RELATIONAL INTERFACINGS

BODY, MEMORY AND ARCHITECTURE IN THE DIGITAL AGE

By

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Abstract

In history, anthropomorphism was central to architecture. From Vitruvius to Le Corbusier, the human body served as a measure for proportion in the architectonics of embodiment. Some argue that Le Modulor represented the end of the body metaphor. However, contemporary theory points to new analogies between body and building, which are based on relationality rather than transprojections or physical emulations. With postmodernism and post-structural feminism, the humanist body was replaced with extendibility and a cross-breeding between body and environment. With this came a shift in body theory from objectification to an emphasis on subjectivity – where the body of the user is seen as measure again. However, this measure is based on the performativity and sensibility of a conscious subject who performs an act.

Simultaneous to this development, emerged the notion of interface. With cyber culture, the interface is not only defined as a technological element but as an aspect of embodiment. In this context, I suggest an analogy based on *"Relational Interfacings"*, where a sensible and locational interface intervenes with a virtual construction (or a map) in architectural site. This in turn allows for a particularisation of memory, site-mapping and suspension of boundaries. Relational interfacings, I argue, promise to redirect the forces from monumentality to intimacy in architecture, and from a passive body to a conscious user in action.

Three interventions test the affects of relational interfacings on users performativity, sociality and site-specificity. These interventions took place in real architectural sites and involved using intuitive and locational technologies to produce a virtual map on site.

In the course of examining these interventions, I discuss the development of an *Intervention Protocol* as a diplomatic framework to guide the interventions design and analysis. This protocol helps to mark a crucial intersection of discourses and practices and sites, which locate the intervention within a definite social/architectural formation. It also promises to secure a shift from body objectification to subjectivity. The intervention protocol involves three main processes: (a) *site-mapping* to study memory, sociality and site-specificity, (b) *ethnographic mapping* where body movement becomes a measure of performativity, and (c) the possibility of a *horizontal replication*.

In the conclusion, I revisit the postmodern body and discuss the body of user as a possible measure in architecture. I also redefine the interface as an aspect of embodiment, and discuss the impact of virtuality and interfacings in the body-architecture analogy. The thesis ends with a discussion of the interventions' development and of the outcomes, usefulness and possible applications of the interventions.

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As in any intellectual work, the contents of this work derive from many sources, difficult to trace. Several research associates contributed directly to the development of this study. I wish to thank Rosalie Kim for her collaboration in *Sited Moss*; the detailed development and concrete studies are my own, but the underlying concepts were generated through exchanges with Rosalie. I also wish to thank Dr. Jennifer Sheridan and Dr. Nick Bryan-Kinns for their collaboration and technical support in *Threshold*. I am especially grateful to Rafael Lozano-Hemmer for his generosity and cooperation during the course of this study, I have been privileged to work so closely with him in *Under Scan*. For me, this was an exceptional experience.

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To Ohoud, Bachir, Nour, Taofic and Yasmin...

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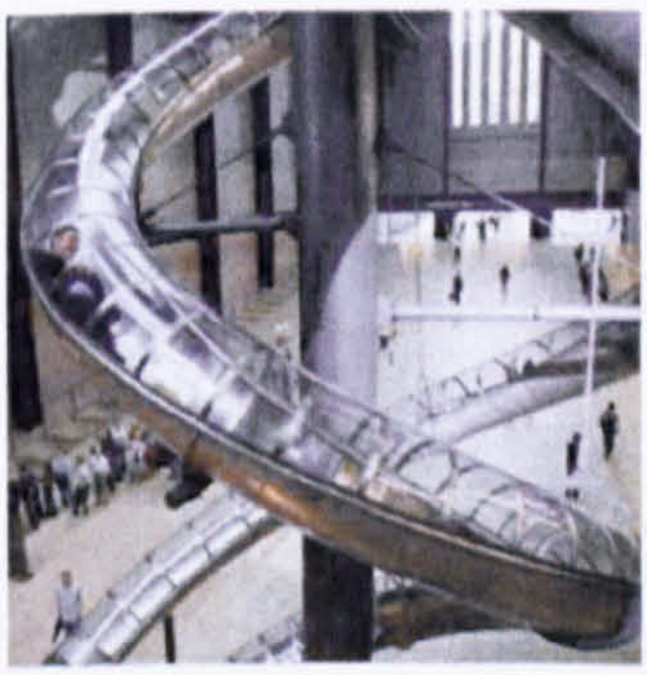

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Figure 1 The Unilever Series, Turbine Hall, Tate Modern. Source: (Arts.guardian.co.uk, n. d.)

Introduction

For the last seven years, the Unilever Commissions in Tate Modern's Turbine Hall have fascinated its visitors with new spatial experiences. Since the gallery opened in 2000, six artists have risen to the challenge of filling the space with their artworks.

As I write down these lines, Tate visitors slide up and down the *Test Site* installation by Cansten Höller. This recent piece takes on the site, activates visitors, and poses the following question: "Can slides become part of our everyday corporeal architectural experience? Can they be introduced across London, or in any city?" (Tate Online, n. d. a). In the same context, and over six years, each of the Unilever Series works marked the Turbine Hall in different ways. To the visitors, these works provided unique experiences.

Few years ago, Anish Kapoor created his sublime membrane sculpture *'Marsyas'* and provoked intense spiritual and physical response from the visitors. In *'The Weather Project'*, people became tiny black silhouettes against a field of orange light. Minuscule in scale and robbed by the orange glow of their individuality, they responded to the 'sun-like' circle of light, but they also interacted with the mirror above their heads. They layed on their backs staring up at the ceiling, often moving their arms and legs in a sweet/sad effort to find their own reflections in the swarming mass of undifferentiated shapes in the distance. A year later, Bruce Nauman, used sound recordings as abstract material arranged through rhythmic connection. In *'Raw Material'*, Nauman stripped soundscapes from their original context and redeployed them in the Turbine Hall to stimulate memories and test users' response. Similarly, Whiteread projected memory in her *'Embankment'* project through spatial narratives and composition of space.

Some of the previous artworks involve an ontological concern. They provide a contemporary questioning of our existence and relation to architecture, the environment and more importantly, to the world. Figure 1 illustrates different representations of embodiment in the space of the Turbine hall; we see a body in motion, sentient and engaged with the architectural setting. We also see an interesting representation of the body as sensible, extended and flexible.

In the Weather project, the relationship is enlightening in this sense: "[i]t is as though some deep primeval instinct compels us to do something—waving our hands, scissoring our legs, huddling in groups, forming shapes with our partners—to reassure ourselves of our individual existence in the universe" (telegraph.co.uk, 2003). The weather project was particularly successful in its space reappropriation because it allowed for this individualisation of experience and embodiment. In a way, it is a relational work because it redefines the relationships between the bodies of the users and the site within a wider context.

In this study, I intend to look at the how such interventions in architectural sites can result in interesting aspects of embodiment. My emphasis is on the concept of the interface, not in the technological sense, but as an aspect of embodiment. Through the interface, I reflect on the architectural experience from a phenomenological perspective and explore the potential that virtuality promises, particularly in relation to memory. Hence, my definition of Relational Interfacings claims that virtuality can allow a relational mediation and a possible re-appropriation of architecture through the particularisation of memory. In terms of analysis, relational interfacings mark a critical intersection of discourses, practices and sites, which defines the intervention within a definite social and/or architectural formation. In a wider context, my thesis of relational interfacings also looks back at the body analogy in architecture to re-define the emergence of the interface as an aspect of embodiment.

There is a long-term tradition in the humanities which has been concerned with the bodily analogy in art and architecture. Many of these practices are interdisciplinary operating among areas including philosophy, anthropology, architecture and technology. The Unilever Series forms one aspect of this tradition. Perhaps, what is new here is that art allows us this time, as human beings, to engage physically and to become 'a measure' of the contemporary interpretation of the architectonics of embodiment. It also allows 'subjectivity' to play a part in this interpretation.

When I started to work on this project, the cult of the body was in its peak. There was an ultimate cultural celebration on the various possibilities that the human body presents. This was a celebration of the immense diversity and complexity on the ways in which we choose to use and to present our bodies in the space of the city, not only in architecture but also in arts, entertainment and performance (for examples: see Body Craze and Jump London, or the work of Spencer Tonic). The various approaches reflect a current uncertainty on how the body must be understood in the current context of cultural, technological and social change.

Bodies & Architectures

Reviewing the historic relationship between body and architecture is no easy task. The subject of embodiment in architecture is expansive. Each particular moment offers a specific set of conditions. Current research in this area ranges from studying the historic Vitruvian tradition to contemporary modalities of embodiment. In old times, the Classical body used to provide a measure of harmony and proportion for embodiment in the world, and architecture was seen as part of this structure of embodiment. The body was idealized, proportionate and balanced. With time, this understanding of the body started to divert, fade or take new meanings. To start, this thesis seeks a range of investigations that engage the following questions: What are the contemporary modalities of embodiment? What analogies do they

suggest? And how can we learn from them to understand better the condition of embodiment in architecture today?

As I reviewed writings on 'Bodies and Architectures', I explored different transprojections between body and building. There is a wide range of possible studies to explore. To simplify this search, I review specific moments in history when thinking of the body and its relationship with architecture became particularly significant. There is a range of possibilities on "Architectures and Bodies"[1] which have influenced historical and contemporary practices, and which will be somehow discussed in this thesis (i.e. The Vitruvian Body in architecture; Architecture & Normalised Bodies, Bodies & Micro/macro Architecture, Architecture & Phenomenological Bodies, Architecture & Poststructuralist Bodies, Architecture & Mediated Bodies). The list may be extended further. (For example, one may look into "Architecture, Semiology & the Body" where the body becomes a land for cultural signifiers (see: Barthes, 2000). However, the review cannot be comprehensive.

Whereas some the previous themes have been already investigated in the history and theory of architecture (e.g. the Vitruvian tradition). Other subjects have only been partly considered in architectural research (e.g. Architecture & Mediated Bodies, Architecture & Poststructuralist Bodies). There are gaps in these areas which I intend to contribute to. I am also interested in the historic, theoretical and architectural connections between the different areas. As we will see, ideas fade and return. And the image of the body in architecture has been an evolving process.

In the context of post-modern and cyber culture, I wish to explore the specificity and subjectivity of human experiences, where issues of memory, virtuality, location, movement etc become particularly significant. However, one of the greatest challenges of such investigation is the integration of the digital dimension in the discussion of humanities. With the emergence of cyber culture, a few contemporary theories started to look for alternatives and crossings among the discourse of cyborgs and the question of embodiment for instance (Haraway, 2000). And one of the consequential themes in this context has been related here to the notion of interface.

The interface is a rich contemporary concept which is characteristic of the digital age. This concept has been related to the body, virtuality as well as digital technologies and communication systems. Even though the interface is closely related to embodiment, it is still often considered exclusive to the field of electronic engineering and computer science. The interface could however, open up a vast new array of possibilities, which maximise its potential to produce the unfamiliar in architecture. Architectural discourse needs to accommodate this in relation to the question of embodiment in architecture. One of the central points I raise in this thesis considers this particular problem: what I call Relational Interfacings.

Snapshots of the Chapters to Follow

This dissertation is divided in two volumes: Volume One and Volume two. Volume One comprises the actual thesis and is divided into four main parts: (1) Background & Theory, (2) Strategy, (3) Interventions, and (4) Discussion & Conclusions. Volume Two of the thesis contains the appendices in two formats: a text and four DVDs documenting the design and research process in the Interventions.

The thesis starts with a historical overview on the bodily analogy in architecture. Chapter One explores the development of Vitruvian tradition and its effects on architecture until the turn of the twentieth century. Vitruvius, who compared the human body directly to the body of a building, also expressed a sequence of claims for this analogy that far transcend the need to explain the meaning of proportion, symmetry, and harmony in architecture. By doing so, Vitruvius then opened the path to a whole anthropomorphic tradition from Alberti to

Leonardo. Some claimed that this tradition has long ago been lost (Rykwert, 1996; Sennett; 1996). Others think that this tradition has returned recently with a renewed appeal to corporeal metaphors. But the new metaphors differ radically from classical and humanist analogies. Chapter Two presents these new metaphors based on a post-humanist body – where the classical transprojection between body and building turned into a crossbreeding between the two. From this point, body and building start to be seen as congruent counterparts and the boundaries defined by humanist tradition start to become more ambiguous.

The suspension of boundaries emerged more clearly with the notion of interface. In digital and cyber culture, the interface is not limited to technology; it extends to become an important aspect of contemporary embodiment. Based on this assumption, the interface could possibly redefine the analogy between body and architecture through virtuality by allowing for more relational environments. With this in mind, I suggest "Relational Interfacings" between body and architecture, where the suspension of boundaries become politically significant, as it puts forward a body 'in action' and allows for new representation of architecture based on the reappropriation of the body of the user.

