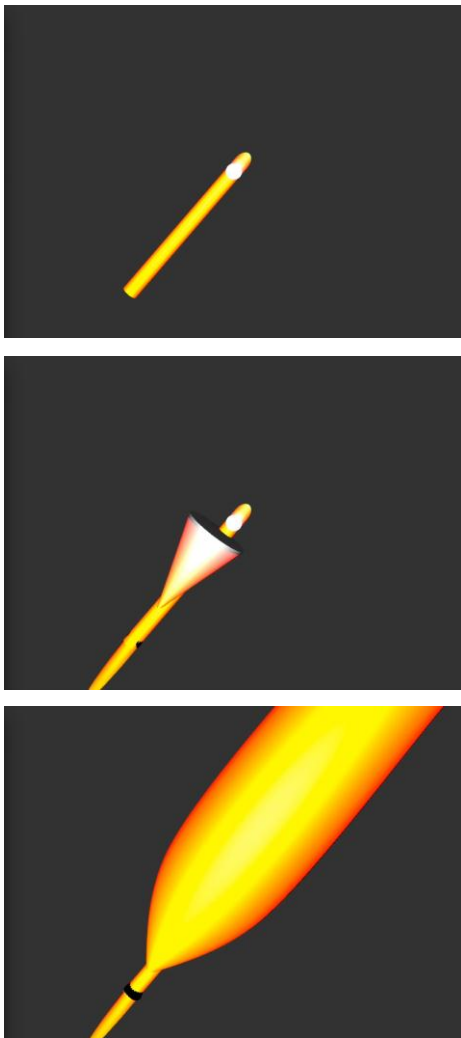


Fig. 33. Performative sketching with the *Translator*, video still.

Final Phase

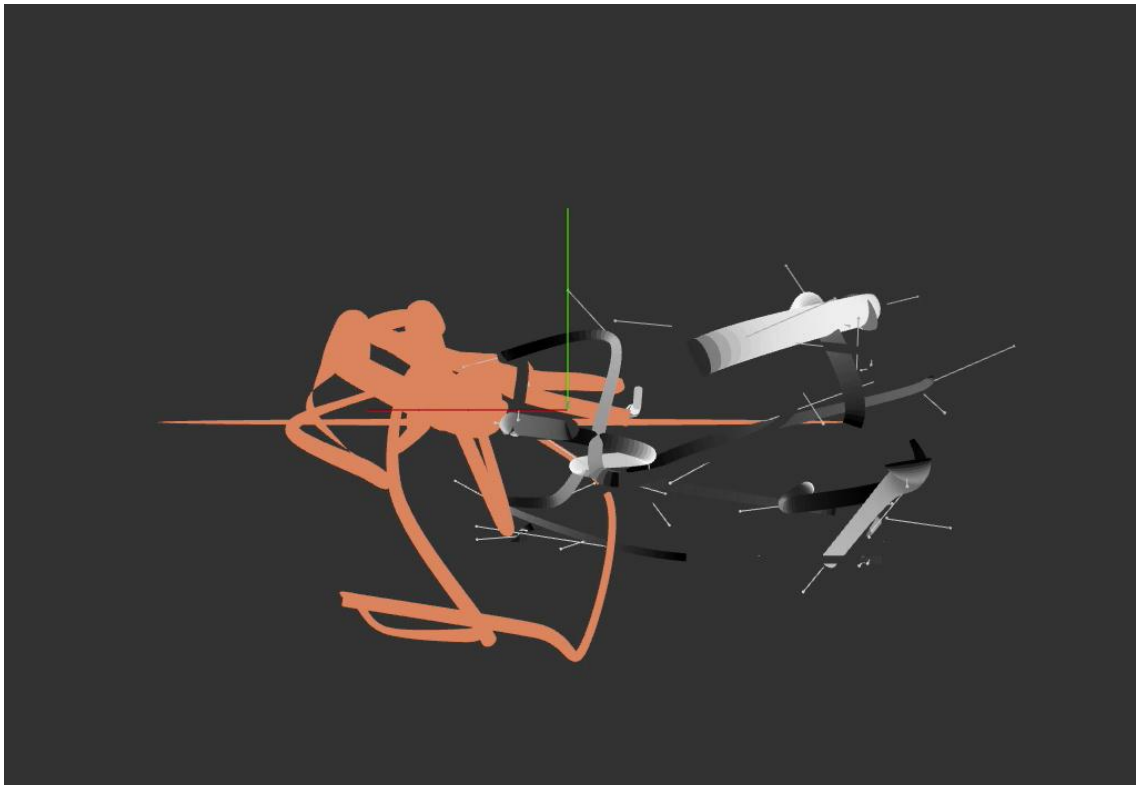


Fig. 34. *The Digital Body*, video still

The final phase of the project continues work with the *Translator*, using the line function described above to redescribe the artist's body. This re-description is the process of assimilating with the digital and the artificial treatment of the body through mimetic processes and translates the form and identity of analog to digital. Its digital identity is a social construct, established through a mimetic process of re-enactments through collage, Detournement and sketching; it is an unstable but believable way of being. The digital body has form and identity. Through mimetic processes and feminist constructs the digital body is seen and believed.

To view the digital body from the inside four cameras are placed at the position of the torso joint and the sketching process is recorded in a 360-degree view. This 360-degree view is projected onto the four surrounding walls. The lines generated around the walls are the paths of the artist's hand, sketched using the *Translator*. They embrace the room, immersing the artist inside the digital body.

What has emerged through a self-reflective process is that in becoming the ‘other’, one is faced with the self. The idea of self-reflection and autopoiesis, is further explored in for the examination of this work by generating feedback in the system.

The installed work enables the translation of the artists body to be witnessed and can be read as an in studio creative process, another experiment, developing the process of translation between analog and digital.

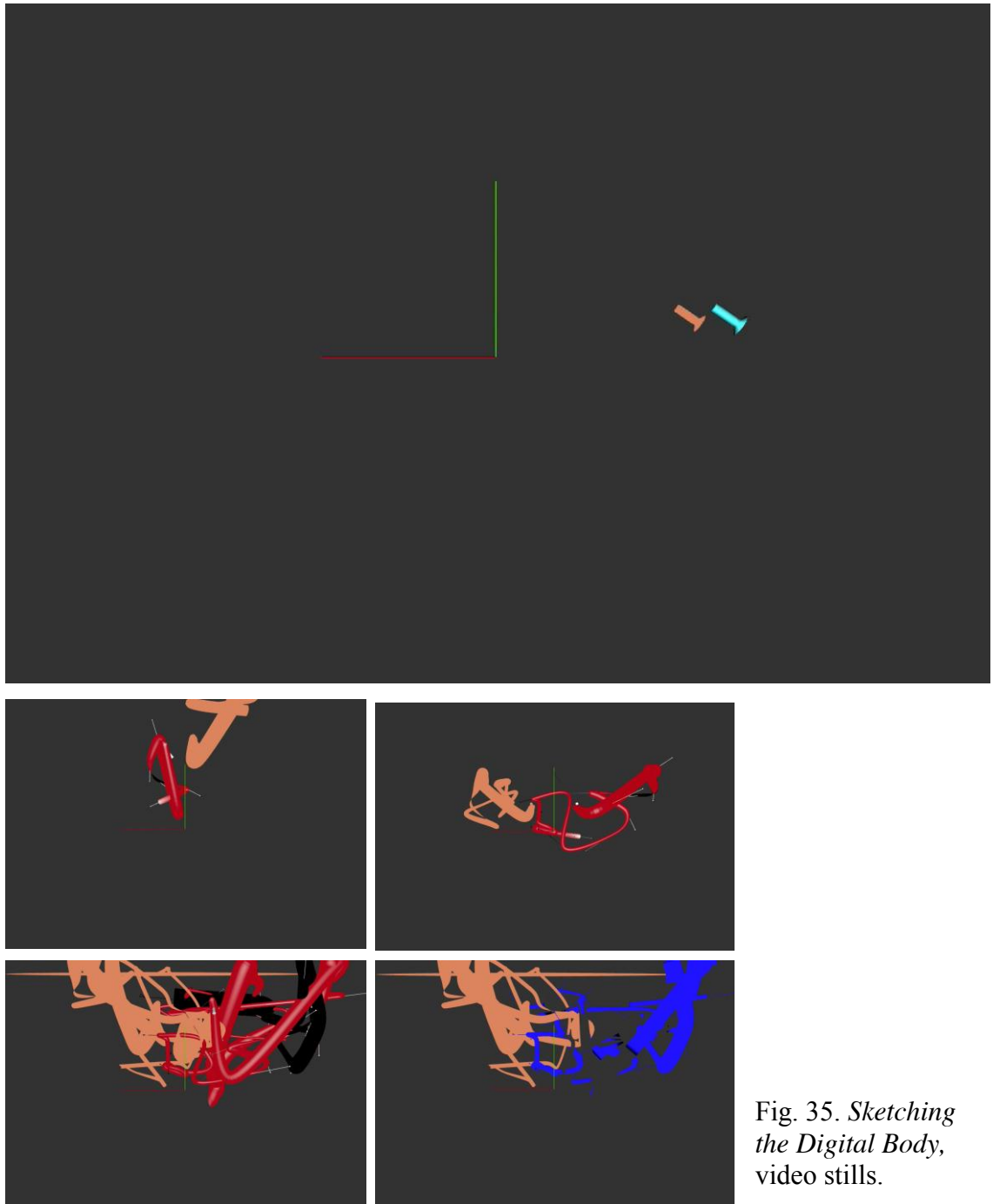


Fig. 35. *Sketching the Digital Body*, video stills.

