



UNIVERSITY OF GOTHENBURG

SUBJECT TO EMBODIMENT

Rethinking Embodiment, Presence and the Body

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Abstract

With an objective to expand knowledge of physicality as an artistic tool, this paper explores the terms of phenomenological embodiment from the different perspective that is commonly applied in art theory. By presenting current researches from the field of new media development, the concept of embodiment is broadened from theory and practice of minimal art. The sense of *presence* and the *body* in relation to human experience is also investigated for a better understanding in how we perceive and interact with the world. By conducting a research-in-practice, the outcome of the finding is also implemented into an interactive installation which focuses on an embodied experience.

Keywords

embodiment, installation art, interactive installation, phenomenology, physical body, physical interaction, presence, probability, randomness

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Preface

To signify the main focus of my finding, this text was written in a form of a chronicle development of ideas started in year 2007 as a research-in-practice. Without an actual point of arrival or departure between each chapter, this written work is an attempt to demonstrate a condition of *being-in-the-world* and in the same time to promote the sense of *presence*. However, if you prefer to read it in an academic writing order, feel free to look at endnotes for an explanation of the writing structure.

There are many interesting articles on embodiment from the field of cognitive science, social anthropology and feminist theory that I wish to include unless a possibility to conduct an extensive research. Hence, the area of my research is focus on the term of embodiment applied in new media studies. The view projects on this paper is grounding in the world I inhabit where there is nothing to experience without 'I' as a subject. In contrast to other personal pronouns (e.g., *you*, *we*, *they* and *it*), a definition of 'I' contains universal property that is hardly changed according to used context or culture. When 'I' was mentioned, we are unlikely to be dubious of what it is referring to. On that account, the reflection of 'I' in this article is taken from the view of an individual regardless of cultural or situated background. Certainly, we always put ourselves in prior to the others, it is one's self who is the centre, especially when we are orientating ourselves in the world. On that account, there is nothing else but 'I' who is in the centre between left and right, front and back or past and future.

Still, my approach on the subject of experience is different from those in subjectivism. Instead of focusing on one's self as the only source of all experiential activities, I believe that it is crucial to look at *experience* in a holistic manner in order to recognise it as a process that bridge individuals and the world. This is because most of the time when we address something to be on the left or right; in the front or back; from the past or future, it is not a declaration of our position in the middle but an act to determine our relationship to the world that we are willing to interact with.

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My great gratitude also goes to people who helped me in different ways along with the process, including Lina Persson, Marcus Löfqvist, Enrique Perez, Mari Lagerquist, Johanna Ahlby, Vadim Dubrov, Pernille Møller Pultz, Sophy Naess and Sofie Nohrstedt. I also would like to thank in particular, Sara Hallström whose conversation and company benefited me to a great extent.

And everything would be impossible without my parents and my sister; I am indebted to their patience and kindness.

– for both, the absences and the remains –

Nedine Kachornnamsong, 2009

ONE

“Can’t we just put it in right away?” asked Pernille.

“No matter what, you still need to process those images or else it will take ages to load” I said, “and people will die in boredom waiting for your images to appear.”

“OK, but then I want these images place next to each other,” said Pernille “it (the piece) supposes to be viewed that way.”

“But then, the layout of this page will change,” I continued. “Things that make sense here (in physical world) don’t always make sense there (on cyberspace).” I looked at her, waiting for an approval.

“Why is it this hard?” she said, “I thought it was supposed to be easy to make a website.”

“This hurts my brain.”

“D’you know,” I said “your brain is better than you think.”

Korsør, Denmark 2008

Concerning Technology

I asked for another story, one that I might find more satisfying.
(Martel, 2001)

The human is an animal of tools; therefore, being human is to become at use with tools. We develop technology which is a fundamental aid for the production of tools to sustain, help and support us. Regardless of changes in tools and technologies, we as humans, always adapt to the circumstance. Yet, the new technology, such as computers and information technologies seems to be more invisible. An implementation of these technologies has become transparent but highly influential in our lives. Thus, I believe that rather than being opposed to the influence of technology, it is important to look into the technology we have created and acknowledge the relationship we have with it; particularly at this moment in time when we are in doubt about our mastery of technology.

In this chapter, I will explore the relationship between humans, tools and technology. By following Martin Heidegger's concept of technology I will further discuss the general meaning of technology as a subject of reflection. This concept of technology will be applied as a looking glass in order to investigate the relation between humans and (computer) technology in the next chapter.

BEGINNING WITH TOOLS

By creating apparatuses, humankind has become superior whilst nature gives in to the effectiveness of tools. A detour to avoid billions of years of mutation appears to be a tiny twist on Darwin's Theory of Evolution where the success of "natural selection" is obtained through the inventions. By equipping humans with an ability to "bend" nature, an instrumental empowerment is a key for our survival. To create tools is to survive and to place humans into a particular relationship with the tools. When Marshall McLuhan introduced the idea that "media is an extension of the body" (McLuhan, 2001), he expanded our awareness of an instrumental aspect within tools. We cannot ignore that all of our formation is (probably) an extension of our body, as well as, within this concept, it means putting all of our creation into a classification of tools.

The primary concept of the tool is to equip; in other words, to ease some certain tasks in order to accomplish particular goals. This instrumental aspect of tools implies the

relation between humans and tools as the masters and the servants. Yet, the relationship we build upon the use of tool is somehow exceptional. Confidence, attachment and closeness are some of the common sentiments we have regard to tools. It does not require a critical situation to establish such a connection with the tools we use – the fondness we have with our favourite pair of shoes might be as strong as the feeling professional photographers have toward their cameras.

CONCEPTUALISING TECHNOLOGY

To be able to fully understand our relation to tools, we shall look further into the terms of technology. Within our common knowledge, the coexistence of tools and technology is a close circle where tools construct technology; at the same time that technology reshapes the development of tools. While the instrumental aspect of tools is solid and concrete, the concept of technology is somehow abstract and non-figurative. Tools and technology are the united partners which are a great contribution to the development of human civilisation. Technology is perhaps the most discussed as a major influence on the change of our life within the last century. A number of theoretical works in the mid-nineties proclaimed the end of postmodernism and the beginning of a new era of technology where digital and biotechnology lead us to a disembodiment – the becoming of posthumanism (Hess & Zimmermann, 1999). For technomaniacs, the Posthuman utopia will be aided by mechanical slaves and eternal life will be resurrected in the digital paradise. Still, there are often incidents that portray an imperfect relationship between human and technology (Denillo, 2005). In everyday practice, the negative effect or the misused technology bears the image of the human who has become a tool of technology (Hoffman & Weiss, 2006).

When asking the *Question Concerning Technology (1977)*, a German Philosopher, Martin Heidegger renounced the concept of technology in an anthropological and instrumental aspect as a “means to an end”. He claimed that the change in the conception of modern technology calls for us to broaden our view of technology, to find an “essence” of technology, to identify not only what technology is but also what it can be. Even so, there are some facets on common terms of technology he shared with us:

Who would ever deny that it is correct? It is in obvious conformity with what we are envisioning when we talk about technology. The instrumental definition of technology is indeed so uncannily correct

that it even holds for modern technology, of which, in other respects, we maintain with some justification that it is, in contrast to the older handwork technology, something completely different and therefore new. (Heidegger, 1954: 5)

Perhaps it is the difference that is disturbing; or the newness: an image of *techno-dystopia* often projected in media and literatures strongly confirms our pessimistic attitude toward technology. Scientists playing God in Mary Shelley's *Frankenstein* (1818); robot-dictators in *Metropolis* (1926); human parasite machines in *The Matrix* (1999): these roles of technology have been re-classified to a possible source for machine domination that seeks to obliterate humankind.