This relational analogy begs for a reconsideration of the methods which are used in the study of corporeality and embodiment. Unlike the idealized humanist body, the post-humanist body of the user, which I focus on, is subjective, active and immersed in the everyday life. And since this project is focused on observing the consequences of embodiment in real-life contexts, I use a specific methodology which involves intervening in existing architectural sites. My strategy requires me to engage with virtual (and physical) constructions in real-life situations in order to observe as a designer/researcher the implications of relational interfacings on the analogy of body in architecture.

Chapter Four explains the basis of my research strategy in installation art. Despite the vagueness of this practice, installation offers a first-hand situated environment to study embodiment. After linking it to relational theory, I confirm that the intervention provides the appropriate ground for studying issues on site-mapping, interfacings and embodiment. from this I look at ethnographic interventions as case studies allowing me to study the effects of the interrelationships between users, interfacings and the architecture site.

Chapter Five gives details on the methods used in each intervention. I introduce the 'intervention protocol' as a system which promises to solve the divisions between the subjective realm of lived experience (involving memory and socio-spatial practices) and the objectivity of research. In this sense, the intervention protocol becomes a diplomatic and relational framework. It involves a bricolage approach and consists of three main processes: (1) site-mapping (2) ethnographic mapping, and (3) the possibility of replication.

Three interventions will be examined in Part Three. Most of these were part of a collaborative practice. They explore memory, the interface and embodiment in different contexts and narratives. The first intervention *'Sited Moss'* emphasises on the dichotomy between monumentality and intimacy in architecture. The work presented in Chapter six consisted of mapping memory through sounds and mosses on the threshold of the University College London's main building. The second intervention (Under Scan) is a project by Rafael Lozano-Hemmer. This work was particularly useful to this study as it provides a paragon for my research practice. Chapter Seven will highlight the most interesting aspects behind this work. It will focus on the main themes of this research: embodiment, representation, the interface and architecture.

In Chapter Eight, I discuss my third and last intervention: Threshold. *Threshold* explores the notion of performativity by putting forward a user in action, where the subject starts to 'act' on site. The concept of the intervention explores how interactive chimes may suggest intimate experiences in the foyer of Queen Mary's building. The work focused on designing soundscapes that would allow for imaginative/relational projections between the body of the user and the architectural space.

The thesis concludes with a reflection on the intervention outcomes. Based on these interventions, I re-assess the body-architecture analogy and I discuss a new approach to the notion of interface in architecture.

In the end, the Appendices in Volume two provide further documentation on the individual Interventions. Four DVDs comprise video documentation from Under Scan and Threshold. DVD 1 comprises a twelve minute-long documentary illustrating the project; this includes, concept, technology, reports and interviews. DVD 2 focuses on unedited footage and interviews with the public in Northampton. DVD 3 documents the first stage of *Threshold*. It comprises video documents of the interface and of four users experiencing the piece. In DVD4, more interactions are documented from the second stage of *Threshold*. The DVDs are created in the PAL format. They play back in NTSC players and from all computers equipped with a DVD player.

Interdisciplinarity & Collaborations

Like many architectural studies today, this research derives its approach from different sources. As an interdisciplinary work, it draws from anthropology, technology, art and architectural theory. I have used a combination of methods. In addition to interpretive methods, the study involves ethnographic methods and experimental art practices. Combining methods is not new in architectural research. Increasingly, researchers across many disciplines are seeking ways to marshal the benefits of two or more research designs. And many scholars are gravitating toward case study research, a strategy in which a particular setting or circumstance is investigated holistically using a variety of data collection and analysis tactics (Groat & Wang, 2002). This project is part of an emerging research community—represented by networks like the Leonardo Net.

Emerging over the last two years from a broader concern with HCI (Human-Computer Interaction) to engage with an increasingly technological society. Leonardo Net has been building a radically interdisciplinary research network to explore issues of culture, creativity, and interactive technologies. Concerned with the interface between arts, technology, and interaction design, the network draws on researchers from both sides of the arts-science divide, aiming to develop an understanding of how new interactive technologies are changing our cultural and creative practices. In a similar vain, the Threshold project aimed to explore the relation between architecture, creativity, and interactive technologies and to acknowledge the growing need to think of humanities and technology side by side. Part of the discussion brought up in Chapter Eight derives from discussions that have surrounded the workshops and events of the Leonardo Net.

Generally in this thesis, the discourses about technology and humanism have melded into a unified approach. The aim is to suggest new concepts and strategies, and to provide an interdisciplinary and common ground for a possible discourse between anthropologists, architects, scientists and even artists. For a long time, it was a common belief that humanities and technology belonged to different worlds. It was believed that these disciplines are distinct and do not relate much to each other. In the last few decades, more and more people are coming to see that the discourses about and within the technology fields and the humanist fields can no longer remain separate. In fact, there is a value and a growing need for technology to be continually influenced by humanistic ideals, so that technologies become more human-centred and humans find new ways to view and use technology (Saarluoma, 2007).

Similarly, this thesis has been lying at the crossroad of different fields; the two advisors of this work belong to radically separate research groups and generally work with different research strategies. Dr. Chengzhi Peng works on aspects of computer-aided design and the use of computers in the building and design process. Stephen Walker's research interests,

on the other hand, are focused on the theory of architecture and the body, together with explorations in contemporary theory. This, I believe, was part of the strength and originality of this research thesis.

My personal involvement in the three interventions varies. It is important to acknowledge the challenge of researching and writing in a highly interdisciplinary space. Anthropology and architectural theory are clearly distinct, and they in turn both have fundamentally different validation system from the empiricism of HCI, yet the three seem to meet in the use of new digital forms. The emphasis on art practice in design research brings a fourth set of values to bear. I have had to meet the needs of the architectural research community. Architectural design cannot exist without diagnosis and evaluation; theory cannot stand without some practice to apply it to; and analysis must acknowledge its philosophical underpinnings. Consequently, the work reported here is spread among these fields, drawing on methods and theory from various disciplines from art theory to anthropology, to digital arts and architecture.

Sited Moss forms the first intervention in this research. The intervention formed part of the '[Dis]locating Specificity' conference, held in University College London on the 17th of September 2004. Like some installations presented at the [Dis]locating Specificity conference, this work questioned site-specificity and embodiment. It examined the users' relationship to location and aimed to stimulate a more intimate relationship between the body of the users and the architectural site. It also aimed to observe the impact of using audio installation and materiality in disrupting site-specificity and the users' sense of place and memory. The work was initiated, co designed and installed in collaboration with Rosalie Kim, a PhD candidate at the Bartlett School of Architecture, University College London. (Kim works with moss on her architectural design based PhD.) At the beginning of this collaboration, Rosalie initiated the concept of using mosses, while I was mainly working on the sound installation. However soon after this, we both worked on the design and installation of Sited Moss, and it became more difficult to distinguish my ideas from hers. Unless referenced, the post-intervention research reported in this chapter however, is mainly mine.

The second intervention (Under Scan) is a video art installation by Rafael Lozano-Hemmer. This project acted as a reference project for my work. . I chose this work because it provides a useful case of the role of digital media (in this case it was video portraiture) in redefining the relation between body and environment. Lozano-Hemmer is amongst the leading contributors in interactive video art. Under Scan was a complicated work – certainly beyond the scope of this PhD research to explore comprehensively (this would have required substantial funding, longer time, and a big research team). I have been privileged to work with the artist on Under Scan installation. Not only did he allow me to examine the piece in relation to thesis. He also, perhaps unknowingly, informed the discussion in this thesis and provided a good example on the professionalism of such practice. Although I did not participate in the design of this intervention, I have been involved in the research and interpretation during the installation and post-installation stages. I have studied the piece in-depth.

The last intervention *Threshold* was a collaborative project funded by EPSRC Leonardo-Net network. I collaborated with Dr. Nick Bryan-Kinns and Dr. Jennifer Sheridan. Bryan-Kinns is a faculty and researcher at the Queen Mary University of London (QMUL). Dr. Jennifer Sheridan teaches also works in the InfoLab21 at Lancaster University's Department of Computing[7]. The piece was exhibited twice. It was first installed In June 2006 for the Performing Rights Conference at the Queen Mary, University of London. In stage two, the piece was re-exhibited in September 2006 at the same location for the First International Symposium on *Culture, Creativity and Interaction Design* (CCID 2006).

Terminology

Finally, one of the most challenging aspects of writing this thesis was related to terminology. It is important to note that the reader will be faced with a series of newly composed terms: such as *ethnographic interventions*, *mapping*, *chiasmic interfacings* and *spatial palimpsest*. Some of the terms used may sound unsettling at the beginning. For this reason, I provided a glossary at the end of this volume. Blythe, Light & O'Neill (2007) once said that *'as new forms emerge, new vocabularies must also develop.'* I hope that the ideas presented in this thesis are a step towards a critical discourse on culture, art, architecture and technology, and that perhaps these terms and concepts will suggest areas for further study.

PART I: CONTEXT, BACKGROUND & THEORY

Chapter One

1 Body & Architecture: A Historical Overview

1.1 Introduction

> "[t]he column-and-beam element is, in itself, a constituent of the man-made, of the artificial world. It is also part of an all-encompassing metaphor that makes human shelter and embodying, an in-corporation." Rykwert (1996, p. 373)

Frequently within Western civilization, the human body has been closely associated with architecture and provided various models and rules for its ideal. The building derived its authority, proportional, compositional or organisational principles from the body. The history of metaphoric trans-projection between body and building existed since Greek architecture. But it was with Vitruvius that the anthropomorphic tradition clearly emerged in relation to architecture.

Rykwert (1996) described the classical anthropomorphic metaphor as twofold and involving three terms: a body is like a building and the building in turn is like the world. That metaphor returns in a more global similitude: the whole world is itself understood as a kind of body: as macrocosm to microcosm. In this context, architectural expression reveals itself as a representation of a greater order: of the articulation between body and the world. The metaphor reached its apex through the powerful connections grounded on Vitruvian tradition. Rarely has there been such a rich and comprehensible stage where the body was so deeply investigated in relation to architecture.

The Renaissance in particular reflects an incredibly rich period where body, theory and artistic creation were brought together; in this combination it responded among other things to the general architectonics of embodiment theorised by Vitruvius, and investigates the order in its original sense. But in spite of the powerful models we may find in Roman and Renaissance architecture, the anthropomorphic tradition is not restricted to classical models. Anthropomorphism has often been misunderstood. And the metaphor was lost when it really started to borrow mimetic techniques based on figural representation emptied from its original cosmomorphic, intellectual and cultural relevance. An important argument of this thesis is that anthropomorphism must learn, but also be liberated, from its classical examples. It is seen as an open-ended analogy for all times: 'a clutch of connections, or relation' depending on the contemporary cultural and intellectual conditions.

This chapter forms a basic introduction to the subject of body and architecture. It explores the emergence and 'progressive death' of the classical anthropomorphic tradition from Vitruvius until the beginning of twentieth century. It also implies the beginnings of a long investigation on the relation of subject and object, embodiment, and architecture.

1.2 Vitruvius and Classical Anthropomorphism

> "The temple should borrow the perfect harmony of the human body and its proportions in order to be harmonious. Similarly in the members of a temple there ought to be the greatest harmony in the symmetrical relations of the different parts to the general magnitude of the whole." (Vitruvius, 1960, p. 72-73)

The first extant treatise to literally place architecture within the architectonics of embodiment goes back to Marcus Vitruvius Pollio (80/70 – 25 BC). Vitruvius' famous treatise entitled '*De Architectura*' (27-23 BC) illustrated the strong alliance between body, architecture and the world. It also discussed and defined the orders for the first time. Perfection, wrote Vitruvius, was due to the fact that the extended limbs of a perfectly proportioned human fit into both the circle and the square. According to Pythagorean tradition, the circle represents the spiritual realm; and the square, material existence. So, the human body represented the perfect marriage of matter and spirit, which is reflected in its proportions (aiwaz.net, n. d.). It is in the beginning of *Book III* of Vitruvius' treatise that the concept of the 'Vitruvian Man' emerged:

> "Then again, in the human body the central point is naturally the navel. For if a man can be placed flat on his back, with his hands and feet extended, and a pair of compasses centred at his navel, the fingers and toes of his two hands and feet will touch the circumference of a circle described therefrom. And just as the human body yields a circular outline, so too a square figure may be found from it. For if we measure the distance from the soles of the feet to the top of the head, and then apply that measure to the outstretched arms, the breadth will be found to be the same as the height, as in the case of plane surfaces which are completely square." (Vitruvius, 1960, p. 3)

Based on the proportions of the human body, Vitruvius designed temples and posited them in relation to the world (in a metaphysical level) through the language of geometries. "[A] perfect building should be symmetrical like the human body" wrote Vitruvius (1960, p.73). By doing so, he outlined the principles of a long tradition in architecture: the anthropomorphic tradition.