The Examined Work

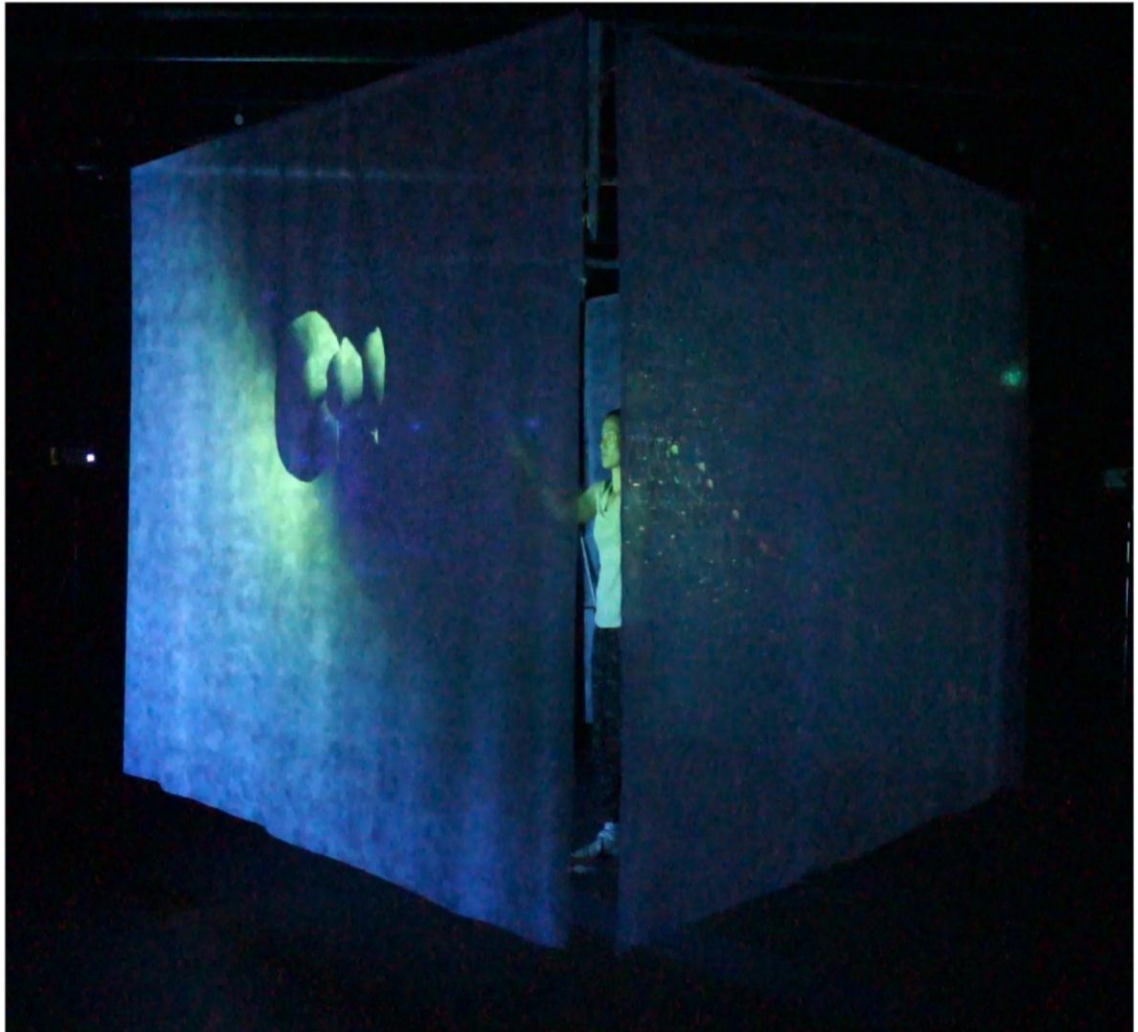


Fig. 36. *Performative sketching translating the artist's body from analog to digital.*

The *Translator* installed in the darkened performance space at AUT WG building level 2, for examination. Through a shifting practice and reflective process the translation from analog toward digital is realised during performative sketching.



Fig. 37. *The installation* - comprises of four screens made from thin frost fabric. Each screen is hung from taut wire drawn between steel scaffolding poles. The poles criss cross at the centre and construct a square enclosed space. The Kinect is housed in one corner high up above the screens and pointing toward the centre of the enclosed space where the artist stands during performative sketching. Video still.

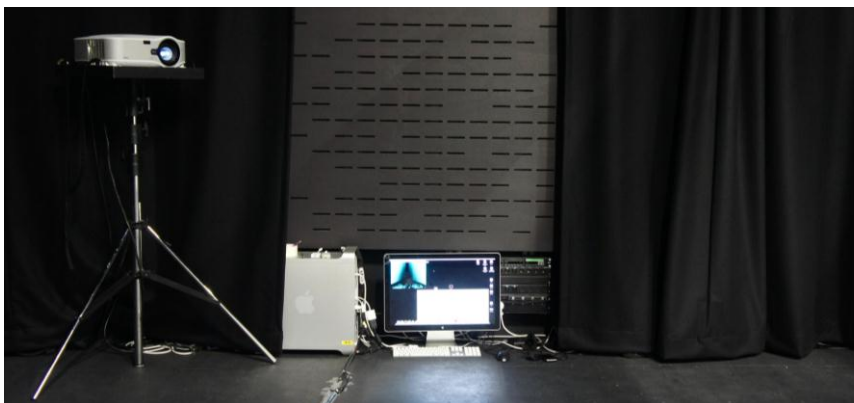


Fig. 38. *Set up*. A Mac Pro running MaxMSP, Synapse and four projectors which stand outside the enclosed space, one at each corner of the room, each projecting onto a screen. Video still.

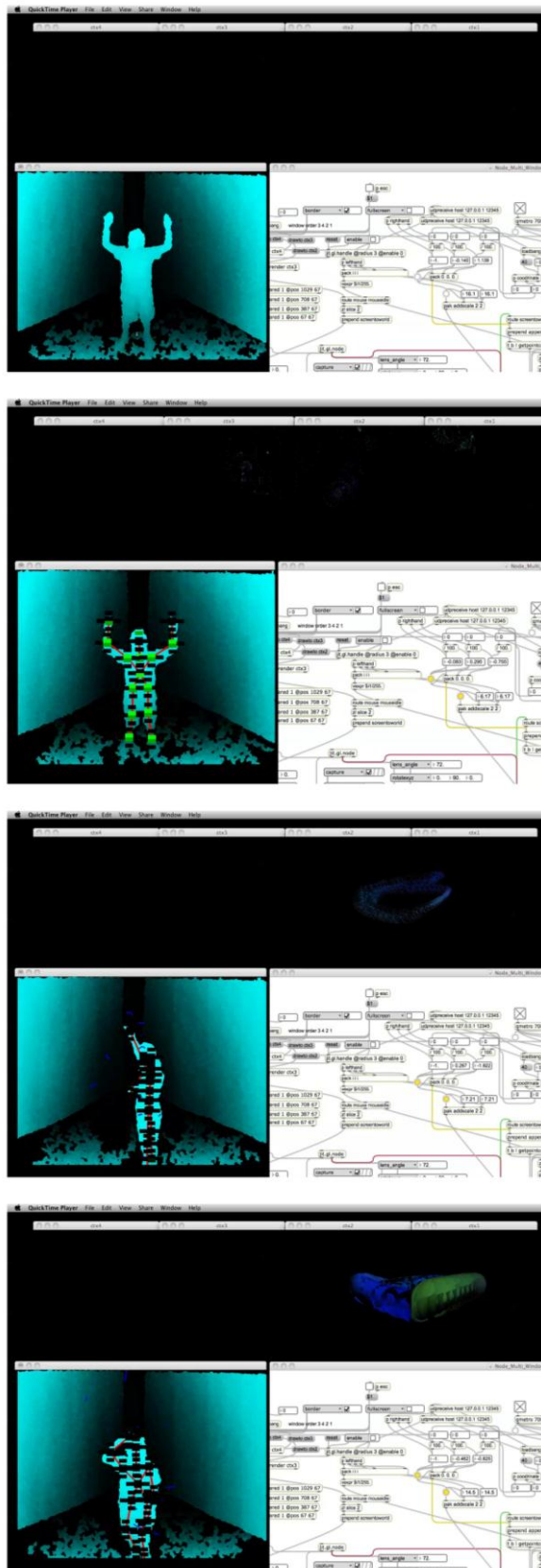
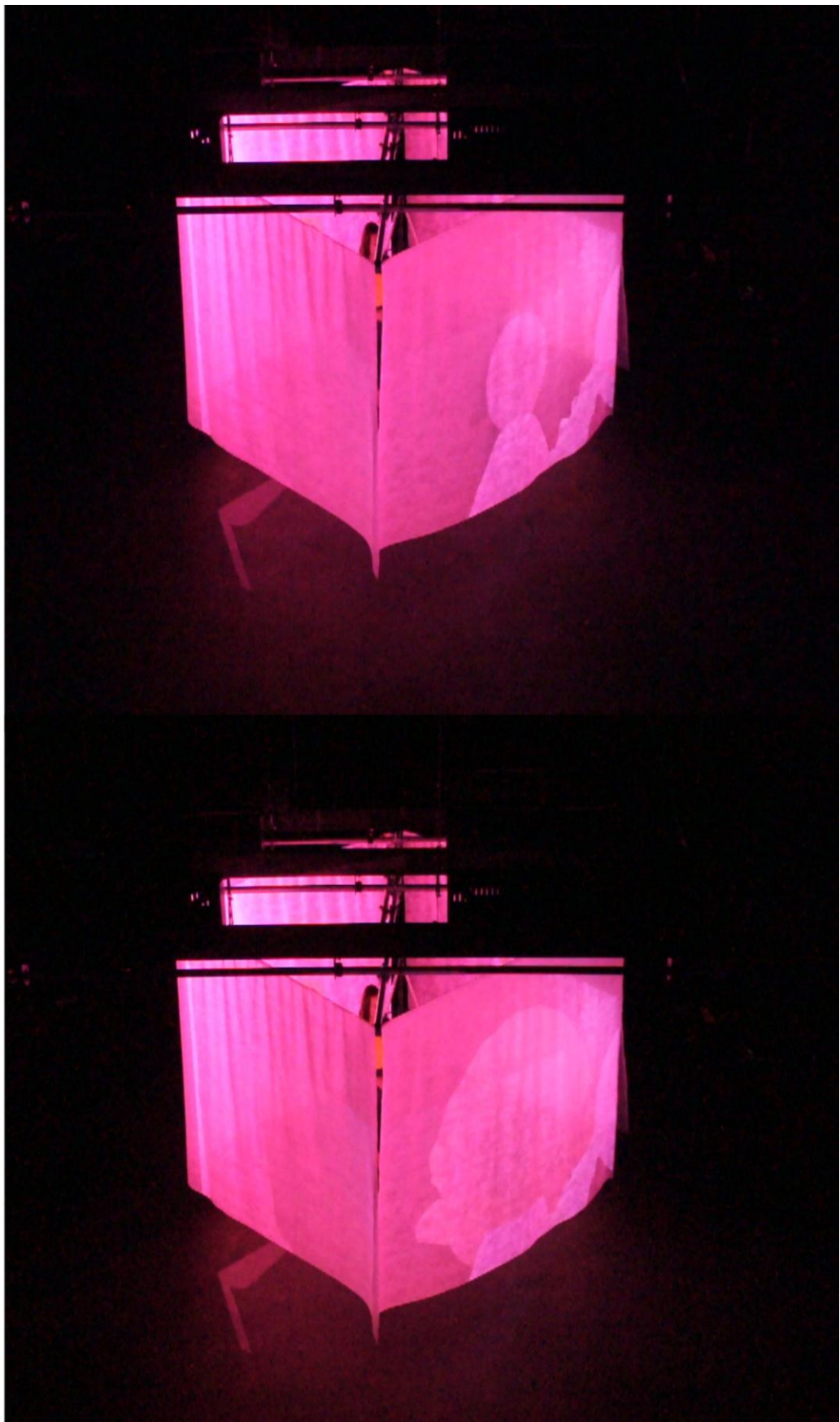
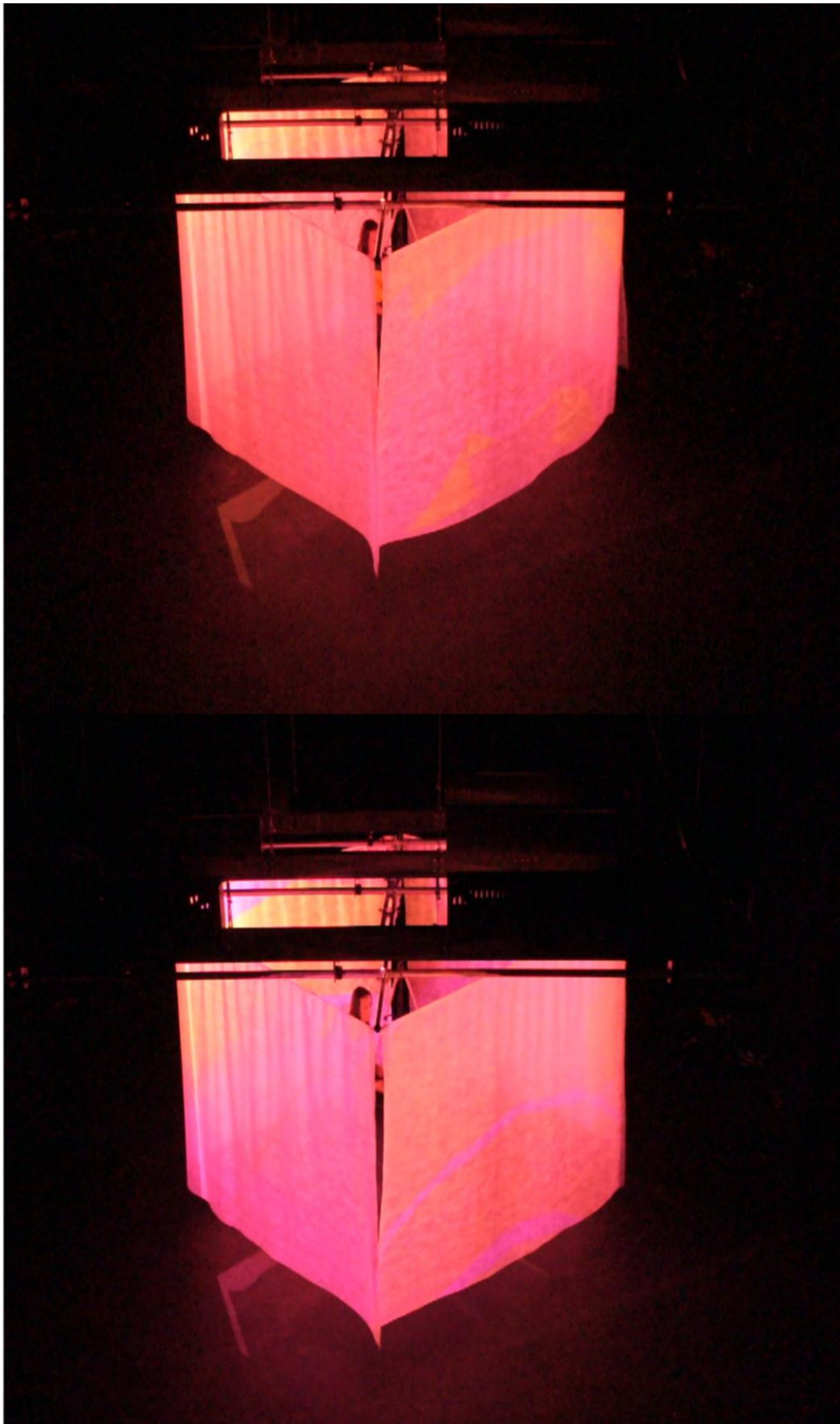