Nothing seems more obvious than the human urge to master technology. This became an immense interest within both areas of academia and popular media discourses in order to demystify our future digital society. We are daunted by the invisibility and persuasiveness of the technology. In response, it is the technology which is bidding to "retransparentise the human" (Goulsh, 2000). We must ask ourselves not only how to control technology but also how to live with technology. Hence, we shall reach further than the instrumental notion of technology similar to what Heidegger noted:

[...] the instrumental conception of technology conditions every attempt to bring man into the right relation to technology. Everything depends on our manipulating technology in the proper manner as a means. We will, as we say, "get" technology "spiritually in hand." We will master it. The will to mastery becomes all the more urgent the more technology threatens to slip from human control. (Heidegger, 1954 : 5)

Discarding the instrumental meaning of technology, Heidegger used etymology to pursue an *essence* of technology – what the technology could be – which is "by no means anything technological" (ibid). Later, he arrived with an argument that technology is a "mode of revealing"; it is the "bringing-forth of the concealment into unconcealment" (ibid). However, modern technology is different from the former ones. He discussed further that modern technology has an ability to "challenge" nature and to put it into a position of 'standing-reserve". To a certain extent, Modern technology will shape our view of nature merely as a resource of something in the stance of 'standing-

reserve". Accordingly, Heidegger claimed modern technology is an "enframing" – a structure to imprison humanity from the world (ibid).

To conceptualise technology as the *enframing*, we may count on it to dominate our relationship with the world. Since the world "gives" itself to us, it is crucial not to be careless and *enframe* ourselves on a self-destructive course. Therefore, we shall take Heidegger's idea of "revealing" further, and claim that technology is not only unconcealed nature of the world but also nature of humans. For that reason, we ought to broaden our perspective of technology beyond being an apparatus to get things done.

MOVING TO THE NEXT STEP

Technology is a prominent source of understanding – the way we use, create and maintain tools is an indication of the way we construct our environment. In other words, technology is a projection of the way we see the world as well as an appreciation of ourselves in the world. In a number of arguments, technology has been portrayed as the antagonist who reshapes the structure of both culture and society. These are mostly seen as pristine acts, alterations of human's behaviour or prompt transformations, especially, in the age of computer technology. Still, the question is not about changes computer technology brought nor opportunities this technology offered, but about an *excludability* the technology has.

Modern technology gave Heidegger an awareness to reconsider technology's relation to humanity. Today, decades later, with the implementation of computer technology, our lives are more closely knitted with technology than ever, as computers have become more sophisticated and powerful universal machines. Still, an application of technology shall not *enframe* us from the possibility we have, as humans, in the world.

TWO

There is only one way to deal with this humiliation: bow your head, let go of the idea that you know anything, and ask politely of this new machine, "How do you wish to be operated?" If you accept your ignorance, if you really admit to yourself that everything you know is now useless, the new machine will be good to you and tell you: here is how to operate me.

Ellen Ullman, 1997

Close to the Machine: Technophilia and Its Discontent

Embodiment in HCI

We inhabit our bodies and they in turn inhabit the world,
with seamless connection back and forth.
(Dourish, 2001)

With the shift from Command Line Interface (CLI) to Graphical User Interface (GUI), the computer becomes suitable for many uses and contexts – from military and scientific operation to business, domestic and everyday use. The implementation of GUI is proven to be successful in technological products such as software, websites, digital handhelds and household appliances.

The *visual metaphor* employed in GUI has currently been investigated in the area of philosophy, cognitive science, perceptual psychology, etc. Within these studies, the nature of a screen-based platform has been questioned in terms of its relationship to the physical setting. Similar to the dualism explained by rationalistic philosophers, GUI refers to us as we are living in a parallel world of physical and cyberspace (Ishii & Ullmer, 1997) where our detachment between mental and physical sphere becomes the “distinction between subject and object” (Zahorik & Jenison, 1998). From this point of view, the transition between mind and physical reality is vital as if our actions are merely the thinking process.

Nonetheless, this form of dualism is opposed by phenomenological approaches because the “consciousness is in the first place not a matter of *I think* but of *I can*” (Merleau-Ponty 1962 : 137) and the perceptual interpretation has never been completely separated from the surrounding context (Dreyfus, 1991). This means that we cannot be truly analytic with ourselves as a subject or the world as an object (ibid, Winogard & Flores, 1986). In addition, the further argument from perceptual psychology coins in an idea that a being and its environment are closely related. This relationship reflects from an intervention between the organism and the world as well as the way they influence each other. For that reason, perception is a means of receiving information from the environment and it is an “*affordance*” that is the *action-supportive information* which guides the organism around its environment (Gibson, 1979).

THE QUEST OF PHYSICALITY

The term *affordance* became an influential subject within the design community when Donald Norman introduced it in *The Design of Everyday Things* (2002). He claimed that intuitive interpretation and physical mapping are the underlining aptitude of *affordances*. The remarkable step toward this idea of *knowledge in the world* proposed by Norman is Ishii and Ullmer's *Tangible Bits* (1997) where the "phicons" (physical icons) are represented as a bridge between physical world and cyberspace in order to establish a seamless interaction. These phicons are the graspable objects. By interacting with and moving the phicons around, the users command and manipulate the information that shows on the projected screen (see figure 1). This outcome of *Tangible Bits* introduced a new discipline in Tangible User Interface (TUI) which is widely implemented in the area of Computer Supported Cooperative Work (CSCW). While the use of physical icons is apt to support a multi-users operation, it is relatively hindrance for the single-user scenario.

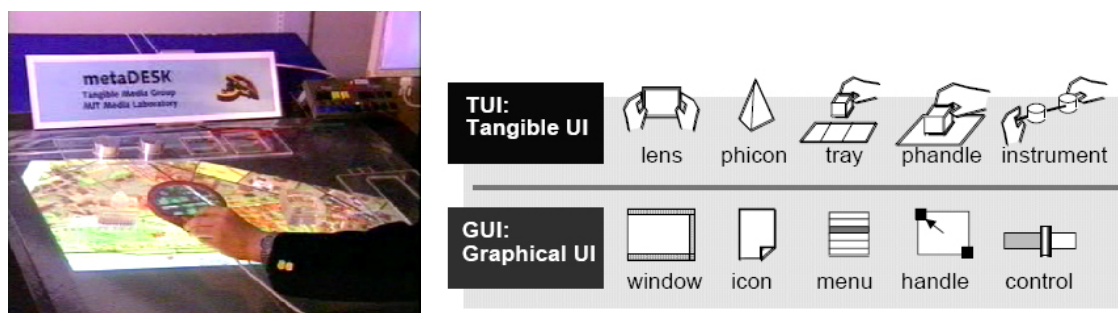


Figure 1: Phicons using in *MetaDESK* (left) and comparison between TUI and GUI (right).