In Classical[2] Rome, the analogy of body to building emerged within two traditions: the anthropomorphic and the cosmomorphic—and both were related within the most essential characteristics of 'proportion'. Romans used proportion and geometrical imagery to plan cities by following the rules of bilateral symmetry (Gelernter, 1995, p. 69; Sennett, 1996, Rykwert, 1996). The design of Rome, for instance, was an organic geometric design, a system of symmetries and order. Roman buildings had clear and precise orientation in space, with well-defined proportions. But proportion here must be understood according to Greek philosophy from Platonism and Aristotelian theory: to think *Proportion* is to consider things as proportioned with respect to a unifying whole, as an open dialectical structure, and not for themselves as a visible unity or closed system of proportions. Hence, the role in proportioning architectural elements or the human body depends entirely on the presence of an articulated world in which the body is connected with embodiment.

By placing the body in the centre of the architectonic of embodiment, the Roman architecture recalled Greek thought. The pervasive proportionality of the famous Parthenon in Athens remains a paragon on the symbolic role of architecture in the primary structure of embodiment. Also in Greek sculpture, the growing belief that meaning and order could be found in the world of immediate experience had led to an expanded range of emotional expression. The problem of the human existence was seen as a drama played out on a cosmic stage (Pollitt, 1972). And Greek art and architecture were catalysts of this drama (Figure 2).

"The viewer cannot mistake what the motion is; a single rhythmos has captured the whole action. Just as symmetria gave rational order to form, rhythmos gave rational order to motion." (Pollitt, 1972, p. 58) Source of illustration: Pollitt, J. J. (1972). Art and Experience in Classical Greece: Cambridge University Press. P: 59.

Figure 2 Diskobolos of Myron.

To this end, classical architecture from Greece to Rome aimed to represent the transcendental world through 'geometrical rules' and the human body became the ultimate measure for symmetry and proportion. As Vesley explains:

> "Architecture represents the most elementary mode of embodiment that enables the more articulated levels of culture, including numbers and ideas, to be situated in reality as a whole. The distance that separates architecture from ideas or numbers cannot be bridged directly and in simple way. The task is open to mediation, but this is never a perfect or complete process because human understanding and modes of representation limit it. Representation is mediated through culture, and thus ... architecture. In a hierarchically differentiated way, each area represents a particular mode of articulation with a corresponding mode of embodiment. The continuity of embodiment that penetrates and unites them all is only a different term for architectonics of embodiment..." (Vesely, 2002, p. 41)

1.3 Art, Architecture and the Medieval Body

The understanding of the human body and its relation to cosmology changed with the introduction of Christianity in Europe. As the Church became the universal and unifying institution, art and architectural practice had to take place within the solid theological axioms of Christianity. Artistic production had to praise God and the artist's task was to reveal God's work and image.

Bodily analogies in gothic art and architecture were deeply influenced by the new philosophies from Plotinus' *One Divine Mind* to Augustine's *'City of God'* from the early 5th Century AD (1963). Augustine's work for instance opened the path for a whole new tradition in art representation: a didactic representation depicting the Church ideals. The Church wanted people to be reminded of it all the time and everywhere. So, the human body was drawn in a didactic manner to refer to such ideas (good and evil, heaven versus hell; healthy bodies versus demons etc) with a constant reminder of evil through representation of the discomfort of the bodies in pain, or in sin. Medieval drawings carried references to the original sin and an excessive use of the figure of death. Figure 3, *The Three Living* and *The Three Dead*, illustrates an example on the church's ideals represented in painting through the figure of death.

Figure 3 Jean Le Noir (fl. 1331-75). The Three Living and The Three Dead.
Source: Camille, M. (1996). Gothic Art: Visions and Revelations of the Mediaeval World. London: Everyman/Calmann and King, p. 156-157.

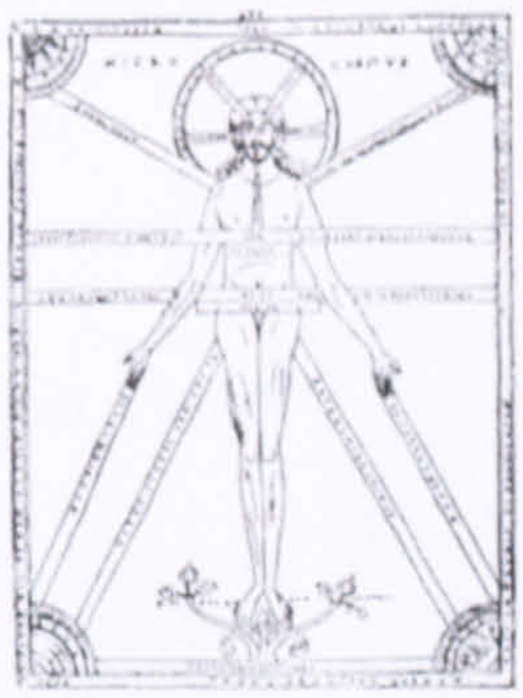
But the body was not only used for didactic representation. Sometimes it became a site for fantasy and projection, reflecting an investigation of the relational connections between the body and the world. In Figure 4, Opicino has combined the new geographical knowledge of coastal outlines obtained by contemporary Italian mapmakers with cosmological symbols stretching back into the earlier Middle Ages. This drawing reminds again of a medieval art struggling to make sense of an over-determined universe (Camille, 1996, P.161).

Figure 4 Opicino De Canistris (1295-1355) Africa whispering into the ear of Europe, c. 1340.
"The straight ruled lines and tiny inscriptions that cover the various layers of this drawing are part of Opicino's obsessive desire to interconnect things, bodies, and borders into a prophetic vision of the world. At the top of the "boot" of Italy he has emphasized his own birthplace, Pavia, projecting himself into this highly organized, but incomprehensible, universe." (Camille, 1996, p. 169) Source of illustration: Camille, M. (1996). Gothic Art: Visions and Revelations of the Mediaeval World. London: Everyman/Calmann and King, p. 160.

Medieval paintings tell a lot on the development of body analogy. It was then that the 'microcosmic doctrine' started for the first time to be illustrated in a way that shows the relational connections between body and cosmos. The previous paintings show new representations where the body is directly 'mapped' onto the universe (or vice versa). In the case of Opicino, mapping becomes a way to analyse, question and interconnect bodies, things and borders.

In architecture, medieval thinking brought change in spatial distribution of community in urban space as well as the expansive construction of Gothic churches (Sennett, 1996). But Catholic religion also led to radical shifts in medieval thinking towards the new 'order' and representations in the analogy between body and world. It is true that the cosmomorphic analogy emerged since Greek philosophies. But the analogy gained new meanings as it developed to the specificity of medieval thinking. And the divine element became essential in the architectonics of embodiment. This is clear in the writings of St. Antonio who outlined three cosmoses: (1) the macro-cosmos (God the greater order), (2) the medio-cosmos (the created world), and finally (3) the micro-cosmos (the man). More examples are illustrated in Figure 5. Figure 5 illustrates the zodiacal articulation of the world and represent the medieval body as a microcosmic body. Even the representation of maps reflected aspects from this triadic analogy between the body, church and the world.

a. Map of the world from a Psalter, c. 1260.



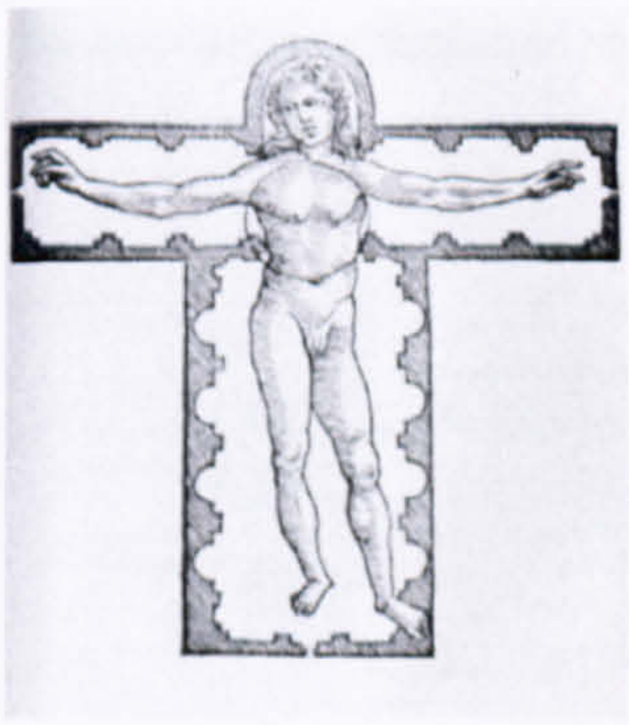
b. Microcosmic Man: Seasons, temperaments, and planets.

c. Cosmic Man..

Figure 5 The Microcosmic Doctrine
Fresco. Source: Rykwert, J. (1996). The Dancing Column: On Order in Architecture. Cambridge, Massachusetts; London, England: MIT Press, p. 81

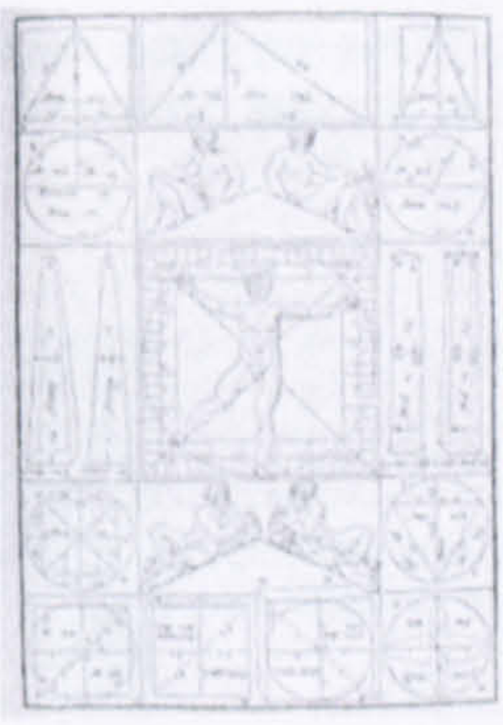
1.4 The Vitruvian Tradition in the Renaissance

Renaissance ideals challenged the medieval way of thinking by a growing rejection of divinity in favour of the sensory world. This period represented a reconnection with classical antiquity and focused on the importance of humanities. This revival implied an empathic return to the Greek Vitruvian Tradition. And at this time, the symbolic trans-projection between body, building and city reached its climax.



a. Ground plan of a basilica with very wide transept. Cataneo..

b. Figure describing the human proportions by Goujon.



c. The ideal proportion of the human body, and basic geometrical forms.

Figure 6 Studies in proportion during the Renaissance.
Source: Architectural Theory: from the Renaissance to the Present. Köln; London: Taschen, 2003, p. 121.

After it was rediscovered in the fifteenth century, the handbook *De Architectura* by Vitruvius was instantly hailed as the authority on classical orders and architecture. Drawing on Vitruvius writings, Renaissance artists and architects developed the analogy between body and building to understand wider issues in relation to the human existence in the universe. Once again, the human body was seen as the source of pure proportional perfection. Figures 6 and 7 illustrate various drawings where the order was investigated through the human body: a mapping of the human body on the body of the building. The building derived its authority,

proportional and compositional form from the body: the building was effectively considered as a body. As Rykwert put it "the raising of building from foundation like elevating the "body" of the building" (Rykwert, 1996).