Fig. 39. *Screen shots* show the Synapse skeleton, MaxMSP patch and the digital path spread across four windows that are situated against four screens.





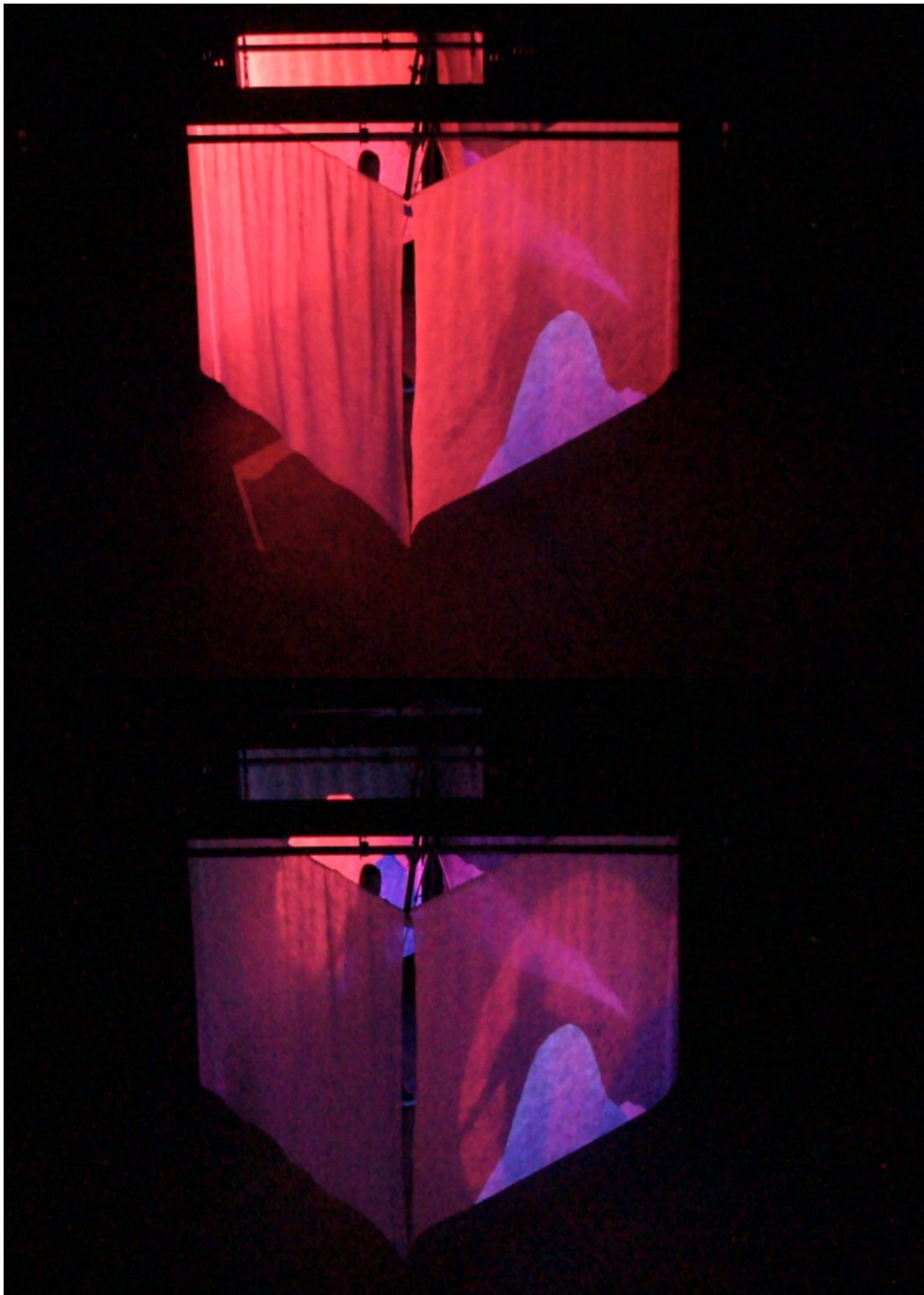


Fig. 40. (This page and previous pages) *External high view of the Translator*. The artist stands in the centre of the space, mostly hidden from view by the four screens with only a glimpse of the body through the openings between the screens. The silhouette of the body strikes against the curtain as the digital path lights up the screens. External view, video still.

Refer: *Sketching DVD, External view*.



Fig. 41. *Slow controlled manipulation of the body and digital path.*

The path follows the movement of the artist in reverse. The artist responds to the system by modifying the speed and form of the bodies movement. The Translator responds the gestures and generates a digital path in relation to the artist's movement. Internal view, video still

Refer: *Sketching DVD, Internal view.*

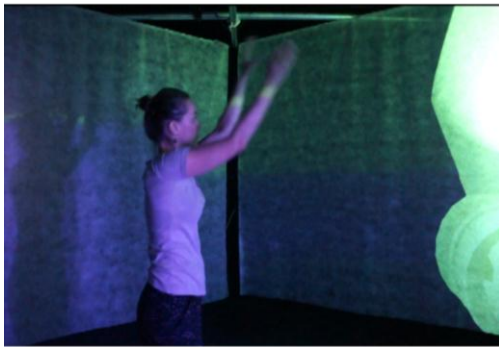
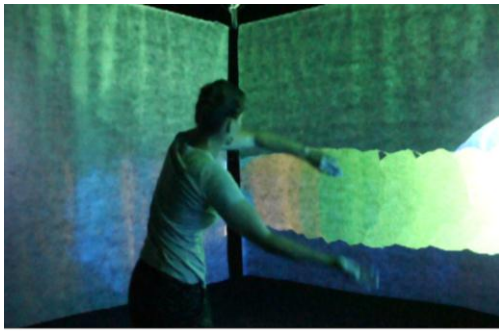


Fig. 42. *Dynamic, rapid manipulation of the body and digital path.*

This solid 2D path responds to movement but also has its own behaviour such as lag and glitches in the system which require the artist, informed by the digital path, to respond to the system. Internal view, video still.

Triggers

Triggers are pre-programmed into the MaxMSP patch allowing the artist to modify the digital path, live during performative sketching. Using the Synapse skeleton to detect the palm joints' distance from the torso and head joint, triggers are activated by hitting specific regions in the space surrounding the artist's body using gestures of the hands and feet.

Scale of the path- move the right hand toward (increase) and away (decrease) from the torso joint.

Colour - is combined with scale. Cold colours ranging through shades of blue and green activate in front of the body. Warm colours pink through orange activate by placing the right hand behind the body.

Path style

Alternate between two types of path, tube-like and jagged using the feet. A wide sideways step triggers each path styles at the widest point of the step.

Customise the path style

By raising the left hand above the head joint the path is customised in either path style. The solid path styles are deconstructed and takes on the appearance of points of light. Repeat the same gesture to the previous path style.

Lighting

Lighting effects added or removed from the digital path creates the illusion of depth. Currently this is adjusted via the MaxMSP patch and will be added as a gesture based trigger in the future.