Later on, another HCI domain - Tangible Interaction – was developed from the same foundation as Tangible User Interface. Yet Tangible Interaction further involves the concept of *embodiment* referred by Paul Dourish in *Where the Action Is* (2001). He expanded the Phenomenologist's view and claimed that the foundation of our action is not only the everyday world or physical setting but also social aspect of the surrounding. Dourish supported his argument by summarizing the characteristics of embodiment according to philosophy and psychology¹:

- (1) Embodied phenomena are those which by their very nature occur in real time and real space. [...]
- (2) Embodiment is the property of our engagement with the world that allows us to make it meaningful. [...]
- (3) Embodied Interaction is the creation, manipulation, and sharing of

¹ Edmund Husserl, Martin Heidegger, Alfred Schultze, Maurice Merleau-Ponty, Ludwig Wittgenstein and James J. Gibson are among those scholars referred to by Dourish.

meaning through engaged interaction with artifacts. (Dourish, 2001: 126)

Dourish's perspective of embodiment is embraced as a main focus of Tangible Interaction which is the means of creating usability from the coupling between physical and virtual representation of data in order to give the user the right feedback and *feedforward* (Djajadiningrat, Wensveen, Frens & Overbeeke, 2004). However, the researchers in Tangible Interaction later extended their finding to corporal aspects from anthropological studies (*see Figure 2*). Within this focus, the notion of *knowledge* is also expanded from the mind into the body (Ingold, 2001) where the "human experience is grounded in bodily movement within a social and material environment" (Jackson, 1983). These aspects lead to the relationship between bodily movement and motor-skill which is later explained as an aesthetic interaction with tangible objects (Djajadiningrat, Matthews & Stienstra, 2007)².



Figure 2: The interaction designers are exploring an aesthetic of their bodily movement (left) and a sketch of movements – *Human vs. Object* (right).

Similar to Tangible User Interface, Tangible Interaction has its own disadvantage. Within the frame of mobility and the cost of production, the screen-based products remain dominant in the current market and the tangible interface is far from a commercial success. Later on, the concept of Tangible Interaction is redefined by Hornecker and Buur. By broadening the scope of *embodied interaction*, Hornecker and Buur describe the three possible areas of HCI to encompass the Tangible Interaction studies. These included areas are *Data-Centered view* as defined in the area of Tangible User Interface, *Expressive-Movement centred* as applies in product design with a focus on bodily

² This view of embodiment is closer to Merleau-Ponty's notion of physical embodiment and phenomenological body.

movement and its knowledge and *Space-Centred view* as widely practiced in interactive art and architecture.

THE ABSENCE OF THE BODY

Even though the concept of embodiment soundly addresses the real world and physical setting, it is also applied in the development of Virtual Reality (VR) and cinematic theory. Discarding physicality, the VR and cinematic researchers put forward alternative aspects of embodiment – *textural quality* and *competing elements*.

The finest *textural quality* delivered by today's cinema and VR contends for embodiment with an absence of the physical body. In VR application, there are a number of studies focusing on the *textural quality* which can be distributed among the senses. According to the results, the researchers on VR claim that it is adequate to constitute the sense of embodiment by enclosing the audience within the VR peripherals (Murray & Sixsmith, 1999). From this point, the feedback from the advance VR equipments, e.g. Head Mounted Displays (HMDs), surround sound system and data gloves are ample to simulate a supreme textural experience, hence providing the user an embodied experience.

However, in the cinematic discourse, the argument of Vivian Sobchack explains how the cinema achieves an embodiment by presenting “the fleshly presence of the human body and the dimension of that body's material world” (Wood, 2007 : 77). She associates the lack of embodiment in digital effect cinema with the absence of presenting the *real* body in the *real* environment.

[...] cinema reveals our processes of perception, since it both enacts perception in an equivalent way to a human viewing subject and presents that act of perception in the duration of a film. (ibid : 77)

Affirming Sobchack's perspective, Aylish Wood refers to the spatio-temporal embodiment experience that occurs when the viewers establish a relationship between the cinematic subject and the perception.

In this view the link between perception and the cinematic emerges through the viewing subject. As perceiving subjects in the world we

select and combine what we see, shifting our attention simultaneously away from and toward objects in the world [...]. (ibid : 77)

From the point taken from Sobchack's argument, Wood gives an example of split-screen movies such as *Timecode* (2000) and *Hulk* (2003)³. She suggests that "in distributing a viewer's attention these interfaces establish the ground from which it is possible to think about the materiality of digital imagery, and also an embodied viewer" (ibid : 77). For that reason, the *competing elements* in the digital cinema technology is another source of the embodied experience.

³ Within the whole length of the movie, *Timecode* divides the screen into 4 small screens while *Hulk* periodically switches between full screen and double-screen.

T H R E E

Because mathematicians and engineers invented it and warriors paid for it, it was first used for things that mathematicians, engineers, and warriors care about. If painters and writers had invented it and weavers had paid for it, it would have been used differently. But that doesn't matter. Eventually, it will be used by everyone for everything, although it will first have to become a lot more complicated.

Gregory J.E. Rawlins, 1997
*Slaves of the Machine:
the Quickening of Computer Technology*

Retroduction

Today, as we struggle to reconcile the virtual against the tangible,
What does it mean to be real at all?
(Helfand, 2001)

Important or not, everything has its own beauty and bares its own aesthetic, much of this perspective has been written in the discourse and the work of art. Will it be a physical object, a screen or Virtual Reality – visible or invisible – *will it make any difference?*

By writing this paper, I am by no means claiming that a deficiency of embodiment will define a temporal separation between humans and the world. It is my intention neither to celebrate the performance of physicality nor manifest the absence of corporeal body applied in the use of current technology. I would not argue that the following expression I have here is found through my speculation, and of course, speculation is about creating a relationship between experience and background knowledge. Therefore, it is my utmost attempt to question my knowledge of embodiment and rethink its essence.

At the moment, it is obvious that we are moving away from the significance of the body where “neither muscle nor even presence are truly important in more and more tasks” (Bermudez & Hermanson, 2000 : 66). It is the theme that we are currently pursuing, then, *why am I concerned with physicality?*

As a creative practitioner, I often worked with a quality of a tangible object, I apprehended that physical quality has an immense potential as an artistic reference – it has power that no other form of simulation can replace. My understanding of tangibility constantly increased within the framework of HCI and it became my potent creative tool. I have learned that tangible objects have a property of embodiment which gives the audience a sense of *presence*, a state of *being-in-the-world*, in other words, an *embodied experience*. Since then, visible or invisible, I applied the aspect of embodiment in most of the works I produced (*see figure 3*). Similar to a skilful practitioner who needs to take good care of the tools, I also need to maintain my understanding of tangibility and rethink relationships of physicality and embodiment.