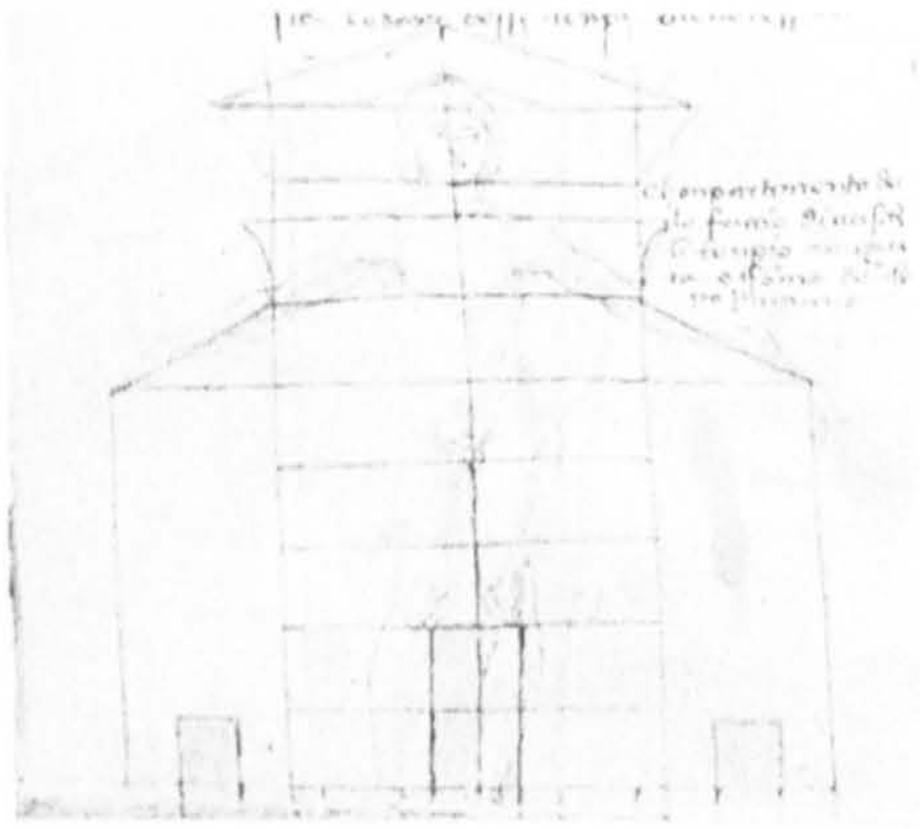


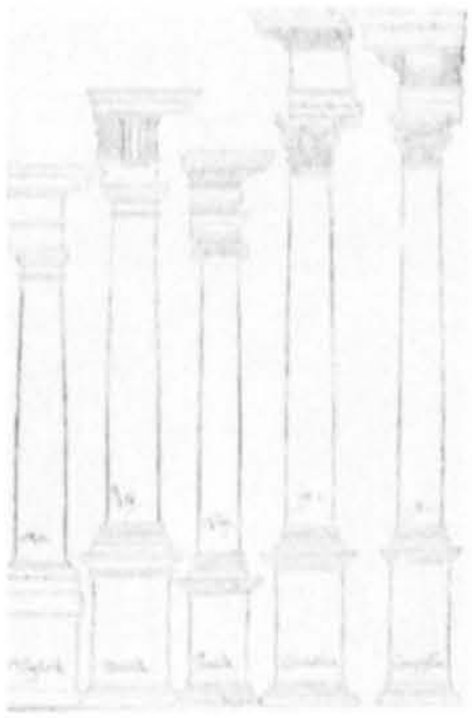
Figure 7. Order in the body by di Giorgi

Order in the body [or] The city as a body, Fancesco di Giorgi, Turin, Cod, Saluzz (as cited in Rykwert, 1996, p. 67). Source: Rykwert, J. (1996). The Dancing Column: On Order in Architecture. Cambridge, Massachusetts; London, England: MIT Press, p. 67.

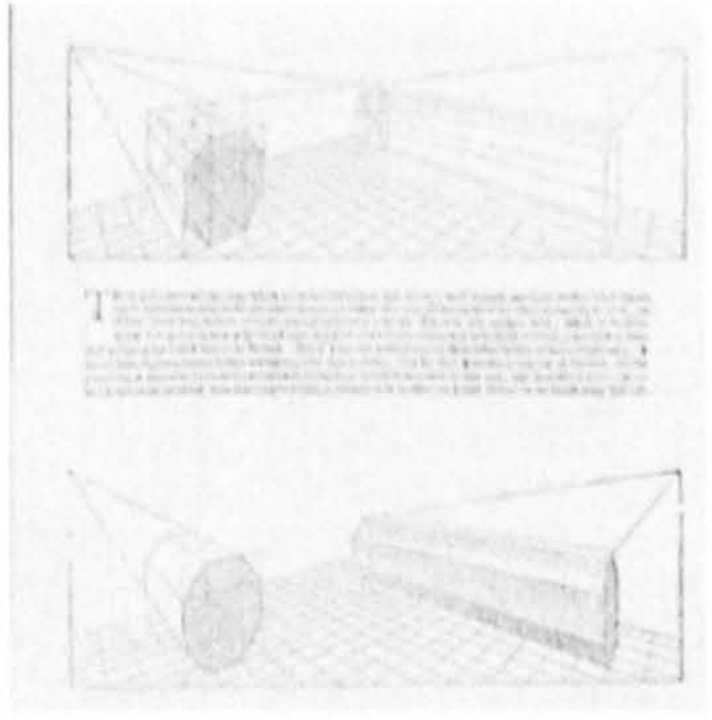
Renaissance architectural theory was based on Vitruvian principles of designs, modular proportions and the order. The order was revisited from buildings to cities. From Alberti to Filarete treatise, Renaissance writings were promoting the Roman ideals of harmonic proportions and symmetrical planning. Alberti, like Vitruvius was interested in the topological aspect of the human body. He claimed that mathematical laws and proportions essentially governed architecture. With Palladio's buildings, rules were added for superimposing the classical orders and the exact proportions of the orders were examined down to the smallest details. A notable example is the church of San Giorgio Maggiore in Venice (see Figure e). Serlio, on the other hand, revisited and redefined Vitruvius orders. He helped canonize and fix the five classical orders of architecture (see Figure 9). For Filarete and Florentino, the whole city was compared to an ideal human body.

Figure 8 Palladio, On the Temple below Tervi. From Chapter xxv, p. 98.

In this book Palladio discusses and illustrates the temple. He made woodcuts of this little temple. In this image, he illustrates the elevation of half the façade of the interior. L: the capital of the portico. This drawing illustrates one example of a richly illustrated and detailed book. It also demonstrates how Palladio integrates through his designs and drawings the orders and a great awareness of proportion. Source: Palladio, A. (1997). *The four books on architecture* (R. Travernor & R. Schofield, Trans.). London: MIT Press. See Book IV (on ancient temples), p. 303.



a. Serlio, Five maner of Building. Source: The five Books of architecture: an unabridged reprint of the English edition New York: Dover publications, 1982, Fol 3 / The second book; the third chapter. Fol 2



b. Serlio, Of Perspective. Source: The five Books of architecture: an unabridged reprint of the English edition New York: Dover publications, 1982, The second book; the third chapter. Fol 2

Figure 9 On the Orders and Perspective, by Sebastiano Serlio

On the other hand, Renaissance artists from Cesariano, to Michelangelo and Leonardo da Vinci, all studied the geometry and physiology of the human body. Cesariano drew the Vitruvian man according to Vitruvius descriptions (see Figure 10). But the most successful and accurate depiction of the Vitruvian Man was Leonardo's. Leonardo da Vinci drew a naked male figure in two superimposed positions with his arms apart and simultaneously inscribed in a circle and square. Like Vitruvius, Leonardo believed that the same principles should be used when designing buildings. But the body was not considered as static. Leonardo spent much of his life searching for connections between the structure of the human body, and other patterns in nature. In his notes, he proclaimed, "*Man is the model of the world*". Leonardo studied the movement, perspectives in association to the Vitruvian figure. He initiated the *'Vitruvius man in motion'* (Rykwert, 1996) (Figure 11). Leonardo's drawing investigation represented a mechanical representation of the body in a way, which anticipates the modern body.

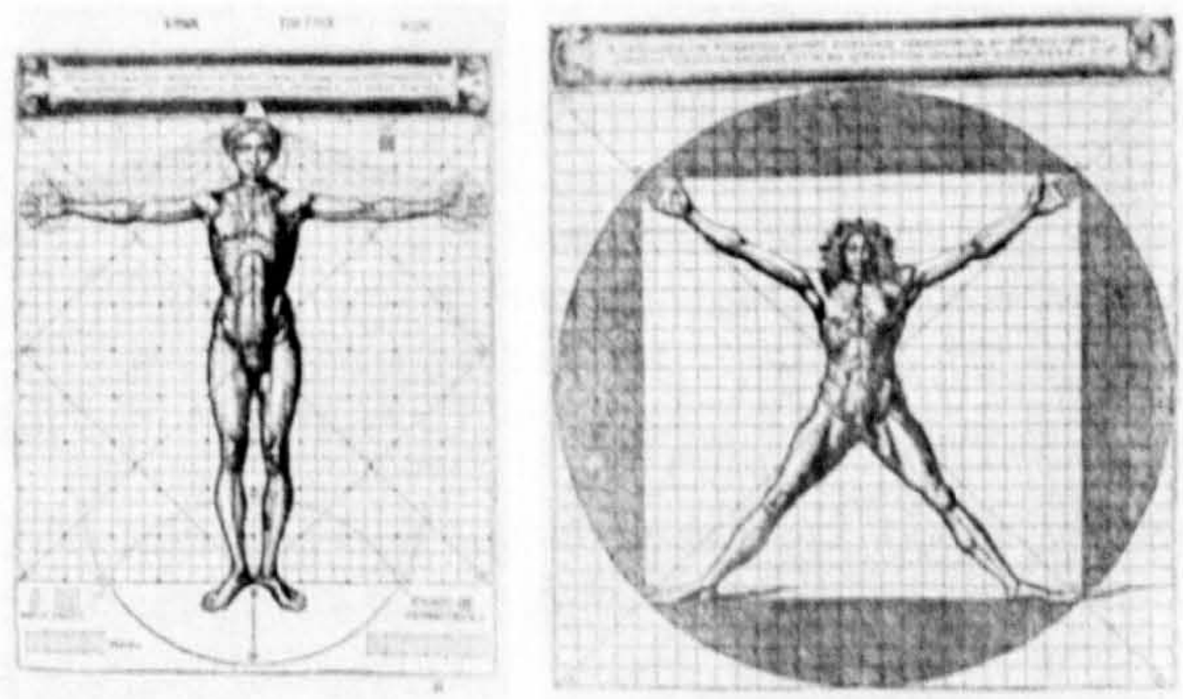


Figure 10 Vitruvian man within a square, Cesare Cesariano
Source: Architectural theory: from the Renaissance to the present: 89 essays on 117 treatises. Köln; London: Taschen, 2003, p. 70.

a. Vitruvian Man

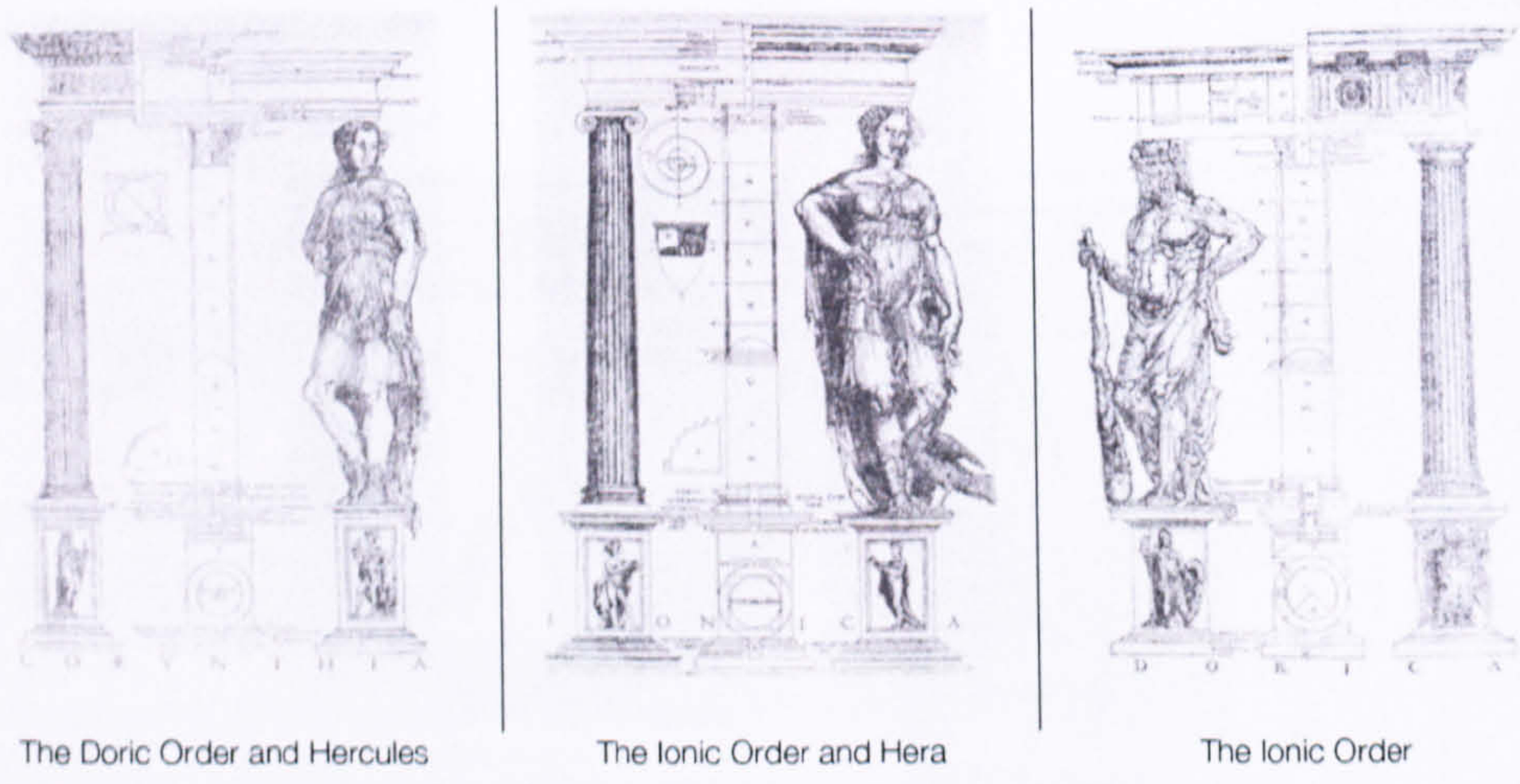
b. Vitruvian Man in action

Figure 11 Leonardo's Vitruvian Man

1.5 Architecture, the body and the Baroque Dualities

The Baroque period was marked by its dualities and conflicts. And so the Baroque 'body' was ripped between the glorification of a remaining Vitruvian tradition (neo-classical approach), and a rational/mechanical understanding of embodiment in a growingly rationalist culture. (A reflection of the contrasting realities between a still powerful Catholic Church and a growing rationalism.) These conflicted realities implied two ambiguous definitions of embodiment: the first was still committed to the 'Vitruvian Body' and the second anticipating a modernist mechanical representation of embodiment.