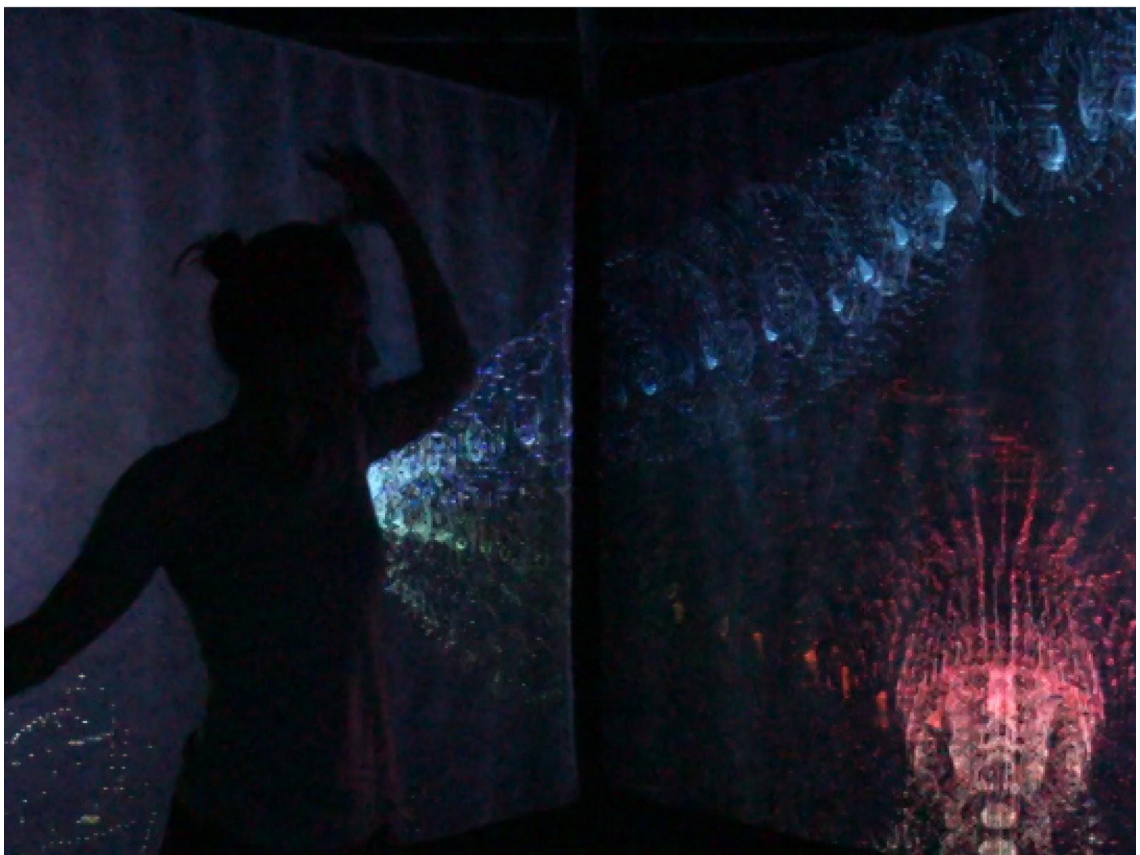
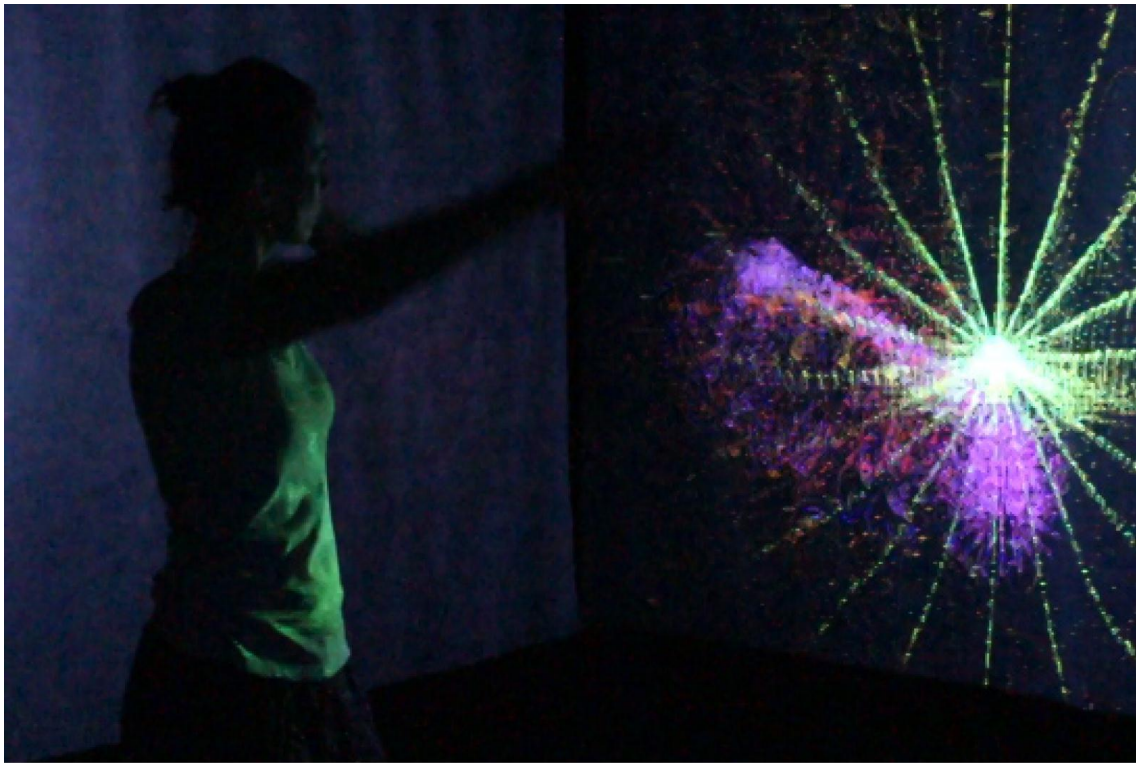


Fig. 43. *Digital path manipulated using triggers*. Deconstructed path produces many points of light. By raising the left arm above the head the artist can move between the solid 2D (previous page) and deconstructed path (above). Internal view, video still.

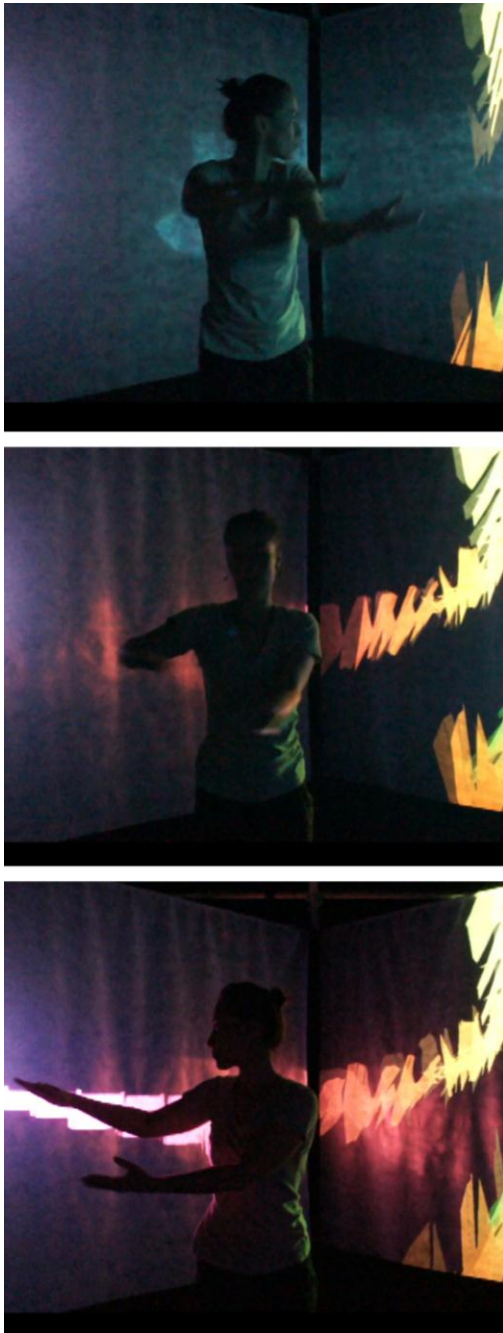


Fig. 44. *2D Jagged path style* is activated with a wide side step.
Here the path follows the artist from screen to screen. Internal view, video still.

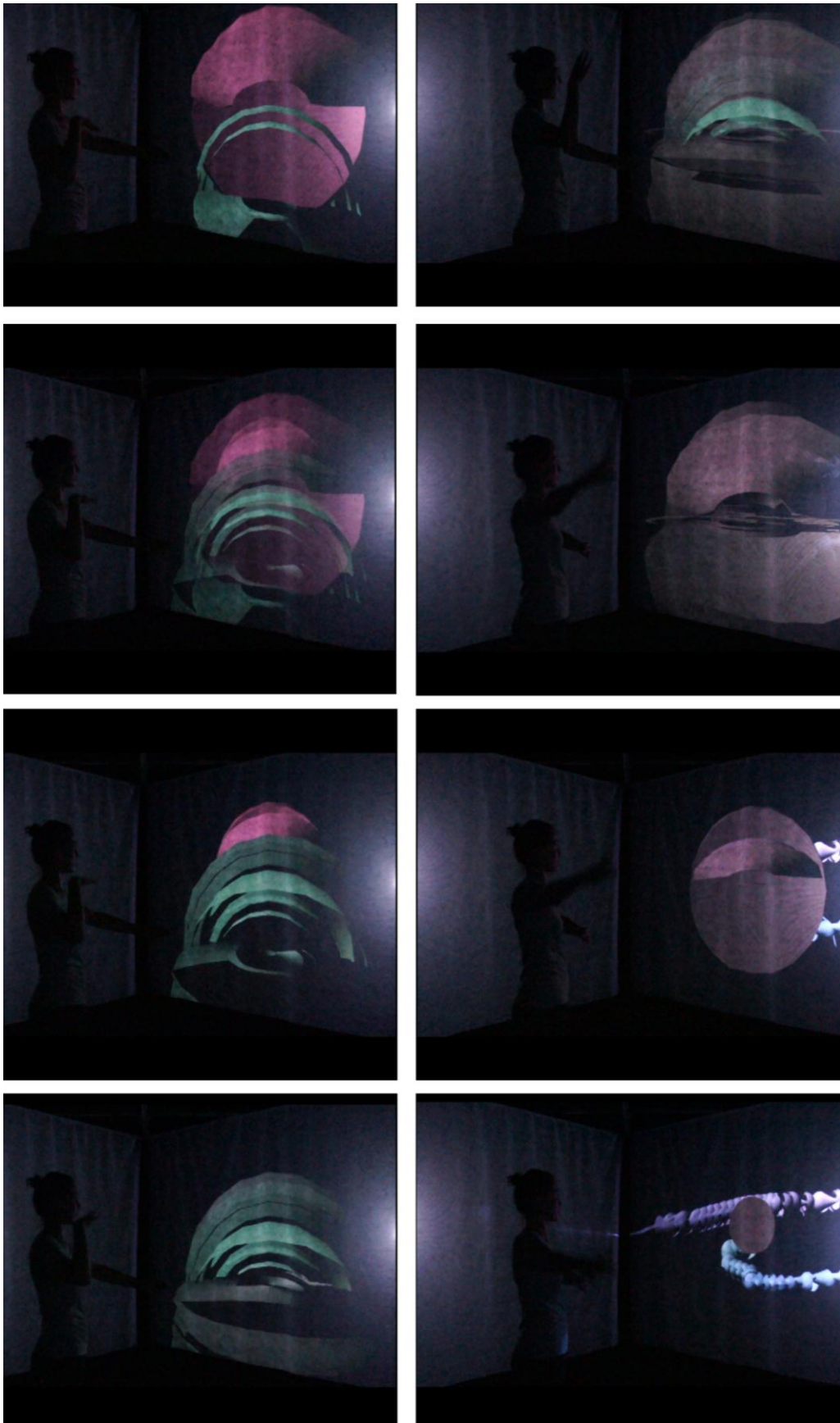


Fig. 45. *3D tube path style*. Internal view, video still.