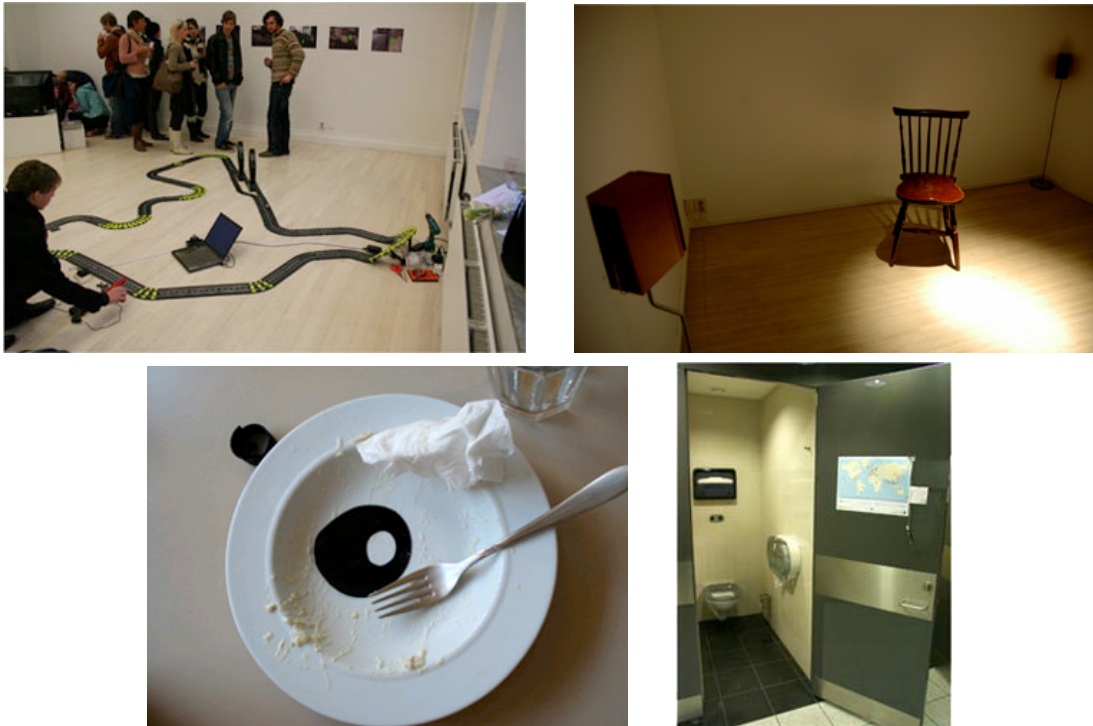


Figure 3 (clockwise): *MicrocosmoZ* (2006), *Proximitive Disclosure* (2007), *Urban Accessorist* (2007) and *Washroom-Notice* (2006).

ARTISTIC APPROACH

Arguing about physical properties is long-established within the works of art since the classical aesthetic until the blooming of modernism, installation, conceptual as well as contemporary art (Bishop, 2005). However, I would like to introduce some works of electronic art which centre on physicality/body perspective because it will be an area that the outcome of this research, my future installation, will apply.

In the late 1980s, advances in the development of VR raised an enthusiastic vibe within art and cognitive science theory. Jeffrey Shaw combined physical interface with VR output in *The Legible City* (1989). The virtual city of Amsterdam was represented in form of texts and letters. While peddling a stationary bike, the audience experienced the city tour as if he or she was cycling around Amsterdam city (see *Figure 4, left*). From the view of cybernetic corporeal extension, many works of Stelarc challenged the limitation of the body and in the same time, addressed the possibility of having a synthetic body (see *Figure 4, centre*). From many works within the area of physical representation, I would like to refer to Kerstin Ergenzinger's *Studie Zur Seh_n_Sucht* (2007) (see *Figure 4, right*). She reconstructed the exhibition space by the moving surface represented the information from seismometer.



Figure 4: Jeffrey Shaw, *The Legible City* (1989) (left), Stelarc, *Robot Arm* (1991-1994) (centre) and Kerstin Ergenzinger, *Studie Zur Seh_n_Sucht* (2007)(right).

As mentioned, it is my interest to apply the HCI framework of embodiment and use it to explore the meaning of physicality within the artistic aspect. Hence, I decided to centre my finding within the extent of physical representation as I attempt to justify my original knowledge of embodiment.

PHANTOM FACET

In *The Metamorphosis* (1916), Franz Kafka constructs an experience of Gregor Samsa, a man whose body turned into a form of vermin. This nightmare-like story portrays an idea of how the *phantom body* could alienate an individual from his or her context of social and physical setting⁴.

One morning, as Gregor Samsa was waking up from anxious dreams, he discovered that in bed he had been changed into a monstrous verminous bug. He lay on his armour-hard back and saw, as he lifted his head up a little, his brown, arched abdomen divided up into rigid bow-like sections. From this height the blanket, just about ready to slide off completely, could hardly stay in place. His numerous legs, pitifully thin in comparison to the rest of his circumference, flickered helplessly before his eyes.

“What’s happened to me,” he thought. It was no dream. His room, a proper room for a human being, only somewhat too small, lay quietly between the four well-known walls. (Kafka, 1912)

⁴ Although the works of Kafka are mostly argued in terms of interpretation, my summary here is based on what is literally described in *The Metamorphosis*.

The articles concerning embodiment in the HCI framework investigate properties of embodiment from different angles. Regarding Tangible Interaction and Tangible User Interface, the existence of physical object is the supremacy of embodiment while VR and cinematic theorists claims that it could be achieved differently.

Similar to the story of Gregor Samsa, the relationship of our mind, body, self and surrounding is undoubtedly interwoven. Since the essence of the embodiment may lay deep in the relationship we have with the world, I decide to expand the area of my finding.

FOUR

“A man in his house”, says Rivarol, “does not live on the staircase, but makes use of it to go up and down and gain access to every room. The human mind, likewise, does not reside in numbers but uses them to attain all science and arts.” Physical reality can inspire number, but does not constitute number. Precisely because humans have learned to transmute the objects of physical reality into simple objects of abstract thought, so they have been able to accomplish all the spectacular progress characteristic of humankind, and have managed to penetrate the secrets of so many aspects of the tangible Universe.

Georges Ifrah, 2001
*The Universal History of Computing:
from the Abacus to the Quantum Computer*

The First Chapter

Are there limits to this world?
 If we've perhaps seen its ends
 How can we laugh, have fun?
 We've already exhausted ourselves, haven't we?⁵
 (Shiina Ringo, 2007)

It is a contradiction in the theories of embodiment that interested me and at the same time, made me feel uneasy. Even if these theories can be considered to have constructed the embodied interaction; the complexity of human experience is still unfolded.

From this stance, to find the essence of embodiment, I would like to shift the focus to *presence*. This is because if “embodiment is the property of our engagement with the world that allows us to make it meaningful” (Dourish, 2001)⁶, it is also about a possibility to act and react in the world. On the other hand, the possibility to act and react is undoubtedly related to the actual moment, the period of now or *presence* – a “tantamount to successfully supported action in the environment” (Zahorik & Jenison 1998).

TEXTURAL REALITY

Realness as it is referred to in the HCI discourse can be traced back to Plato's critique on art. In the time of this Greek philosopher, to make art is to represent a subject from the real world. Accordingly, in Plato's point of view, representation is nothing but fake and merely a replication (Carroll, 1999). We might easily agree with the Platonic notion if only today's technology was less efficient in transcribing our world.