With time, the classical anthropomorphic tradition became gradually peripheral and body representation in architecture became idealised and posited. Shute and Blondel's mimetic techniques, illustrated in Figures 12 and 13, are good examples of such attempts. They show how the metaphor lost its principle as a measure to interconnect things in the world. It became detached from the anthropomorphic depth of previous traditions.



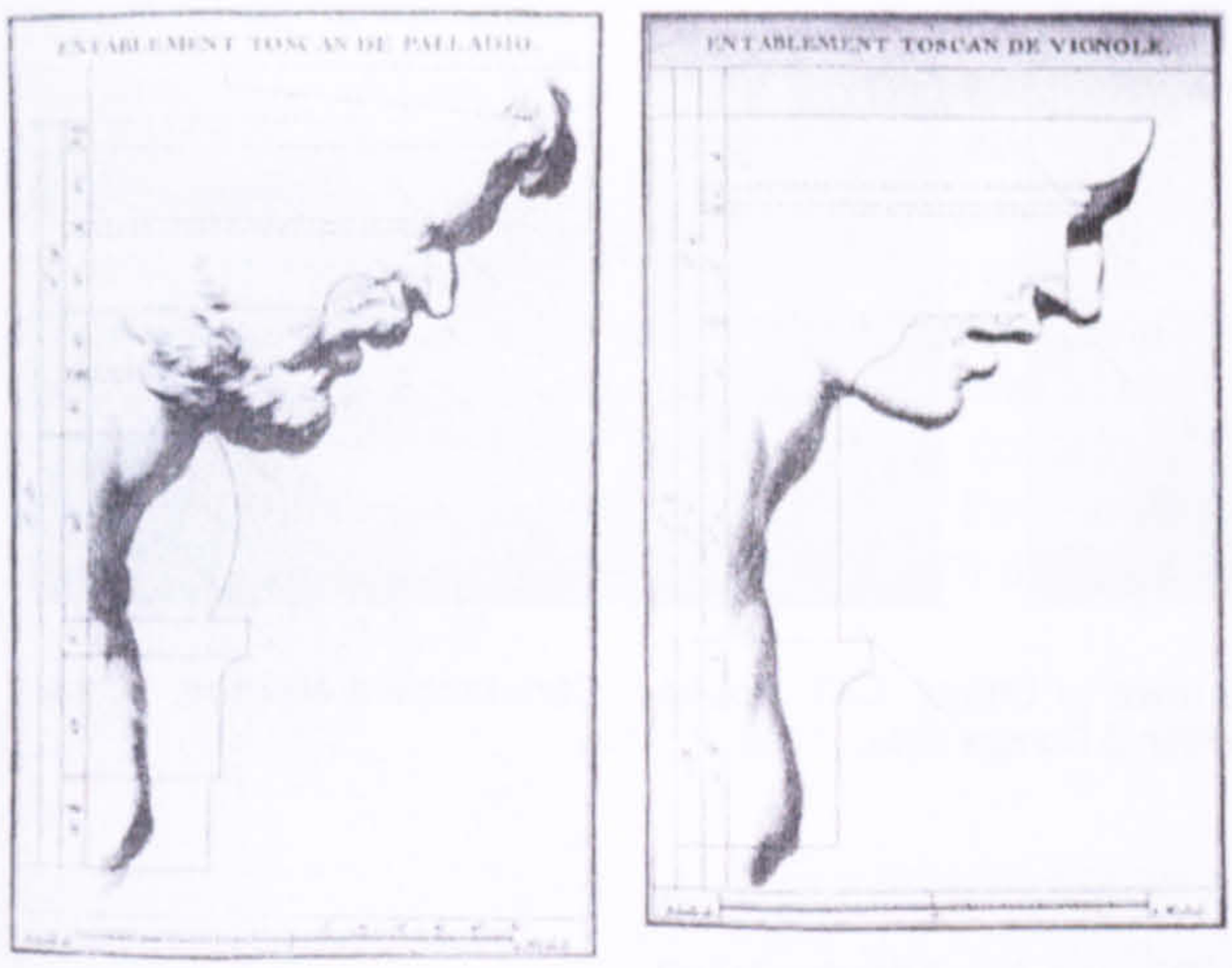
The Doric Order and Hercules

The Ionic Order and Hera

The Ionic Order

Figure 12 Shute, Projection of orders and humans

The Figures illustrate Copper engravings from J. Shute ([1563] 1964). Drawing on Serlio, Shute assigns the figures to the orders—by drawing a parallel of column and figure to understanding the nature of the orders. Using statues as quasi-heraldic supporters. Elaborating on Vitruvian hints, it extends the metaphor to make the orders also signify the five ages of man, each age incarnate in a god or hero—from heary Atlas as the Tuscan order, to maidenly Pandora as the Composite. Source: Rykwert, J. (1996). The Dancing Column: On Order in Architecture. Cambridge, Massachusetts; London, England: MIT Press, p. 78.



The Tuscan entablature of Palladio. By J. F. Blondel (1771-1777) "Hiding the profile of an entablature with the profile of a face: architecture begins to take on an individual character. The entablature is now just as exclamatory as a human face" (as cited in Architectural theory, 2003, p. 307). As Rykwert argues, Blondel found that Palladio's profile to be "like a human face whose parts do not seem...to have been made to harmonize...the nose of a twelve year old [is]imposed on the chin of man of eighty, and crowned by the forehead of a man in his middle age.". Source of illustration: Architectural theory: from the Renaissance to the present: 89 essays on 117 treatises. Köln; London: Taschen, 2003, p. 307.

Figure 13 The Tuscan entablature of Palladio

Vitruvian principles were soon submerged by the rising tides of Rationalism. The impact of Harvey's discovery of the circulation of blood and Descartes philosophy introduced a new concept of corporeity. Rationalism led to the division of body and mind and the body was seen like a machine: as mechanical body, a circulating system. (The idea of circulation in the body was projected onto the city, this prompted in turn eighteenth century attempts to circulate bodies freely in the city (Sennett, 1996)).

1.6 Body and Building: Enlightenment Attempts

By the eighteenth century, the body could no longer serve as an authoritative foundation for architecture as we knew it before. From this time on, architecture would look less for the body as a model of perfection and proportion. Rather, the building implied an investigation of human social issues. The body - building analogy developed into a transprojection of the unseen interior states of the body (physical and mental). As Vidler explains, "[t]he body became an object of nostalgia rather than a model for harmony" (1990, p. 4).

During Enlightenment, everything was calling for the liberation of the body. A new body image emerged from the French Revolution, as represented in the body of Marianne—the symbol of the revolution. Sennett argued "the [French] Revolution showed how crowds of citizens became increasingly pacified in the great open volumes where the revolution staged its most important public event. The space of liberty pacified the revolutionary body" (1996, p. 296).

The impact of the Enlightenment Philosophies examined human concerns and questioned social conditions. The social contracts of Montesquieu or the influence of Rousseau's lyrical and sentimental 'plea' were reflected with a new approach to mingling architecture and states of mind of the body. Architecture became an instrument of egalitarian social reform supporting the new image of the liberated social body. In architecture, Ledoux' *Saline town of Chaux* suggested to structure the new utopian society along strict architectural lines. Also, Boullée's *Monument for Newton* "represents an idealist revolutionary vision through the liberating powers of open space" (Sennett, 1996, p. 296). His drawing illustrates architecture as a representation of humans' freedom (Figure 14).

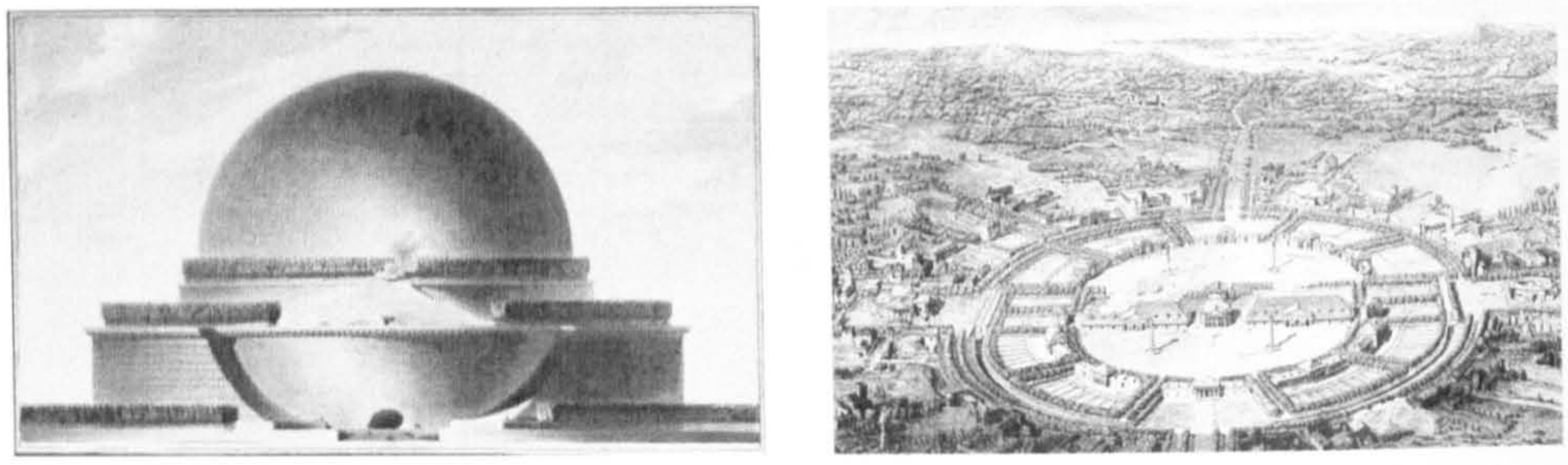


Figure 14 Right: Ledoux: The Saline town of Chaux. Left: Boullée: Cénotaphe a Newton, *1784*
Source: Borden & Dunster (Eds.), 1995, P: 152.

1.7 The Anthropomorphic Tradition: a Lost Metaphor?

The history of architecture proves that the relation between body and building takes different meaning within different cultural context. The anthropomorphic tradition in architecture provides earliest examples where the body was literally used as a method to understand and make architecture. It also implies the question, which tormented humanities from early age on the division between subject/object, body/ mind, and on the place of man and architecture in relation to the world.

In the classical perspective, it was futile to speak of anthropomorphism without speaking of cosmomorphism. The analogy of body and architecture was incomprehensible without a mediating link or structure between ontologically different realities. It is in this context that the Vitruvian tradition emerged and developed. Vitruvius did not introduce anthropomorphism as a mimetic technique. Rather he saw it as a framework for exploring the relational, experiential and existential structure of embodiment.

Since the Renaissance, a progressive division started from existential and cosmomorphic approach towards mimetic analogies. The reason for the loss of the metaphor is that it became one-dimensional. Before, art and architecture helped to decipher how bodies and things interconnected in the world (Opinico's drawing). The human was placed on a cosmic stage and great importance was given to experience. Movement, memory and sensibilities were considered aspects of embodiment (Diskobolos and Leonardo's drawings). Slowly, this has been flattened into less critical representations which idealized the perfect, proportionate male body as a model of harmony. With the Baroque and Enlightenment attempts, the body was dispirited, posited and fixed.

Enlightenment attempts were not necessarily that shallow, but neither were they successful in updating and liberating the old tradition to respond to the changing cultural context. The history of body and building proves that it is the individual processes of rethinking the Orders in new ways that really counts. Such processes have been so neglected that they will need to be reinvented for our times if we are to master them again. This cannot be done by literal imitation but by reinvention. Thinking of *Proportion*, *Module* or *Order* today must be approached in the light of change in the architectonics of embodiment. Order today is more open-ended; it is "involved in something bigger than it can handle, the process by which experience is filtered, transformed and fed back to us in reduced form, all in the name of 'culture'' (Forty, 2000, p. 248). A recent attempt is provided by Le Corbusier' *Modulor*. Le Corbusier looked for the modernist body as a measure in architecture. Although controversial for its idealist modernist homogeneity, this was a significant work in the history of 'body and architecture' analogy because it re-examined the order in a contemporaneous way.