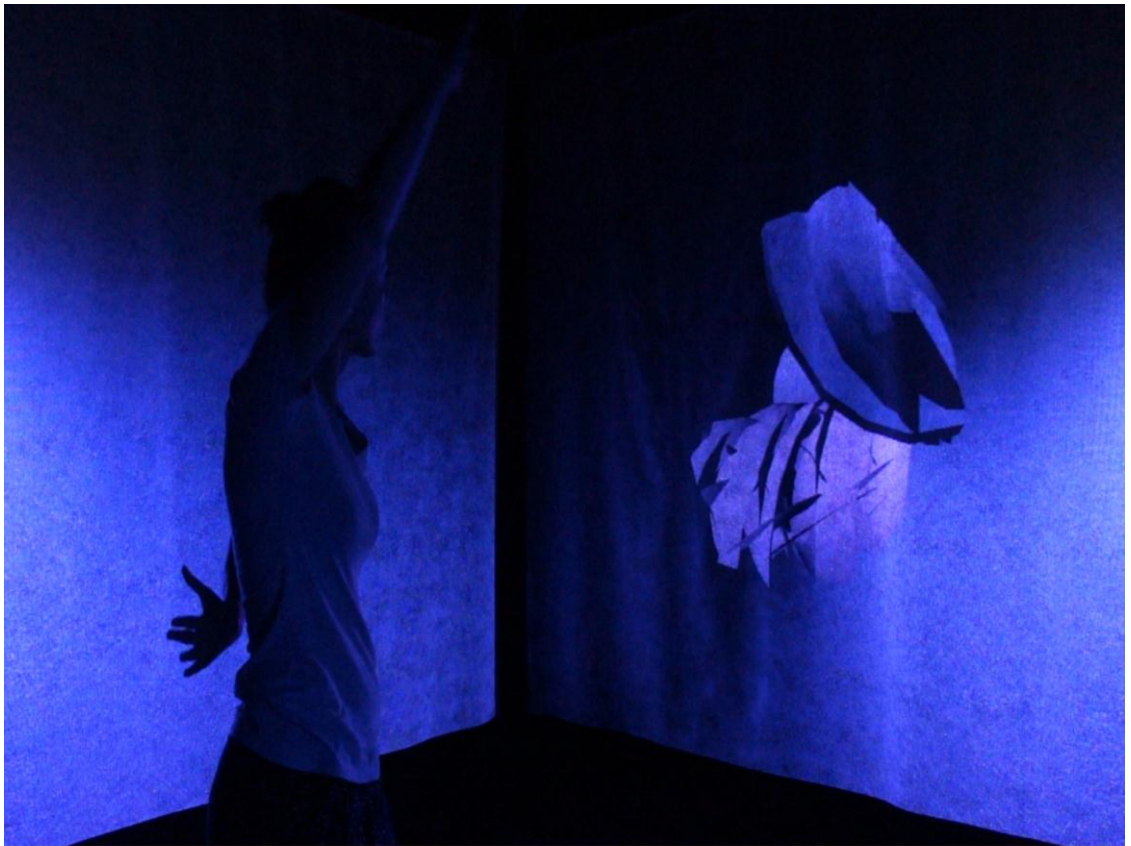
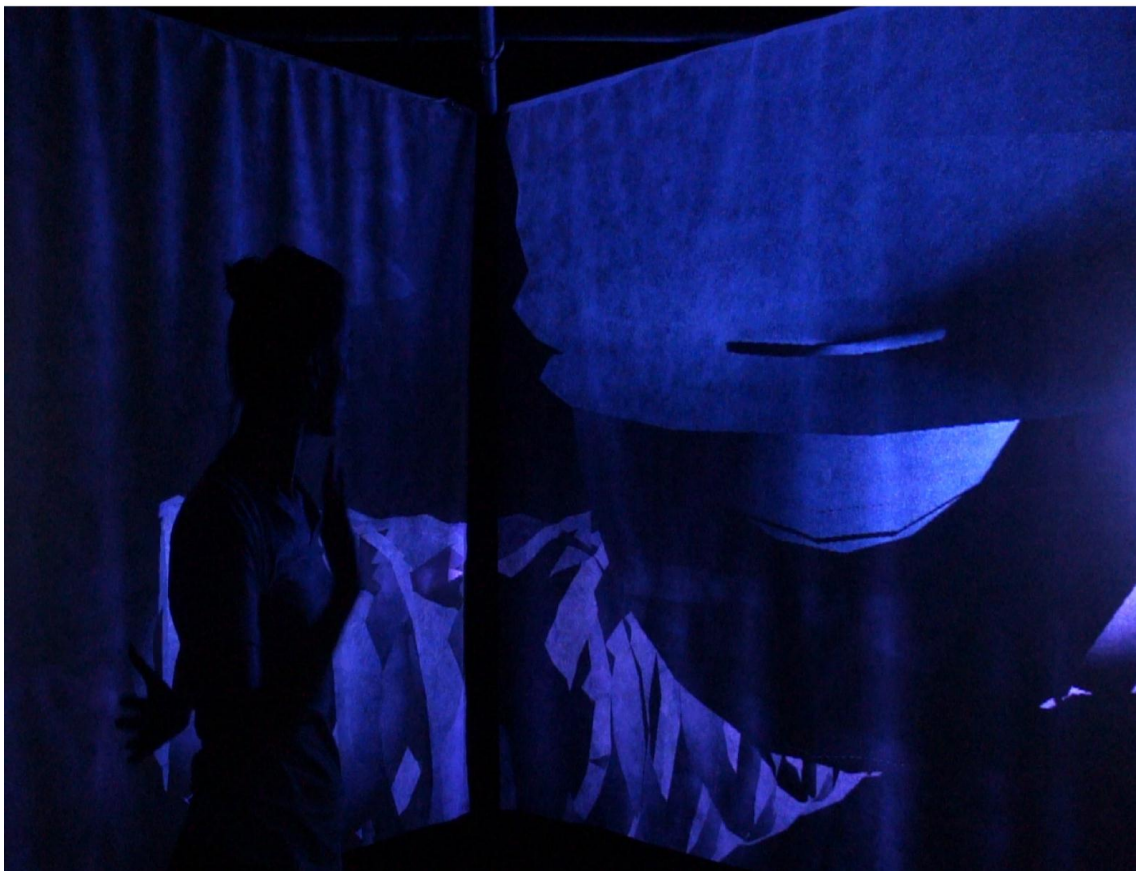
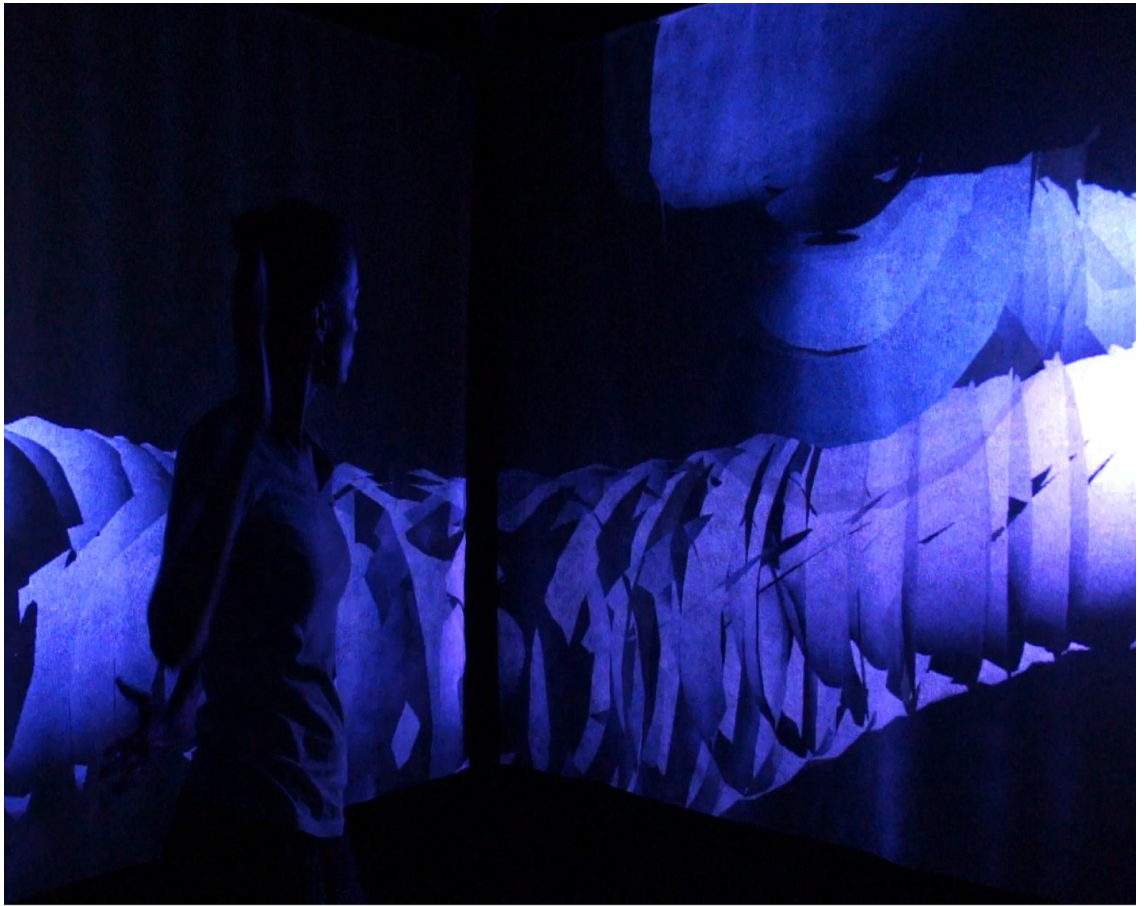
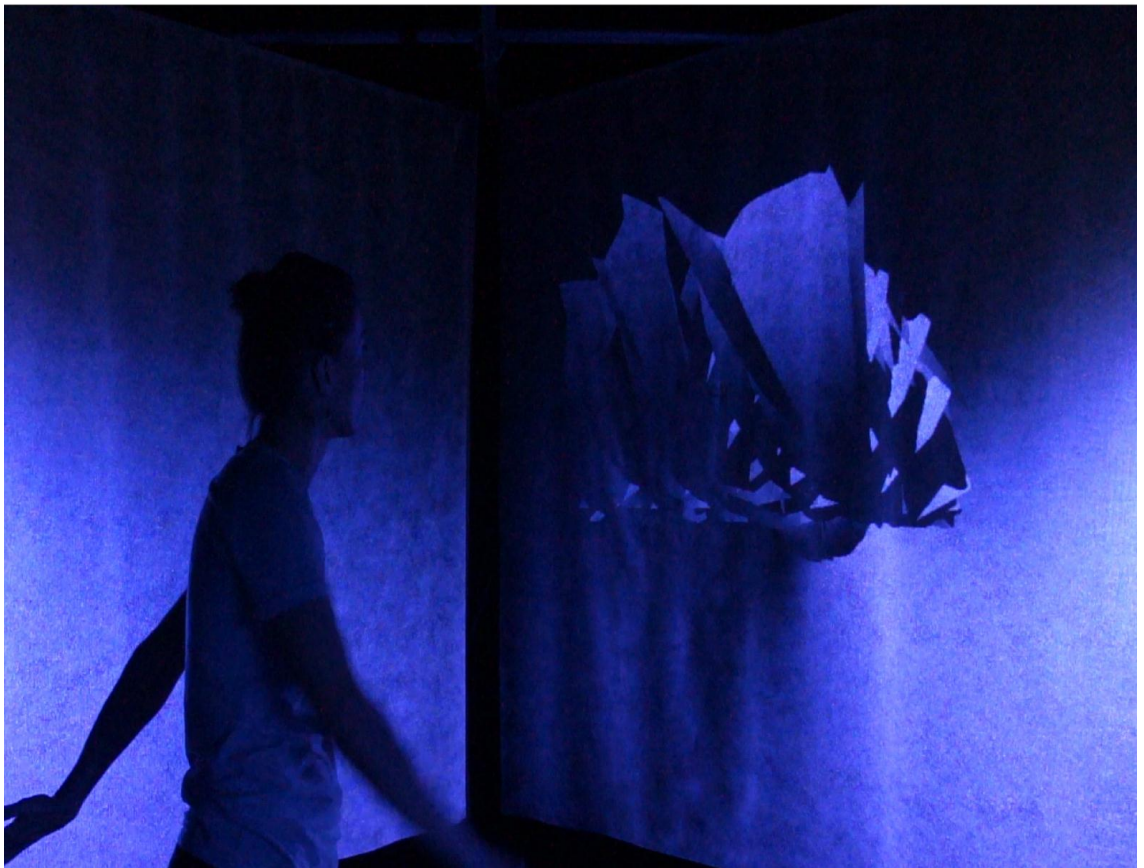
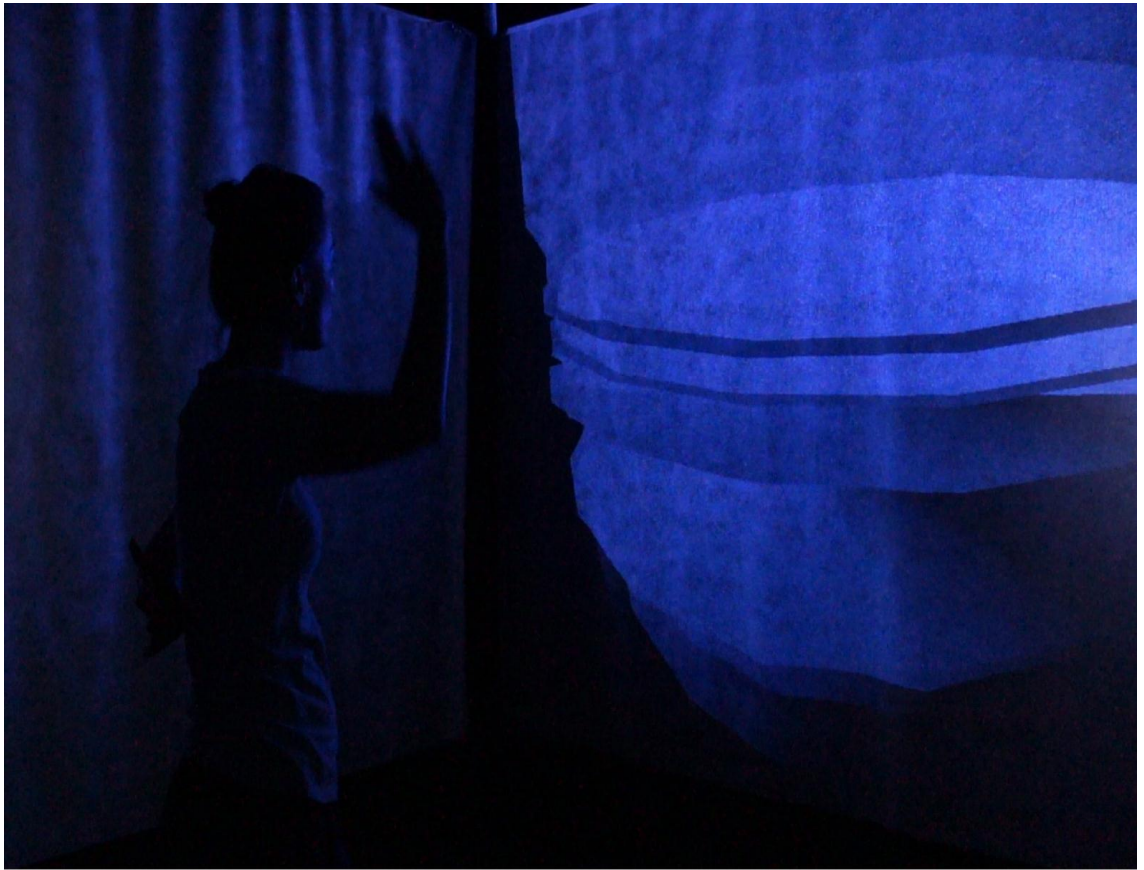