Apparently, Virtual Reality has the ability to construct the *textural quality* of the real world. After being in VR, some users reported the need for interaction with their physical body in order to reassure themselves of being-back in the real world (Murray & Sixsmith, 1999). This is because the *realness* perceived in VR is delivered by constructing

⁵ Translated version from <http://freckle.tenkeimedia.com/nl/ringo/konoyo.html>

⁶ Dourish also claims “I am using the term (of embodiment) largely to capture a sense of phenomenological presence”.

of human knowledge (Lovejoy, 2004). To sum up, experiencing VR is to receive a package of what we mostly encounter in the world within the limitation of VR context.

REPRESENTED REALITY

Anyone who is interested in English Literature must be acquainted with the mystery of William Shakespeare's appearance. Despite the great works he has produced, there is no authentication of his portrait or picture; all evidence bearing his appearance was produced later after his death.

Between two fantasy alternatives, that Holbein the Younger had lived long enough to have painted Shakespeare or that a prototype of the camera had been invented early enough to have photographed him [...] This is not just because it would presumably show what Shakespeare really looked like, for even if the hypothetical photograph were faded, barely legible, a brownish shadow, [...] having a photograph of Shakespeare would be like having a nail from the True Cross. (Sontag, 1977 : 154)

Photography seems to be the first kind of technology that blurred the boundary between *realness* and representation. It initiated the question of what is real and what seems to be real. Photography does not change the world, it has only changed the way we evaluate the world. The original purpose of photography was to record any happening in the world. A generic photograph without any peculiar evidence rarely raised doubt about the authenticity of the event captured in it.

However, an ability to transcribe the appearance of the world is not the foremost feature of photograph. The above statement from Susan Sontag (*On Photography, 1997*) addresses the important value of the photograph which lies beyond the content of it. Similar to that of a photograph, the essence of VR or physical objects are not about what they represent but how they are evaluated.

LOGICAL REALITY

The traditional approach in theory of representation is somehow as simple as in basic logic. If the entity is presented, it exists and there will definitely be a method to prove its

existence. To represent and interpret the representation in this module is more or less similar to the way a computer algorithm is generated.

Speaking broadly, we may say that by “represent” we mean that x represents y (where y ranges over a domain comprised of objects, person, events and action) if and only if (1) sender intends x (e.g., a picture) to stand for y (e.g., a person), and (2) an audience recognizes that x is intended to stand for y . (Carroll, 1999 : 50)

Even the great thinker Ludwig Wittgenstein once produced a polemical work, *Tractatus Logico-Philosophicus*, in order to demonstrate a definite relationship between humans, language and the world⁷. In the preface to the book he summarises: “what can be said at all can be said clearly, and what we cannot talk about we must pass over in silence” (Wittgenstein, 1961 : 3). The boldness of Wittgenstein’s statement and the rigid logical structure of the book create a strong impact on the reader. But although *Tractatus Logico-Philosophicus* is full of vivid description base on logic, it is somehow limited.

It would be unnecessary to argue about *presence* (or embodiment) if our relationship with the world was as transparent as the above representation model. In the second period of his philosophical work⁸, Wittgenstein recognized the complication of these relationships. As a result, his later work instead explains how the thought and the experience become context independency with an endless possibility.

INFINITE REALITY

The foremost nature of *presence* is perhaps infinity. When we are dwelling in the moment of *now*, there is nothing as significant as the possibility to interact with the world. Martin Heidegger refers to this stage as the “throwness” which is a condition when a being is thrown into situations that he or she must persistently act and react to, along with the circumstances. Within this condition the being has to “go with the flow”

⁷ The focus of *Tractatus Logico-Philosophicus* is the use of the language as a constitution of thought. Because the language is definite therefore, it draws a limit to the thought as well.

⁸ The second period work of Wittgenstein is *Philosophical Investigations (1953)*, which still centred on the application of the language. However, he claimed that we are all playing the “language game” and the language is context independency and somehow “indefinite”.

just like the jazz musician who is playing in an improvisational group⁹ (Winograd & Flores 1986, Zahorik & Jenison 1998).

Even though the *thrownness* projects the nature of *presence* as unstable and unpredictable, it is different from the *competing element* referred to by cinematic theorists. This is because in *thrownness* the world does not try to compete for our attention but the condition that we are always within its flow. It is this indefinite possibility that prepares us to encounter the randomness and pluralism of the world itself – this is how our open-ended relationship with the world is created. At this point, it confirms the *context independency* as the prominent part that connects and loosely frames our experience.

BODY-LESS REALITY

The previous section of this part of the text unfolds how the *being* relates to the world. It indicates that seeking absolute meaning from the world is not what our experience mostly takes into account, while ‘navigating within the *flow* of the situation’ is more likely what we carry out.

From the idea of *thrownness* I referred to previously, it seems hard not to imagine a future VR technology that will be able to accommodate all the features of Phenomenological embodiment. The absence of the body will no longer be problematic. Yet, I would like to draw your attention back to the *body*.

For most of us, *being* is not a separate entity of mind or body but existence. We perceive ourselves in totality, not a product of mind and body, inner and outer or experience and movement (Dreyfus, 1991), (Lindblom, 2007). Consequently, even in the finest Virtual Reality, the physical body is still crucial as explained by Karen Frank:

My experience of virtual reality depends upon my physical body's movement ... To see I must move my head. To act upon and do things in a virtual world I must bend, reach, walk, grasp, turn around and manipulate objects ... If the virtual is so physical, what body will I

⁹ Zahorik & Jenison describes the condition of *thrownness* in *Presence as Being-in-the-world (1998)* as follows: 1) Action is unavoidable. 2) Detached reflection about action is impossible. 3) Action effects are unpredictable. 4) Stable representation of the situation is impossible. 5) Representation is interpretation.

leave behind? Not my physical body. Without it I am in no world at all. It is physical bodies that give us access to any world. (Bermudez & Hermanson, 1996 : 7)

I would like to present a less-theoretical, less concrete take on the absence of the body, which appears in the Japanese movie, *Hinokio (2005)*. The story is about a boy named Satoru who is rehabilitating at home after a car accident. With the help of an advanced VR system, Satoru can experience the world, attend school and socialise with other children via a robot. Having a robot for his agent seems to be a satisfactory situation for Satoru until one of his friends, Jun, starts to have doubts about the *real* identity of Satoru. At this point, the movie shows Jun and the robot chatting and having ice creams in the amusement park. While the girl is enjoying her ice cream, in the robot's mechanical hand the ice cream is left untouched and melting. The situation turns dramatic when Jun asks Satoru (through the robot) "where are you?" The question is not concerning *where is the boy* who remotely controls the robot but *why he is living through it?*

Similar to Jun, the question I would like to address here is if we are satisfied with our own existence and have full consciousness of our physical body will we want to reside in the simulation system and if so, *what would be the reason?*

CONCLUSION

I strongly believe that the embodied experience requires the presence of a physical body. To argue that the embodiment exists when the body or mind is absent seems to be such an inadequate idea. Even though the world is full of knowledge and *affordance*, there will be no use without the perceiver because the significance of embodiment lies in the *presence* and the meaning of the *actual moment* that we interact within it. This measurement of the *current moment* needs to start from the point of ones reality. For that reason, to be able to signify the period of *now* is to be certain of our own existence. It is the body that we inhabit, but it is both *body and mind* that our existence dwells in.