But an important issue remained under the surface in this discussion. The division between subject and object implied a critical question that tormented philosophy and architectural

theory on the subjectivity of experience and how the human body can relate to the world first, and how architecture may be incorporated into this. From Platonsim to Decartes' rationalism, the investigation struggled to justify the relation between the subject and the world. While earlier examples look at the body as a rational for architecture. This question becomes more critical with twentieth century and beyond as theory tries to find new ways to integrate the subjectivity of experience in architectural thinking. The last few decades in particular have seen the emergence of new forms of embodiment (e.g. cyborgs, interfacings, post-humanist body), all begging for further consideration. The question of subjectivity then becomes particularly significant when we investigate the development between the homogenous, objective approach of modernism and the emergence of post-modern culture.

Chapter Two

2 The Body in Architectural Theory: Twentieth Century and Beyond

2.1 Bodies & Architectures from Modernism to Postmodernism

For a long time, architecture aspired to look like the body. From Vitruvius to Le Corbusier, the search for forms of spatial perfectibility premised on a pure body-type and architecture was at best derived from the essence of the human being. Towards the end of the nineteenth century, the bodily analogy in architecture was uncertain. This analogy was split between a recourse to classical anthropomorphic tradition and a total neglect.

By the beginning of twentieth century in Europe, the modern spirit brought with it new corporeal models. Mechanisation had introduced a specific conception of the body leading to a normalised body-image which allowed for commensurability. The modern body was seen as idealised, fixed, healthy, and perfect, and modern architecture was considered a smoothly running machine tailored to this body's needs. But on the other hand, a few indications emerged announcing a body less symmetrical, a flexible body starting to extend in space.

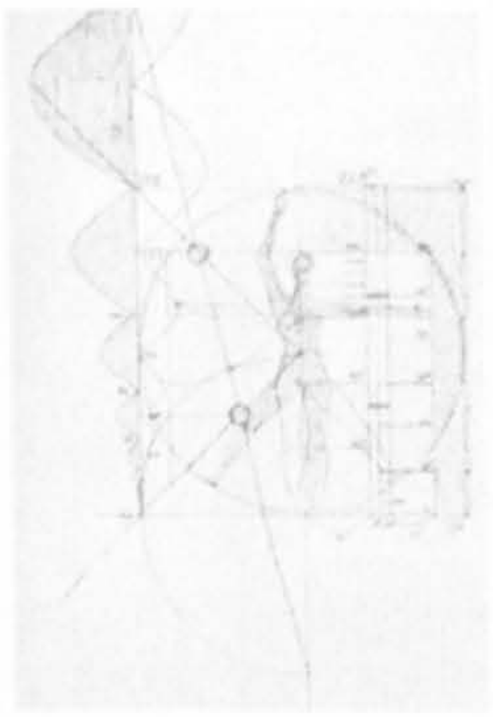
With Postmodernism, a radical break emerged. Cultural and technological change led to a growing appeal for flexibility, cross breeding and interfacings. Consequently, the postmodern body could no longer maintain its humanist definition, causing a critical discourse on the way body should be perceived, and hence on the new analogies between body and architecture.

2.1.1 Le Corbusier and the Normalised Body

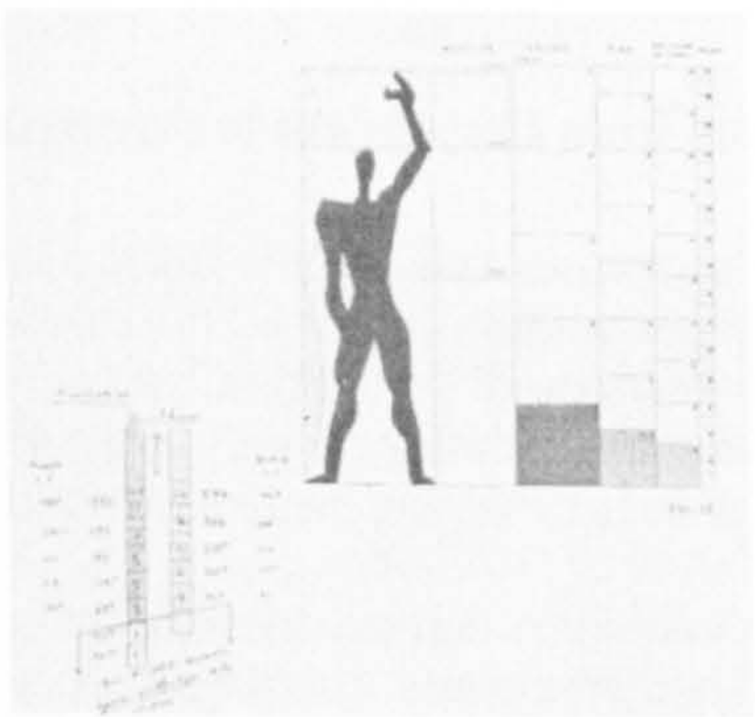
One of the symbols of modern architecture was *'Le Modulor'* by Le Corbusier. 'Le Modulor' (1961)[3] aimed to provide a unified architectural language derived from the human body. In many ways, it recalled a lost Vitruvian tradition. For many, it was a chance to set out the 'modern' anthropomorphic analogy between body and building. This analogy was based on proportion, maths and even music. Hence, it announced the new 'Perfect Order' between man and the cosmos.

Le Modulor presented the human body as a measure of prefabrication allowing for efficiency and proportion in house production. In the age of Mechanisation, this was a perfect example of '*technë formulated for current conditions'* (Rykwert, 1996, p. 390) because it promised to aid in post-war production and prefabricated houses and solved issues related to the standardization and industrialization of housing equipment. In this context, *"The body slowly came to be understood as a mechanical component of industrial productivity"* (Diller + Scofidio, 1994, p. 40).

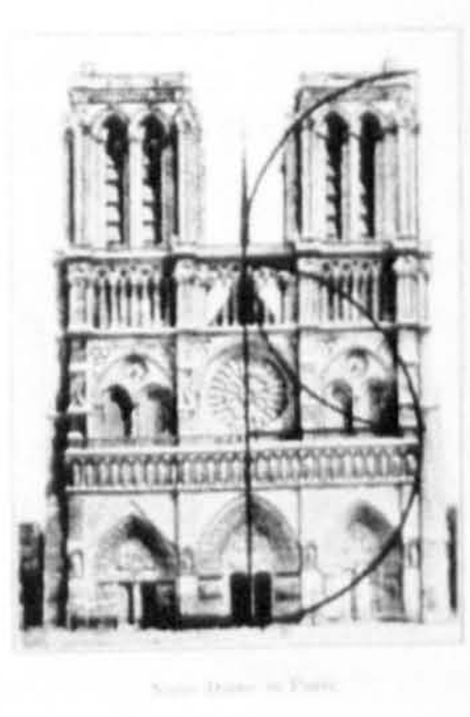
Even though modern architecture was in search for a social body, but the modern body-image led to hegemony and disavowal rather than integration; disavowal in the sense of fetishism which operates to protect a sense of self-integrity by effacing difference, otherness, the outside. The focus on 'domestic body' and 'domestic space' in modern architecture led to objectification of the modern body. The argument went that a perfect, ideal and healthy body needed to live in a modern, perfect and hygienic domestic space. In this analogy the house, the body and the fittings became synonymous. All three were mechanized, normalized and idealized—reflecting the very image of modernity. Leading to a 'normalised' representation of the human body as masculine, white and perfect. Le Corbusier, in this case, was criticised to have self-imposed social alienation and that his architecture aimed to homogenise and disengage people from their external environment. Le Modulor presented the body as standardized, regulated and freed from all disorders (see Figure 15). In this context, the subject became objectified and the social body turned into a domesticated body.



a. After Vitruvius, *Le Corbusier's man becomes a new measure of proportion.* Source of illustration: Le Corbusier. (1961). (Vol. 2). London: Faber and Faber Limited, p. 53.



a. A perfect fixed standing man raising one hand represents Le Modulor. Source of illustration: Le Corbusier. (1961). (Vol. 2). London: Faber and Faber Limited, p. 53.



c. A sketch by Le Corbusier: Notre-Dame with "elevation governors". *German ed. 1926, p.59, Photo*. Source of illustration: Architectural theory. Köln; London: Taschen, 2003, p. 707

Figure 15 Le Modulor by French architect Le Corbusier

The post-modern critic saw this shift (towards the objectification and domestication of the body) as a move backward towards a compliant and obedient body. The home became the ideal breeding ground for pathologies related to the fear of disorder and contamination (Diller + Scofidio, 1994; Braham & Emmons, 2002). Sarah Wigglesworth (2000) criticised the expectations of domestic body and domestic perfection in modern architecture. Modern domestic architecture, such as the *Maison de Verre,* seduced their viewers with fittings, promising a vision of an idealised/sanitised future, but also asserting the architect's power to mould and shape social life and "nature". (Figure 16)

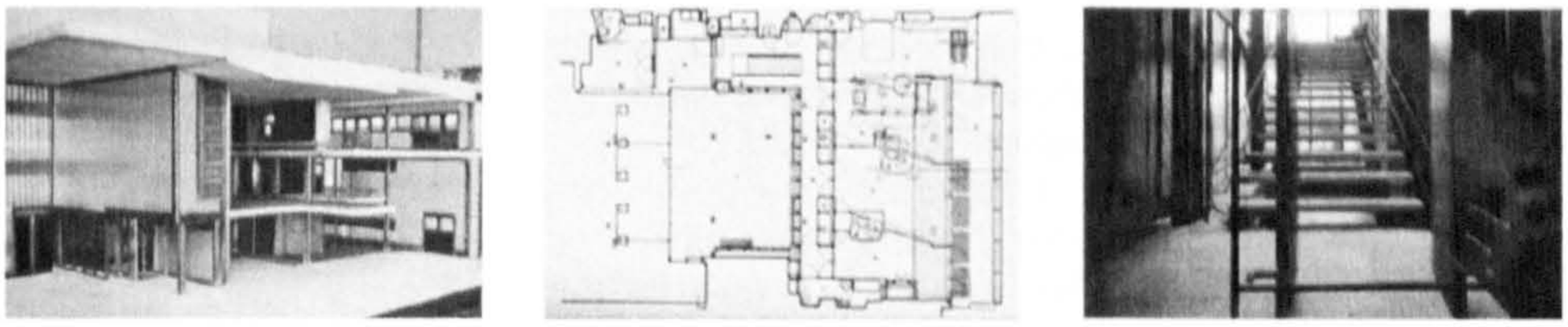


Figure 16 Maison de Verre, by Bijvoet and Chareau, Paris

"Transparency and shininess, two symbiotic qualities of glass, seduce the imagination of the viewer, while the mole nature of many of the props symbolises and supports architects' myth of control: control over movement, social life and material expression. The careful selection of rare and co-ordinated colours and materials offers and image of perfection in a world of bad taste, mass ornament and clutter." (Wigglesworth, 2000, p. 104-105)

In this sense, modern architecture introduced a specific representation of the mechanical body: as faster, cleaner and more efficient, but it also had its effects in terms of promoting the cult of the fetish: The fetish of hygiene and orderliness. Diller & Scofidio, and Sarah Wigglesworth described this further:

> "As efficiency targeted the domestic body and domestic space alike, the design of the interior inevitably succumbed to the paranoid hygiene: the dust and germ-breeding intricacies of the nineteenth-century interior collapsed into pure surface-white, smooth, flat, non-porous and seamless-under the continuous disciplinary watch of the housewife." (Diller & Scofidio, 1994, p. 42)

> "Both the body and the house are veiled as a seductive object and manipulated by mechanisms. Light and cleanliness are essential for this reordering, in which the vagaries of social life and "nature" come under the control of the designer" (Wigglesworth, 2000, p. 103-104)

Diller + Scofidio examined the everyday task of ironing and folding—one of the housework daily practices .In The Bad Press (n. d.), they analysed a man's shirt as an example of the uniform representing the institutional skin. Figure 17 illustrates some of the designs in which they suggest a row of unwearable deviant shirts (some mis-buttoned, some configured like origami petals).