Fig. 46. *3D tube path style*. (This page and following pages) Internal view, video still.







The Symbiotic Relationship

The view from inside the artist's body, at the torso joint, is captured using four cameras in MaxMSP. Each camera view is projected onto one of four screens that enclose the artist's body. The projected digital path is the experience of sketching, drawn from inside the artist's body and externalised onto the screens. The screens form a membrane around the artist extending the body.

The artist responds as part of the system of the *Translator* and also to her own experience during performative sketching. Analog and digital confront each other in a symbiotic relationship generating a loop in the system of the Translator - a reflective practice during the process of becoming digital.

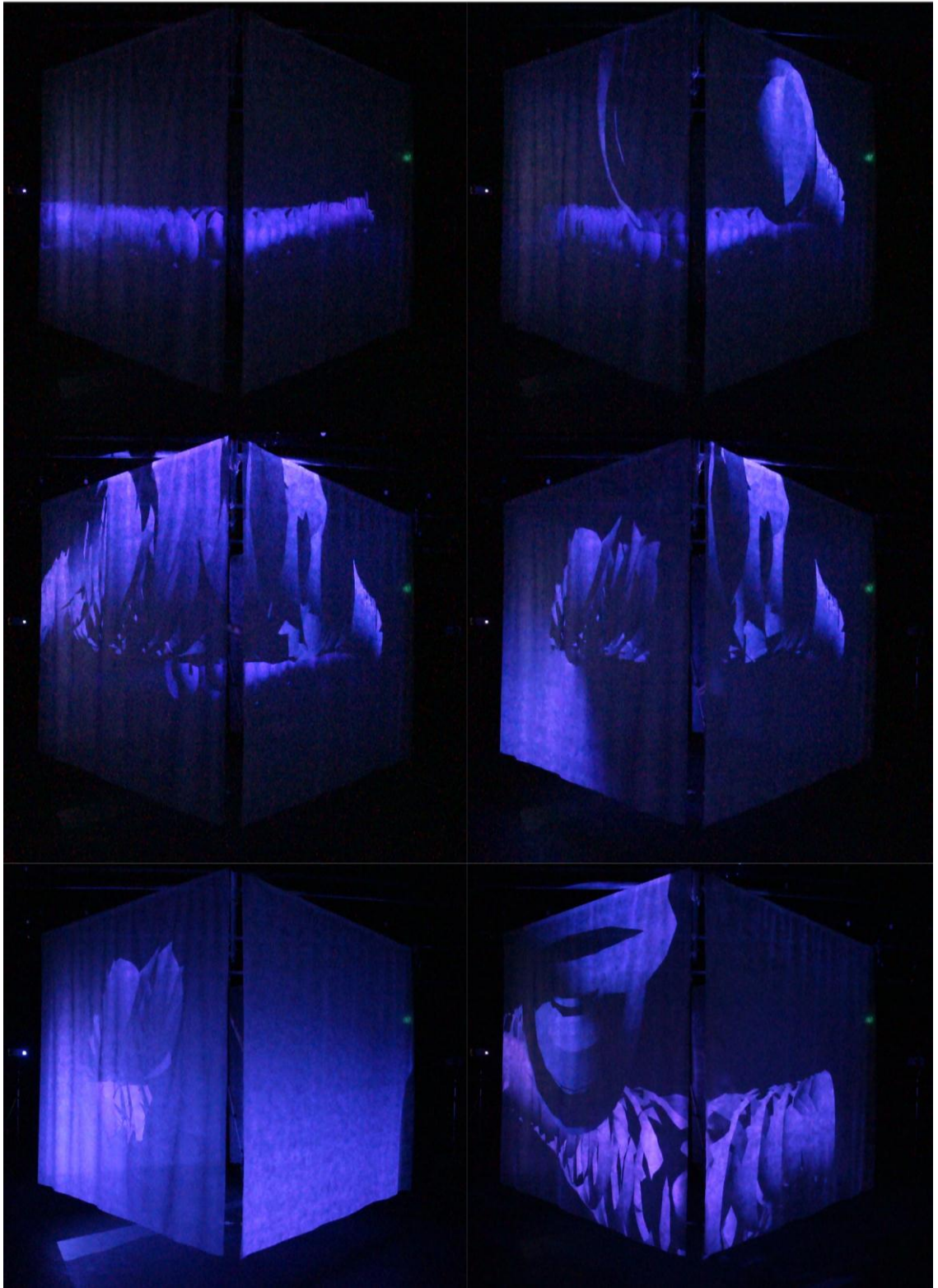


Fig. 47. *3D tube path style*. External view, video still.



Fig. 48. *Sketch in process.*

3D path style, tube. Internal view, video still.