FIVE

For though it maybe plausible to say that the problem of philosophy of science, the philosophy of religion, the philosophy of art and so on, are set for philosophy by science, religion and art etc., it is not at all obvious what sets the problem for metaphysics and epistemology.

Peter Winch (1990)

The Idea of a Social Science and Its Relation to Philosophy

In Addition Speech

‘One may say that we represent something’.
Are we sure we know what this means, today?
Let us not be too quick to believe it.
(Jacques Derrida, 1982)

Phenomenology has been employed in several disciplines of art in terms of human experience and sensation (e.g. sculpture, installation, theatre and performance). This philosophy of perception has triggered several debates concerning spectatorship where the relationship between artist, artefact and viewer was examined. As phenomenological concerns, the *presence* and the *body* have been a focus of the discussions around the modern art movement. They played significant roles in the development of art theory and methods which are a fundamental part of today's contemporary art.

PHENOMENOLOGY AND ART

It was the Minimal artists who introduced the phenomenological sense of *presence* to a board range of audiences in their installation works in the 1960s. Different from Geometric Abstraction painters who create a non-figurative type of work to present the science of composition, the minimal artists referred to non-anthropomorphic attributes in the subject of experience. At that time, the art and intellectual community was precipitated up by Wittgenstein and the Existentialists' writing (from Sartre, Kirkegaard and Camus) together with an exotic mysticism (e.g. Zen, Hinduism, Buddhism, Shamanism). In spite of that, it was the simple appearance of the piece¹⁰ together with phenomenological theory that distinguished the minimal work from other formalist movements in art history.

After Phenomenology of Perception was translated into English in 1962, Maurice Merleau-Ponty was the most influential figure regarding the application of phenomenology in art when compared with other phenomenological philosophers such as Edmund Husserl and Martin Heidegger. Many of the published articles referred to his philosophy as a means to relate to the work of minimalists. *Presence* is one of those

¹⁰ The works of Minimal artists further mentioned in this essay focus on the area of sculpture and installation work according to the distinctive reference they have to phenomenology.

philosophical terms which were raised by artists, art theorists and critics to underline the experience of minimal art spectators. The redundant use of the term *presence* later turned it into another cliché in the art circle.

Critically, presence was seen as a positive feature of a work of art. Writers and artists used the word without hesitation, assuming that it was universally understood. When questioned about this (*presence*) use of the term, Greenberg cursorily replied that it signified “plentitude, a fullness – describing your reaction to art,” but that the term itself, like other metaphors, was not worth worrying about. In 1966, Stella also saw it as “a matter of terminology... It’s just another way of describing.” ... Peter Plagens capsulized the new American sculpture: “Simple, geometric volumes imposing in size, static qualities and physical presence.” (Colpitt, 1993 : 70)

By implementing the idea of phenomenology, artists and theorists claimed that the minimal work delivered more sense of *presence* hence yielding an active experience for the viewers. In order to achieve the sense of presence, the minimal artist dealt with scale, non-anthropomorphic representation, architecture and environment of the piece (Colpitt, 1993).

PRESENCE AND MINIMAL ART

Presence has become the main factor eradicating the traditional relationship between the artist, the work and the audience. To return the centre of the art experience to the spectator, the minimal artists pursued the more active role of spectatorship. Nevertheless, before going into the minimal artists’ statements about presence, I believe that we shall recess from its definition, and instead take a look into the techniques of minimal artists in terms of phenomenology and the body.

Scale was highly concerned with the artwork’s size in relation to the size of human body in minimalist theory. It was common to either produce a large piece of work, (and sometimes, the large cluster of work which is containing many smaller items) or at the human-scale (*see Figure 5*). For some of the minimal artists, scale was superior to all other concerns.

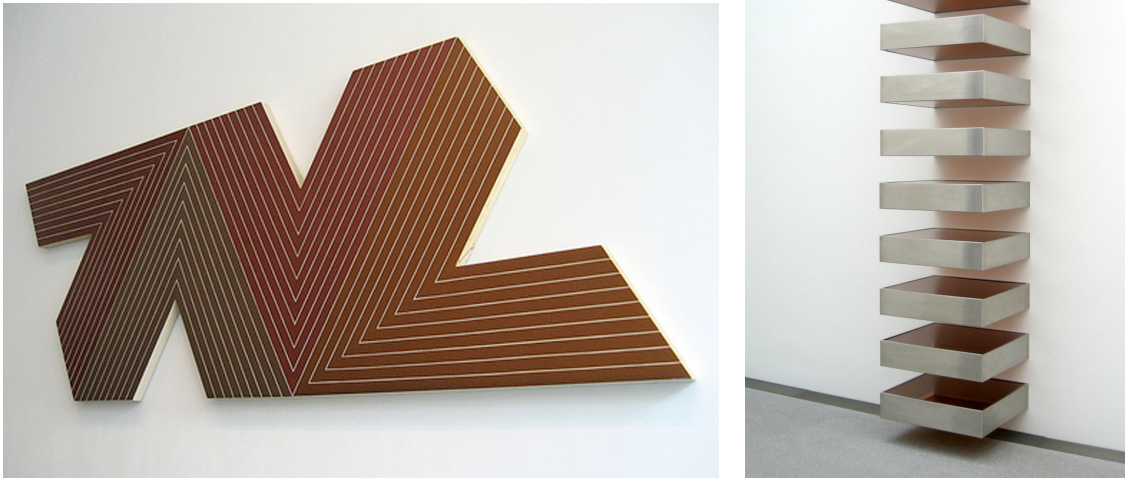


Figure 5: Frank Stella, *Empress of India* (1965) (left) and Donald Judd, *Untitled* (1965) (right).

It's important that Newman's paintings are large, but it's even more important that they are large scaled. ... This scale is one of the most important developments in the twentieth-century art. ... All of the best American art, to this moment, has this scale. The form and qualities of the work couldn't exist otherwise (Judd, 1970).

Beside the scale, *shape* seems to have its significant relation to *presence* in minimalist theory. In 1967, Michael Fried said about sense of presence: “(it) can be conferred by size or by the look of non-art” (Fried, 1967). The look of “non-art¹¹” mentioned by Fried is a non-anthropomorphic/ simple geometric shape employed in minimal art.

Another feature of minimal art is its relationship with architecture or environment. At the beginning of minimalism, even though the placement of art objects is very important, the artists did not consider as them as an “installation” until the 1970’s when artists like Robert Irwin and Michael Asher began to submerge their works into the architecture.

¹¹ Fried uses the term *non-art* to distinguish minimal art, which has its look as an object, from traditional or other art movements.

SENSING THE PRESENCE

While the scale used in minimal art is expecting to heighten the viewer's awareness by initiating a comparison between perceptual body and the exhibited artefact (Fried, 1967), the function of the geometrical shape is to defamiliarise what observers normally see in the world.

The technique of art is to make objects 'unfamiliar', to make forms difficult, to increase the difficulty and length of perception because the process of perception is an aesthetic end in itself and must be prolonged. [...] The purpose of art is to impart the sensation of things as they are perceived and not as they are known. (Shklovsky, 1916 : 16)

Shklovsky's statement on Formalist writing seems to precisely explain the essence of the minimal art experience which the minimal art practitioners were expected to deliver. Hence, the hollowness and the incompleteness of the piece is waiting to be fulfilled by the beholder (Morris, 1966), (Fried, 1967). Perhaps, it was Merleau-Ponty's description of the difference between the thing we see and the thing we know that triggered the idea of minimalism. The indisputable transformation of his texts into practice could be seen in works such as Tony Smith's *Die (1962/1968)* and Robert Morris's *Untitled (L-Beams) (1965)* (see Figure 6).