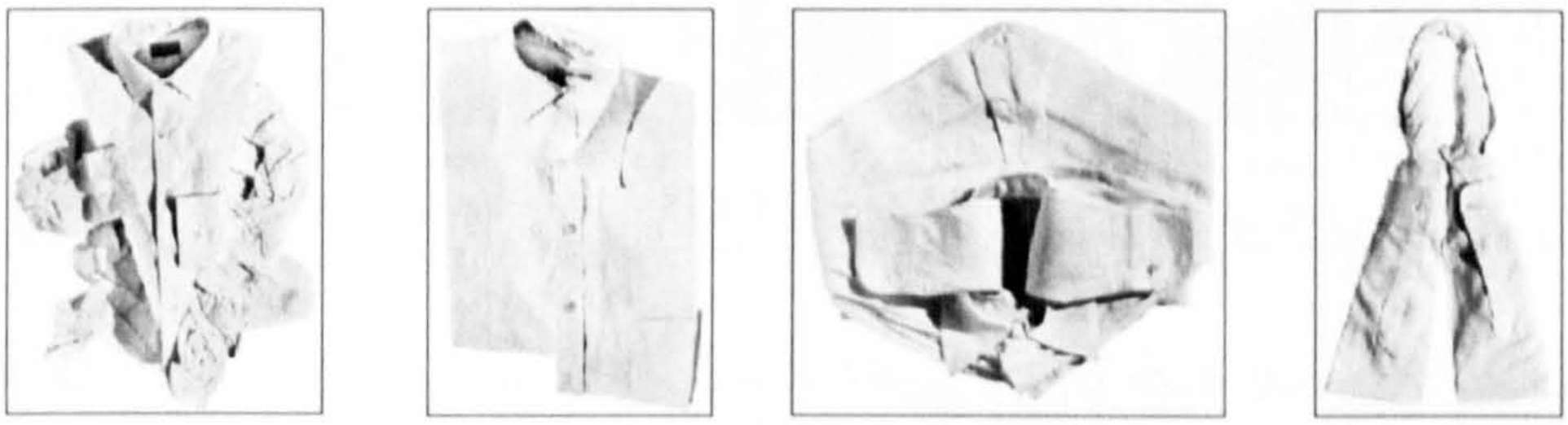


Figure 17 Diller + Scofidio, Bad Press, 1993.

Source of Illustration: Retrieved January 28, 2007 from http://www.prototypo.com/Essays/Essays3/003_1.htm

The Bad Press (n. d.) referred to the pliable surfaces of the ironed shirt, to emphasise on the concept of mechanical body. They discussed the efficiency of ironing and folding instructions to criticize the everyday social conventions and to show that our lives are not only mechanized but also mediated: "The smart, creased shirt effectively wears the wearer, who looks stiff and robotic." In response, Diller + Scofidio propose a set of unexpected alternatives for folding, buttoning and pressing a man's shirt. By such articulations, Diller + Scofidio intend to reprogram the codes of efficiency (Diller + Scofidio, 1994, p. 58).

The postmodern observer saw that the problem with modern body is its homogeneity. But this body also had its ambiguities. Le Corbusier's work reflects an example of the paradox of modern subject clearly idealised but in doubt, a subject normalised/fixed but also extended—almost flexible. True, it called for a perfection, homogeneity and idealism. But at the same time, it was also showing in part an existentially uneasy subject at the outset of a world of 'relativity' and 'uncertainty'; a subject uncomfortably aware of the conventional nature of modern culture. When Le Corbusier presented a man extending his arm in space. He showed a body stretched to relate to architecture—suggesting continuity between body and space. But it is precisely this extensibility of the body, as Palumbo argues, "its extreme possibilities of dislocation in time and space [which] result in the explosion of the box, the final disappearance of a concept of identity based on a single and univocal model of the body" (Palumbo, 2000, p. 21).

2.1.2 Extended Bodies (in anticipation)

Modernism anticipated new definitions to the relational connection between body and architecture. In the case of Le Corbusier, the extendibility of the body in space may be hypothetical, but it could also be spatial, anatomical, or sensual. In Le Modulor, we saw a development from the rigidity of classical body and a tendency to represent the body as flexible and extended in space. Friederick Kiesler, on the other hand, suggested a body obsessively attached to the house. With Kiesler, the house became an extension of the 'psychological state' of the body. His Endless House was a "psycho-functional system in which the material condition of the building and its mechanical operations give way to a form of sensuality understood as psychological pleasure" (Kiesler as cited in Colomina, 2000, p. 57) (Figure 18).

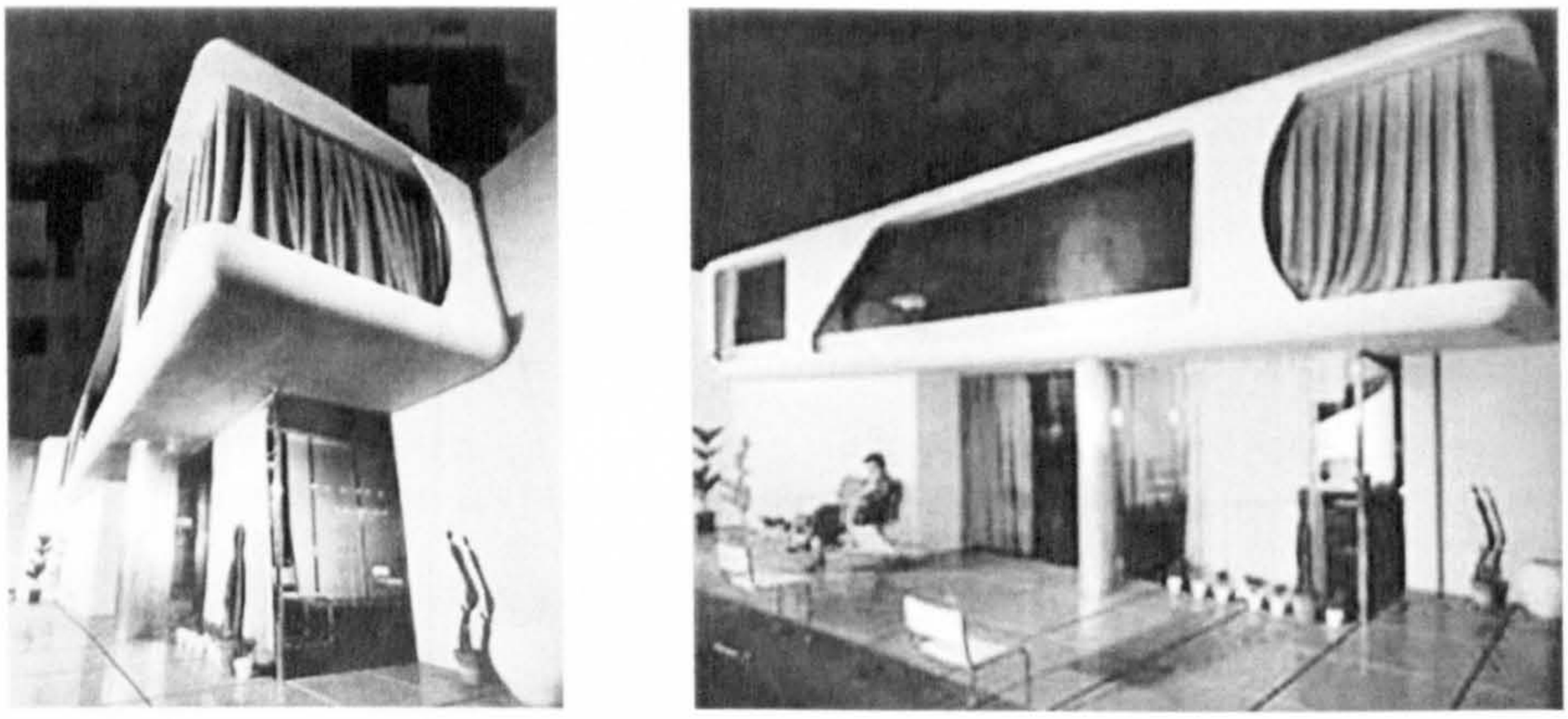
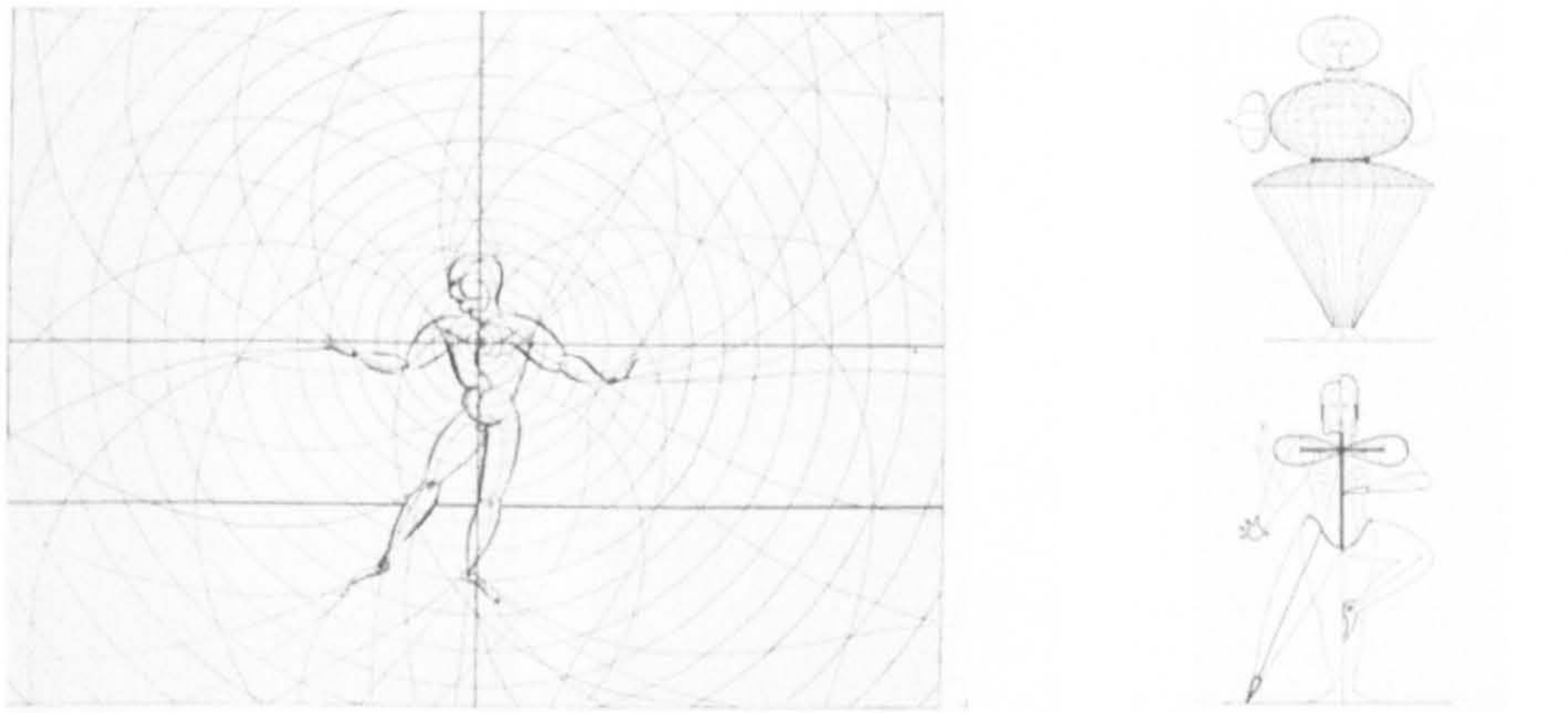


Figure 18 F. Kiesler, Space House, New York, 1933
Source of illustration: Retrieved January 28, 2007 from http://www.kiesler.org/cms/index.php?lang=3&idcat=18&

Another 'modernist' study on the spatial extendibility of the body comes from Oskar Schlemmer's work. For Schelmmer, body and space are inextricably linked in a structured manner of embodiment. He put forward a body unbalanced, moving up and down, rotating about vertical axis: an ambiguous body. Figure 19 illustrates Schlemmer's studies for stage costumes. The images show the 'dancer man', who sees himself as a mobile spatial sculptural creation which 'obeys the law of body and of space, his own inner sensations and the exigencies of space' (Maur, 1972, p. 42). It is as Palumbo argues, "a body extended through space, a body where costume and scenery merge, where anatomic and spatial geometric forms become a single form of nature and culture; a mechanical body, a meeting ground for technology and biology" (Palumbo, 2000, p. 18).



a. Egocentric Space Lines b. prototypes of spatial beings

Figure 19 O. Schlemmer, body & spatial analysis, 1924.
Source: Maur K. V., (1972). *Oskar Schlemmer*, London: Thames & Hudson, p. 42/45.

Again Schlemmer's work suggests an uncomfortable subject, which starts to move away from modern normalisation. This subject is represented through a moving body, accommodating and flexible. It also reflects critical signs, which possibly anticipate post-modern scepticism towards modernist body ideals.