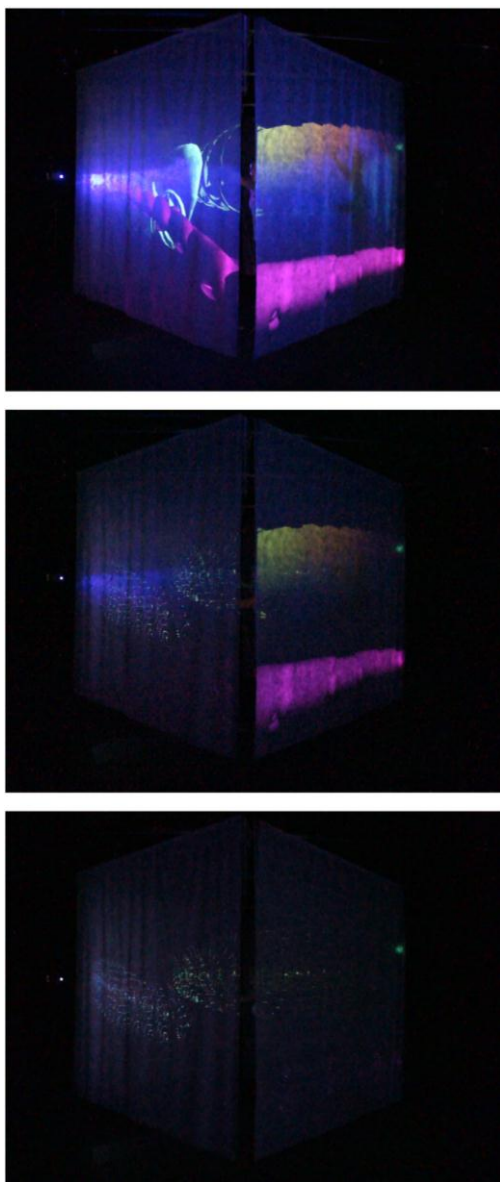


Fig. 49. *Sketch in process.*

3D path style, tube. External view, video still.

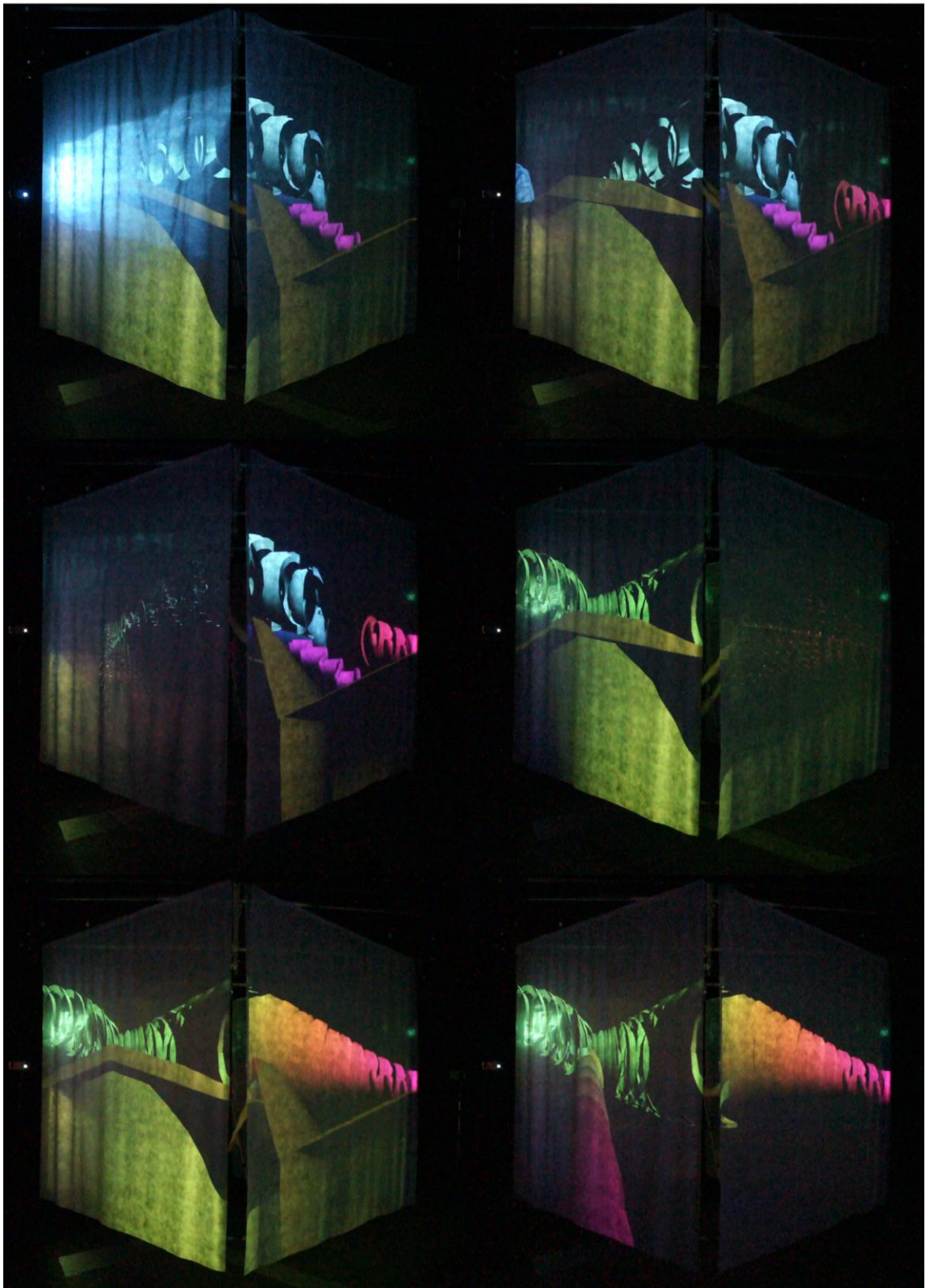


Fig. 50. *Sketch in process*. 3D path style, tube. External view, video still.



Fig. 51. *Sketch in process*. External view, video still.

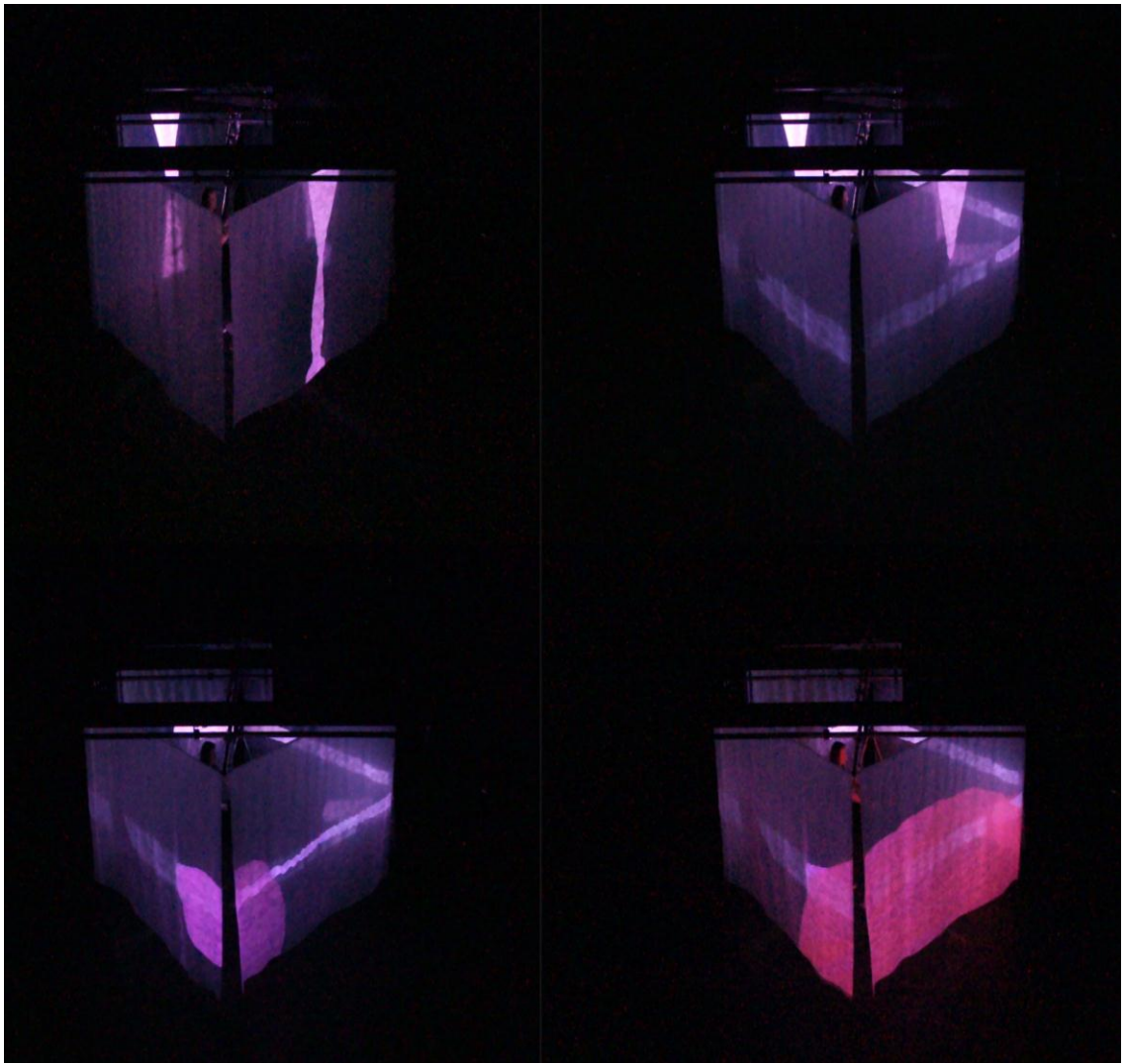


Fig. 52. *Sketch in process*. External view, video still.