From the point of view of my body I never see as equal the six sides of the cube, even if it is made of glass, and yet the word 'cube' has a meaning; the cube itself, the cube in reality, beyond its sensible appearances, has its six equal sides. As I move around it, I see the front face, hitherto a square, change its shape, then disappear, while the other sides come into view and one by one become squares. [...] The cube with six equal sides, is not only invisible, but inconceivable. (Merleau-Ponty, 1962 : 235-237)

In contrast with minimalist theory, the perceivable incompleteness does not inaugurate the lack of *presence* in phenomenology, especially, when we encounter the absence of unity of character in objects (Barbaras, 2006). To give a clear explanation, I would like to use the example of the jade stone. Let us imagine that I am in the jewellery shop and find a beautiful bracelet made of jade. Despite of how it looks, when I have it in my

hand, it seems to be too light to be made of stone. Not to be deceived by its appearance, I decided to measure the temperature of the bracelet by touching it with my lips – the colder the bracelet, the more I will believe that it is made from real stone.

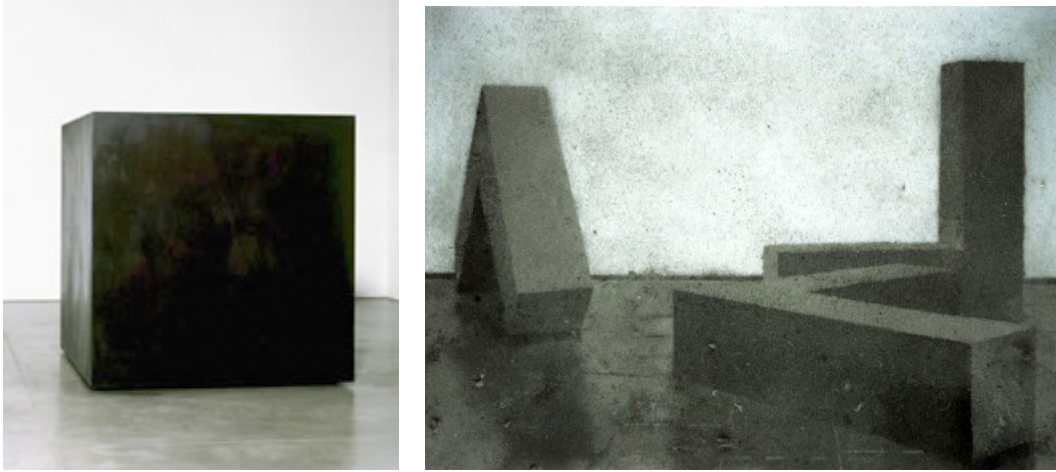


Figure 6: Tony Smith, *Die* (1962/1968) (left) and Robert Morris's *Untitled (L-Beams)* (1965) (right).

From the story, the quality of being jade stone becomes deficient due to the lightness of the weight. This lack of unity did not characterise the sense of presence in jade stone but triggered my knowledge about it. Thus confusion between perception and intellection arise (Barbaras, 2006) when the awareness of situation is elevated, my sensation turned to be fully attentive, and the memory appeared to be responsive. This is because perceiving is not the same as remembering (though they both are closely related with memory) as Merleau-Ponty noted:

To remember is not to bring into the focus of consciousness a self-subsistent picture of the past; it is to thrust deeply into the horizon of the past and take apart step by step the interlocked perspectives until the experiences which it epitomizes are as if relived in their temporal setting. (Merleau-Ponty, 1962 : 22)

Accordingly, I would argue that the minimal art perhaps does not contain more *presence* than common object but the incompleteness and the well-planned scale manifestly heighten the beholders' experience – it delivers no other moment except the current one. For that reason, the experience of minimal art is similar to the one conveyed by *The Treachery of Images* (1928-29) from René Magritte since “they force the audience to an awareness of existence that goes beyond the presence of any particular art object” (Battcock, 1968 : 32). The confrontation between the perceived artefact and the

represented knowledge clearly separates the beholder from the *object*. Even though this could be credited as the minimalists' success in supporting an argument of Merleau-Ponty in terms of the rejection of an objective body, the act of comparison between what one perceives and what one knows is more correspond with the idea of "inner man" rather than a sense of presence.

Perception is not a science of the world, it is not even an act, a deliberate taking up of a position; it is the background from which all acts stand out, and is presupposed by them. The world is not an object such that I have in my possession the law of its making; it is the natural setting of, and field for, all my thoughts and all my explicit perceptions. [...] or more accurately, there is no inner man, man is in the world, and only in the world does he know himself. (Merleau-Ponty, 1962 : xi)

Merleau-Ponty's exposition on the denouncement of *inner man* is comparable to Heidegger's concept of "being-in-the-world" as he continued:

It is never our objective body that we move, but our phenomenal body, and there is no mystery in that, since our body, as the potentiality of this or that part of the world, surges towards objects to be grasped and perceives them. (Merleau-Ponty, 1962 : 106)

At this point, I am eager to depart from the investigation and apply the finding to my artistic practice.

SIX

What is called “Novelty Art” by the Formalists is often the attempt to find new languages, although a new languages doesn’t necessary mean the framing of new proposition: e.g. most kinetic and electronic art.

(Joseph Kosuth, 1969)

Prospectus

Alice laughed. "There's no use trying,"
she said: "one can't believe impossible things."

"I daresay you havn't had much practice," said the Queen.
"When I was your age, I always did it for half-an-hour a day.
Why, sometimes I've believed as many as
six impossible things before breakfast [...]"
(Lewis Carroll, 1871)

In minimalist theory, an object is full of presence once it can prompt the perceiver to scrutinise the real space and time where he/she is situated. Yet, there is no clear distinction whether this process of contemplation belongs to René Descartes' "*I think, therefore I am*" or Merleau-Ponty's "*I think but of I can*". In philosophical consideration these two ideas are juxtaposed with each other but in everyday practise, the difference between them is hard for us to fathom. This is possibly due to the non-existence of *inner man* which makes the analysis of *self as the second-person* is unattainable.

It was the physicality and embodied experience¹² that commenced me to start this *thought experiment*. Therefore, I would like to return to the objective of this thinking process – to advance my understanding of embodiment and use it as an artistic tool.

THE MEDIUM

The problem that appears in the minimalist debate is not merely about the lack of presence in art but the problem of representation in general. As a result, the minimal artists tried to produce the work with the representation of nothing by reducing its appearance to the simplest form. For that reason together with the deficiency in engaging body in the material art (Bolt, 2004), it is a challenge for me to create work that *not only delivers an embodied experience but also contains some sort of representation*. And because this article is mainly concerned with form and representation, it would be more appropriate for me to put the medium prior to the content of the representation (*see Figure 9*).

¹² In 1960's, *embodiment* was rarely referred in the minimalism theory in contrast with the common use of the term *presence*.