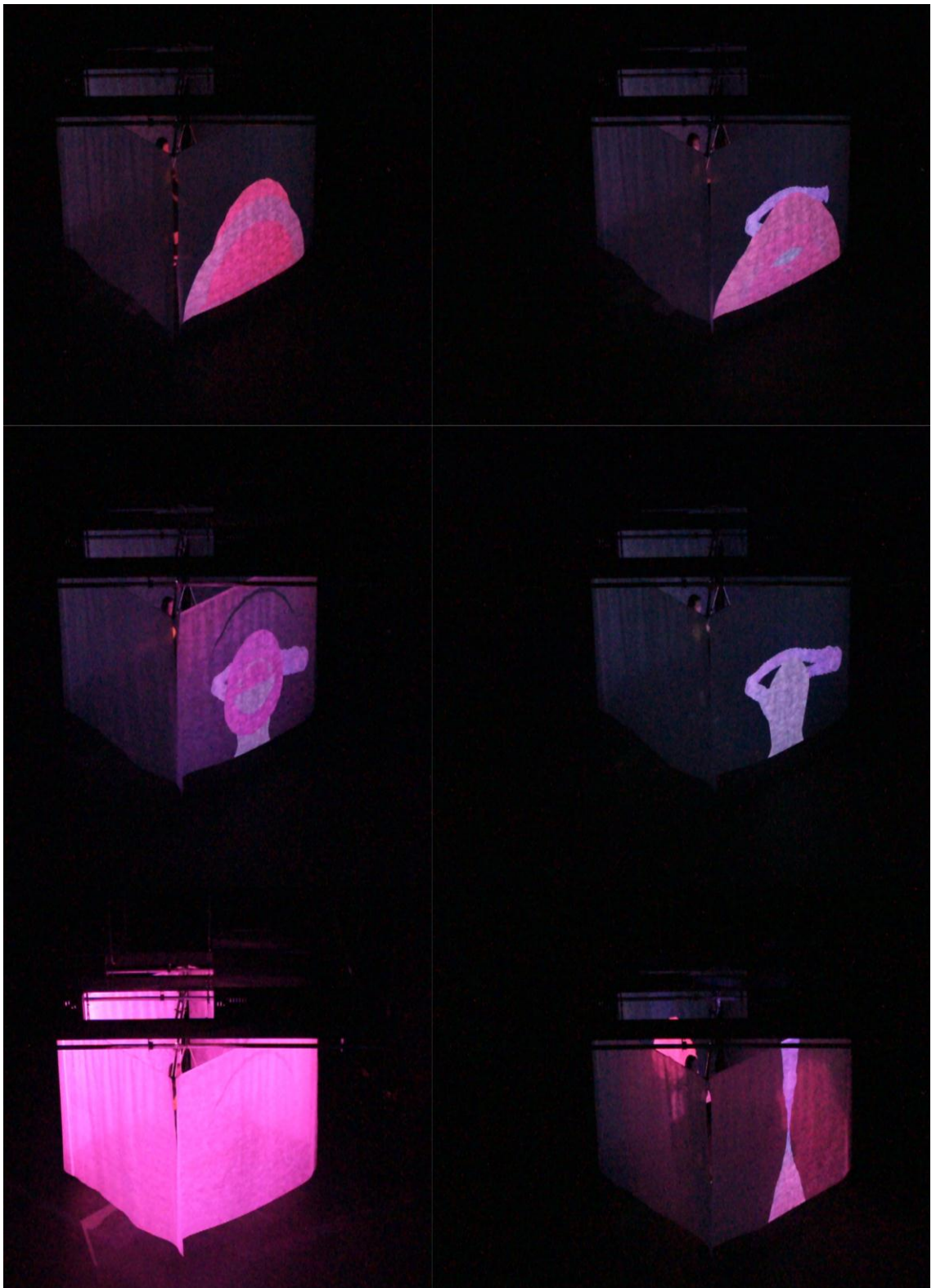


Fig. 53. *Sketch in process*. External view, video still.



Fig. 54. *The Translator in use by an-other*. External view, video still.

An-other

When an-other uses the *Translator* they become a user of the system. This user enters the membrane of the screens, takes up the Synapse skeleton and wears the triggers customised to the artist's body. The user steps inside the artist's digital body and becomes one with the artist. Through performative sketching the user begins the transformation from analog to digital constituting the unstable but believable digital identity and extending their body to include the membrane of the screens. The users experience of sketching is projected out before them and they both generate and respond from within the system of the *Translator*.

From outside the membrane the screens sway in and out gently with the motion of the user. They are caught in a loop within the system, caught between body and digital media, between artist and user, between analog and digital.

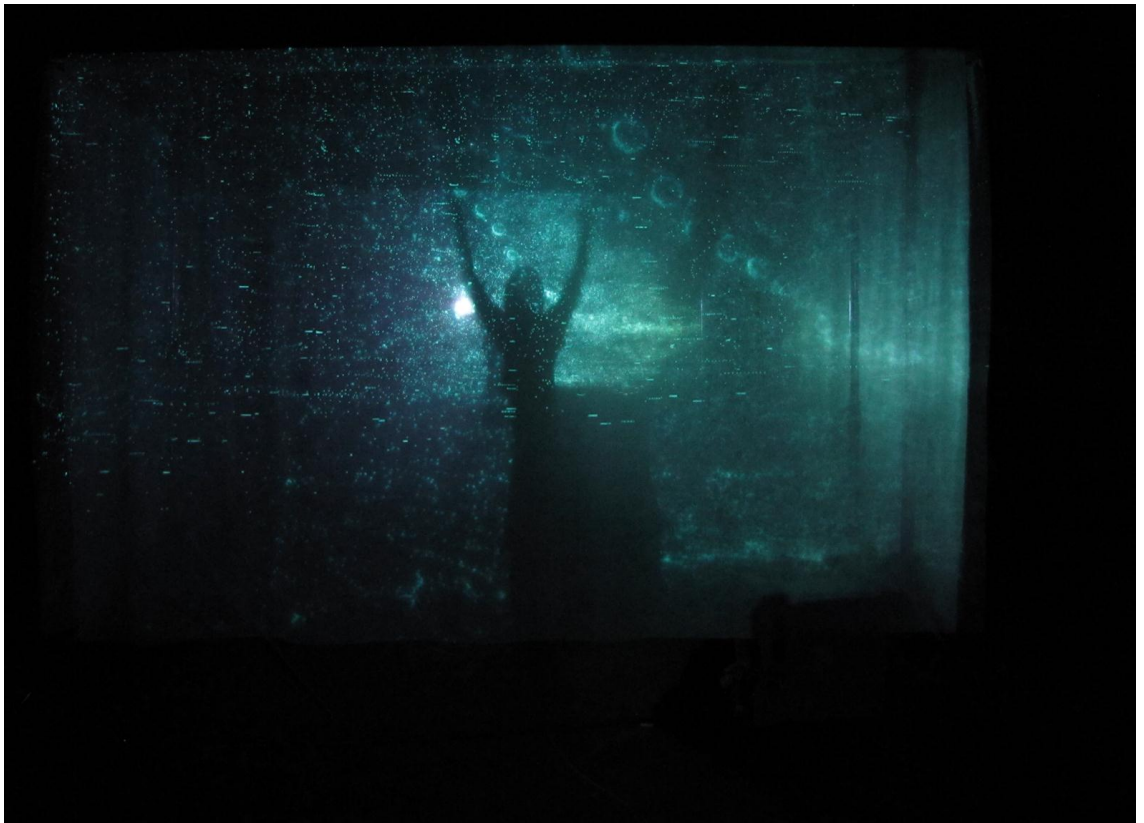


Fig. 55. *An-other using the Translator*. External view, video still.

Conclusion

This practice led research translates the form and identity of the artist's body between analog and digital to explore the relationship between that body and digital media. This process combines existing works from feminist discourse and absorbs them into the creative process by mimesis - sketching, collage and Detournement. What emerged from this research was a shift in the artist's perspective at the level of experience; this change took place within the artist's body and is enabled using the structure of sketching.

The translation process also raised questions about the correspondence between the torso joint of the Synapse Skeleton, the artist's dream/stomach ache in the immersion into MaxMSP, and the human solar plexus/Manipura Chakra that will be further investigated in future instances of translation. For example, how does the Eastern understanding of a clear Manipura Chakra, a clear picture of who they are, relate to the constitution of a digital identity through gender identity? How do the modalities analog and digital relate to gender as male/female?

The process of emerging poses questions about becoming and being. If it is possible to conceptually translate form and identity between analog and digital, is it possible to translate essence? If becoming is an ongoing process when does it – process itself, come into being? What happens at the point of being? Can an analog body, in a state of becoming, pass through translation into being? If it passes into being, what supports initial existence, what is there to become?

“The body is not a self-identical or merely factic materiality; it is a materiality that bears meaning, ...the body is not merely matter but a continual and incessant materializing of possibilities. One is not simply a body, but in some very key sense, one does one's body.” (Butler, 1988. pp. 521)

Can a process of reflective performative sketching, involving feedback in the system inform any of these questions?

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Appendix

The following documents the prototype fog screen, which contributed to the idea of a self-reflexive system.



Fig. 56. *Fog screen*, design. Photograph.



Fig. 57. *Fog screen prototype*. Video stills.

This prototype was developed to test the potential of a fog screen. A thin layer of fog becomes a screen by pumping fog between two layers of low pressure air which creates a cage for the fog. The fog is then projected onto. By documenting the process of building the fog screen, using the *Translator* during Performative Sketching, the system started to reference itself.

The digital lines generated during the making of the fog screen were projected onto the fog screen itself. The *Translator* captured and projected its own making.

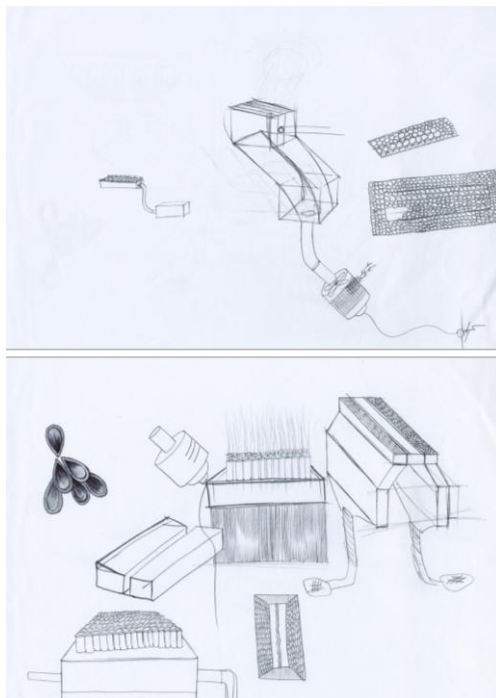
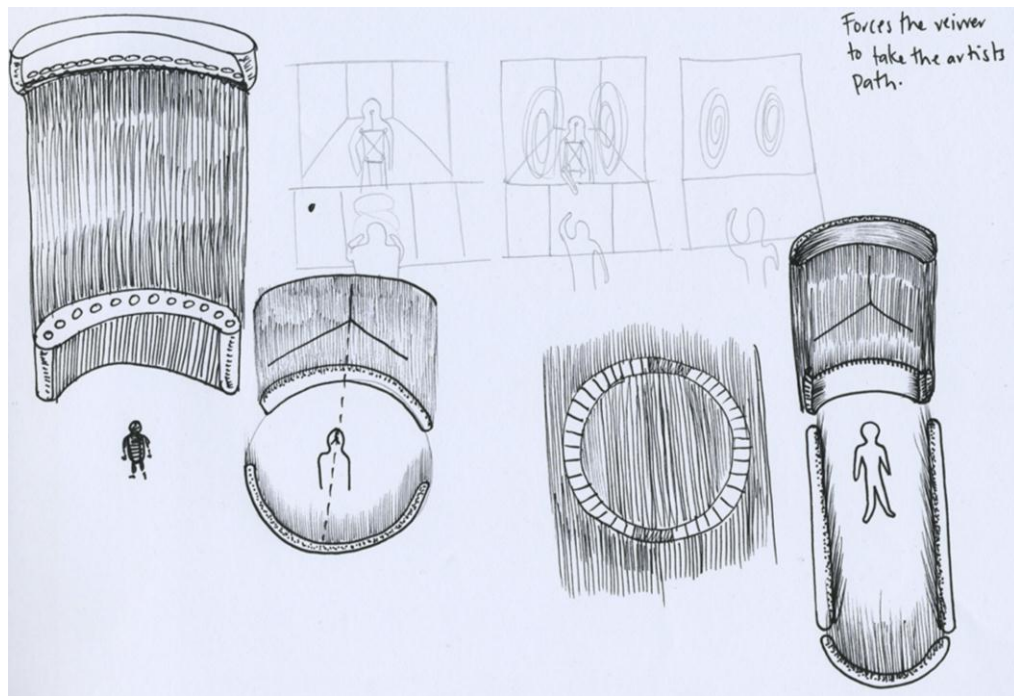


Fig. 58. *Fog screen sketches*. Pen on paper.