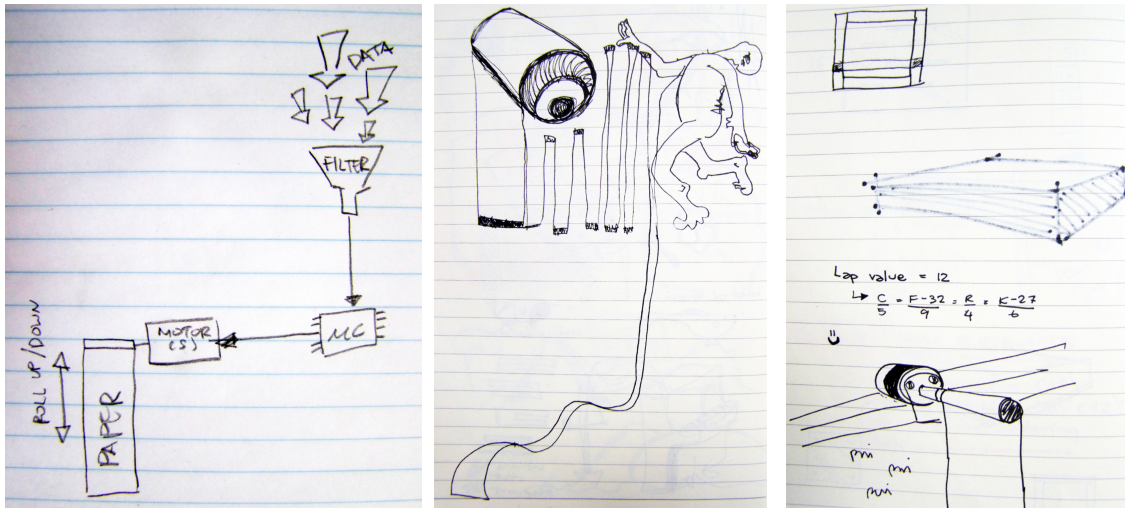


Figure 7: Some sketches made along the process, the system diagram (left), conceptual drawing (centre) and attached motor (right).

Inspired by everyday media such as advertisements, online games, and movies that always visualise three-dimensional (3D) perspective on a two-dimensional (2D) medium, I would like to play around with this concept of representation. I choose paper as the primary platform since it is a classic material for visual representation. Instead of representing information *on* it, I preferred to directly use it *in* a representation to present the actual characteristic of physicality. Since I have chosen to work with paper, I have been intrigued by the use of diagram in order to present an extensive amount of information. The function of the simple form used in diagram partly corresponds to the geometrical form of minimal art – one is to simplify the information, another is to emit the information. I decided to present the data in the form of bar chart because it is a suitable form for the chosen medium and further support an argument of the property of the three-dimensional object.

As mentioned in a previous part of this paper, I believed that the significant quality of physicality could be perceived and it is similar to the way we evaluate reality within photography, movies or VR. However, most importantly, it is not about the difference between what we sense and what we know as referred to regarding minimalism theory – but how the value was given.

By choosing paper as a material, I was attempting to expose the 3D form of it. A thin plain paper strip is somehow comparable to Merleau-Ponty's cube; you will see a solid line with different widths depending on your angle (*see figure 8*). Still, the nature of paper also conceals itself from 2D-3D comparison. Instead of putting it on the wall, the strips were hanging from the ceiling in the middle of the installation space. This small

change of placement exposed the perceived 3D property of the paper while ensuring that the comparison remained unnoticed. This is because I believe that to force spectators to the awareness of their perception – object as it is compares to object as it is known – is a contrary to the phenomenological experience.

THE DATA

Being certain about *form* and material use in the final piece, I continued to work on mechanical and programming tasks. The issue of *content* is still pending. Although there are many types of information that could be used as an input for the project, they seem to overwhelm the actual point of my finding. Whenever I presented my working process, I was always questioned about what kind of data the piece will represent. The people were upset every time if I simply replied that my interest lies not within the content but the representation itself. Could this be the same dilemma which was solved by minimalism? If so, is the only way to purely address the issue is discarding the content? *Is it hard for us to be satisfied if we know that this object A represents X, without knowing what the X is?*

THE PROBABILITY

While experimenting with different types of information (e.g. temperature, weather forecast, currency exchange, air and sound quality), I also continued to work on the physical part of the piece. Then I failed to get the mechanical components I ordered even when I tried to get them from another company. I was so surprised that two different companies could both make mistakes and refused to reimburse the payment. This incident called me back to the essence of my prior finding.

It was unexpected for me to fail to get the components, but I would not claim that it is impossible to happen. When such a situation took place, we could experience phenomenological *thrownness* clearly. At this point, the jazz musician became an unjust metaphor. If we all are really in the same *band* why do we most of the time always pursue different ambitions? Besides, the world is much bigger than an improvisational band and the majority of living creatures do not even recognise my existence. If I am not in the improvisational band, what is my relation to the world?

Perhaps, the way to understand our embodied experience in the world is to accept the probability in the “Infinite Monkey Theorem”. This mathematic theory was set to illustrate the probability of indefinite random sequences. It states that if there are infinite numbers of monkeys typing on infinite numbers of typewriters for an infinite amount of time they will produce a complete work of Shakespeare. Of course in technique, even if it is mathematically possible for the monkey to write a Shakespearean sonnet, still, it sounds absurd in reality. But what if I insist that there is a possibility for one of those monkeys to become a great playwright? If that is still unsound, let us recall that the definite related-species of those monkeys, have already used definite types of tools to produce some of the greatest literatures we have ever known and one of those monkey-related creatures is in fact named Shakespeare.

This acceptance of possibility shows how we are related to the world. We acknowledge the probability, yet the need for security leads us to predict and analyse – this is why we classify everything we know as objects. Therefore, I decided to make an installation that somehow incorporates the *thrownness* as the essential embodied experience of *being-in-the-world*.

THE INTERACTION

I chose to create the randomness from the collection of certainty by using electromagnetic signals received from the installation environment. It is a type of radiation that is produced by any kind of electronic device. The ripple of the electromagnetic field produces the interference between lamps, spectators’ mobile phones, the piece, and other exhibited pieces are all suitable inputs. To give the viewer a strong sense of *thrownness*, it is better for the piece to avoid direct interaction. Therefore, I further implemented another set of algorithms the value read from the ripple in order to generate a discrete response. This sequence is illustrated as a system flow as follows:

electromagnetic ripple >
 > received by antennas >
 > microprocessor converts values to numbers >
 > then applies algorithm to the numbers >
 > sends to motors for rotation >
 > paper strips slowly move up or down



Figure 8: Nedine Kachornamsong, *The Presence and the Body* (2008):
paper, mirror, wood and electronic components.



Figure 9: Details of *The Presence and the Body* (2008).

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Notes

On structure of the paper:

ONE : The original reason why I am interest in technology and how can it be use to create the better understanding in ourselves.

TWO : A comprehensive introduction of the embodiment theory applied within the Human-Computer Interaction framework.

THREE : Similar to the project introduction which describes my motivation and approach in the aspect of embodiment.

FOUR : The expansion of my finding into the area of Phenomenological Presence and the necessity of the body.

FIVE : The expansion of my finding into the area of Phenomenological Presence.

SIX : The implementation of the finding.