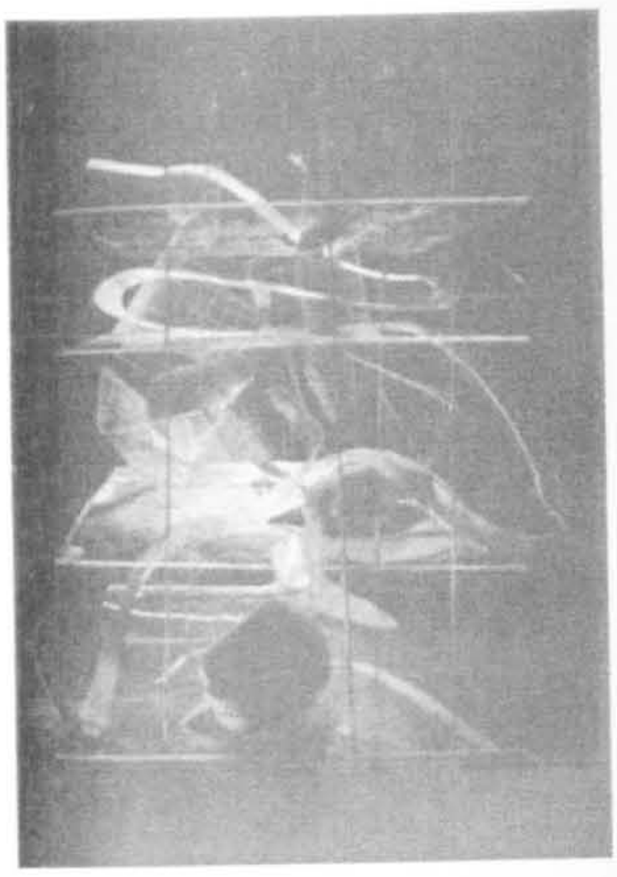
2.1.3 The Post-Humanist Body

Post-modern thought was very sceptical towards the humanist body inherited from Platonism, the Enlightenment and Modernism. Gradually, the 'post-modernist' subject learned to live with the fact that not only are its existence and languages 'arbitrary' but it is itself a precipitate of the very symbolic order of which the humanist subject supposed itself to be the master. And the body turned into an object of nostalgia rather than a model of harmony.

In some architectural works, the extended mechanical subject of modernism turned into 'animism'. 'Animism' argues Vidler, reveals a modality of projections between body and building by mimicking the anti-domestic, dismembered and uncomfortable body, which emerged after modernism (Vidler, 1990). Vidler directly discussed this point through architecture by pointing at Tshumi, Himmelblau and Libeskind's work as relevant examples; The attribution of design, which organizes and animates architecture reminds of the contemporary body, which is constantly in motion, active and anti-domestic: a body *"stretched to include the entire city"* (Vidler, 1990, p. 8). Himmelblau's statement *'our architecture is not domesticated'* also confirms this point (Kandeler-Fritsch & Kramer (Eds.), 2005, P.253/254) (Figure 20).

a. Statement by Coop Himmelblau: *"Architecture is not accommodating"* (Kandeler-Fritsch & Kramer (Eds.). 2005, p. 50)

b. The White Suit, 1996. (Kandeler-Fritsch & Kramer (Eds.). 2005, p. 51).



c. *ZAK-SUKUNFTSAKADEMIE, Haslau, Austria 1999.* (Kandeler-Fritsch & Kramer (Ed.). 2005, p. 243).

Figure 20 Animism in architecture and the anti-domestic body
Source: M. Kandeler-Fritsch & T. Kramer (Ed.). (2005). *Get off of my cloud: Wolf D. Prix, Coop Himmelblau [subscript], texts, 1968-2005,* Ostfildern-Ruit: Hatje Cantz.

2.1.4 Flexible Bodies

Some approaches to the body recently has taken a more nuanced picture of an immune system that learns and adapts, is weakened or strengthened by other environmental factors, as Braham & Emmons argue. It is a body, which is flexible and adaptable, and so, by analogy, should architecture be. Braham & Emmons explain:

> "The body-building connection is not limited, after all, to the visible identity between discrete monuments and unified, proportional bodies. If our bodies are increasingly conceived as dynamic interconnected systems, so too will our buildings be imagined and admired as flexible systems." (Braham & Emmons, 2002, p. 292)

After being premised on a proportioned and perfect body, some post-modern architecture was premised on flexibility. Flexibility in architecture here became a correction to the mechanistic functionalism of early modernism (Braham & Emmons, 2002). In *Upright and Flexible?* (2002) William Braham and Paul Emmons questioned the idea of organic thought which persists in architecture today, and how it relates to the modern project. Their aim was to demonstrate the broad presence and appeal of flexibility in contemporary architecture and the contemporary body which "indicates the flexible state they both aspire to achieve: the readily changed, constantly adapting accommodation of human habits through construction." (p. 295) "Both the upright and the flexible body make visible the dream of buildings perfectly adapted to their conditions and uses." (p. 303).

As architecture develops its capacity for sensitivity, flexibility and interactivity, it responds to the very characteristics of the human body. By becoming a series of adaptive systems, the building would not only perform specific intelligent tasks but it would even go further to adapting its dimensions and boundaries in response to the change of the environment and of the forces produced by bodies and other elements in the surroundings:

> "The body as a model of self-organization or capacity to respond to change by producing change, points to the future of architecture, form resistant force to active force. A system capable of being aware of its own alternations, capable of contextual awareness and interacting with these stresses by activating appropriate behaviours. In this sense, the transformation of a wall into a hypersurface, from a physical boundary to space into a door onto the world of interconnections is only the most evident aspect of a phenomenon that will revolutionise architecture well beyond its formal appearance." (Palumbo, 2000, p. 72-73)

2.1.5 The Post-Organic Body

Poststructuralist philosophies introduced the reign of *Simulacra*, by replacing the opposition of appearance and essence with that of actual intensities. Some look beyond the appearance to rediscover the subject over and over again in its different revelations (Lacan, 1977; Barthes, 1990). The complexity of representation replies in a way to the intensities of the object in itself—as it relates to itself (Derrida, 1997; Deleuze & Guattari, 1988). In this context, poststructuralism fundamentally shifted experience away from "reality", to an excessive amplification of the real, the lived, and the felt. Experience, in post-structural sense, develops into a process: a maze of sensations and intensities. And embodiment can extend beyond the biological possibilities of corporeality.

Deleuze & Guattari questioned the post structural representation of body. They suggested a 'Body without Organs' (BwO). The BwO is the *'an anorganism of the body'*. It is a "series of virtual affects in a non-organic and non-organized multiplicity, molecular rather than molar" (Bogue, 1989, p. 62). One can reach the BwO by moving between different levels of sensations and intensities. (i.e. moving between the social (molar) and the desire (molecular)). And by doing so, BwO moves beyond the limitations of organism (as the biological organization of organs). Hence, the organism (the organization of the organs) becomes the enemy of this post-organic body (Deleuze & Guattari, 1988, p. 185)

> "The organism is not at all the body, the BwO; rather, it is a stratum on the BwO, in other words, a phenomenon of accumulation, coagulation and sedimentation that, in order to extract useful labour from the BwO, imposes upon its forms, functions, bonds, dominant and hierarchised organization, organized transcendences." (Deleuze & Guattari, 1988, p. 159)

With the post-organic body, the projection of body on architecture turns into a transprojection. Both body and architecture look at each other as models. As Palumbo argues: "whereas the body designs its own spatial extension, architecture designs its corporeal future" (Palumbo, 2000, p. 80-81). This differs entirely from the humanist anthropomorphism wherein the body forms a link between nature and architecture through geometric proportional correspondences of part to whole, microcosm to macrocosm (Lynn, 1992, p. 40). Rather here, we start to see the body becoming architecture, not in the physical sense but in phenomenological/experiential sense. For example, when Deleuze & Guattari relate sensation to movement, they see it as a new sensation: "The organ changes when it crosses a threshold, when it changes gradient." Movement becomes related to change and the production of the new[4].

Figure 21 illustrates some parallels I drew from the poststructuralist theory in relation to body and its relation to space. It illustrates a representation of a post-organic body, rediscovered, re-presented. This discussion leads me to look for parallels between poststructuralist bodies and architectural spaces from the BwO of Deleuze & Guattari's to ideas on how we can look at the body in the light of post-modern thought, where issues on technology start to have new relational meanings in the way body relate to space and architecture. One of the areas, which become particularly significant in this sense are how the body starts to extend in space (beyond the organic physical sense). And in the age of digital technology, I take this further to investigate how this can be understood in relation to technology, the virtual and the interface.

Post-structural body	Augmented Spaces
Series of virtual affects in a non-organic body	The virtual, the physical and the users relate
Accumulation / Coagulation / Sedimentation	Fluid space
Levels of Sensations and Intensities	Overlapping Fields and Frequencies
Two poles of intensities: the social (molar) and the desire (molecular)	Two spatial poles: The 'Extensio' and the 'Spatium'
Anorganism (movement beyond the limitations of the body)	Open: A map has multiple entrances (no limitations)
Flexible / Moving / Extended	Flexible / Adaptable / Susceptible to constant modification /Reversible
Relationality / Communication	Connectedness
Organized transcendences	Mediation: Alternative constructions of space, movement and interaction / Temporary transformation of the physical and social landscape
Dominant and hierarchisised organization	

Figure 21 Conceptual parallels on post structural body and augmented spaces in architecture
The table summarises main concepts taken from previous philosophical ideas, mainly from Deleuze and Guattari

The notion of interface, for instance, can be thought in terms of continuity and extendibility. Architecture starts to become micro-architecture. And the phenomenological approach to experience moves beyond the humanist approach to involve the possibilities implied by post-structural spatial and sensible extension. But to move beyond humanism or this supposed "post-humanism," is not possible until the question of subjectivity is considered (and perhaps redefined, because humanism is very related to the question of subjectivity. And in this context, feminist methods and approaches become particularly useful because of their critique to the humanist understanding of the subject.

2.1.6 Feminist Critique and the Post-Structural Body

Feminist writing offered a more critical theory that is able to account for cultural diversities and differences particularly between women and advocated a move away from 'disabling vestiges of essentialism' (McNay, 1992, p. 120). However, in this research, post-modern feminism is visited not necessarily in terms of its discussion on gender, but politically. Some post-structural feminist theory is very interesting because it suggests new methods on subjectivity. Feminism developed methods involving ethnography, discourse analysis, and activist research. While the use of such methods in feminist poststructuralist discourse became a way to investigate subjectivity, some critics, like Grosz and Haraway, think of subjectivity needs to move beyond the production of self revelatory/confessional discourse to deeper questions on difference, and the potential of technology in changing social order. In the case of Grosz, the project of feminism becomes more than the question of liberating women, but about redirecting the forces that produce feminism (Ausch, Doane & Perez, n.d.; Haraway, 1991). With Haraway's cyborg myth, the potential for radical political action would free feminists, as physical/epistemological boundary breaks can be extrapolated to political boundary crossings.

Social theories and movements such as feminism, post-structuralism, postmodernism, and post-colonialism have called attention to previously absent or marginalized concerns, and have cast difference in a positive role." (Weedon as cited in Pinkus, 1996, ¶ 1). Haraway's postmodern feminism for instance, formed a critique of essentialism – which is "any theory

that claims to identify a universal, trans-historical, necessary cause or constitution of gender identity or patriarchy" (Pinkus, 1996). Haraway's work challenged these theories and subverted the idea of naturalness and of artificiality by proposing, for example, the cyborg as a hybrid being.

In her metaphor of the cyborg, Haraway's writing endorsed technology. In *Simians, Cyborgs and Women* Haraway illustrated a few facets of society that Haraway believes will eventually change. These are relevant to the previous discussion as they provide an overview of the change in body image as well as aspects of society (Figure 22).

Components Inherited from Modernism	Alternatives in Cyber-Culture
Representation	Simulation
Realism	Postmodernism
Organism	Biotic component
Integrity	Boundary
Depth	Surface
Physiology	Communications engineering
Microbiology	Immunology
Organic division of labour	Ergonomics/cybernetics of labour
Reproduction	Replication
Home / market / factory	Women in the Integrated Circuit
Public / Private	Cyborg citizenship
Nature / Culture	Fields of difference
Freud	Lacan
Labour	Robotics
Hygiene	Stress Management
Mind	Artificial Intelligence
White Capitalist Patriarchy	Informatics of Domination

Figure 22: Comparison between components from modern and cyber cultures.
In *Simians, Cyborgs and Women* and illustrates various facets of society, concrete and abstract, that Haraway believes will eventually change. The left column lists the old components of hierarchical dominance; the right column lists the alternatives that will be supplied by a network of equally-valued individuals.

2.2 Cyborg and the Body as Interface

In "A Cyborg Manifesto", Haraway ironically invokes the metaphor of a cyborg to challenge feminists to engage in a politics beyond naturalism and essentialisms. She introduces and defines the "cyborg": as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction' (Haraway, 1991, p. 180). The cyborg myth marked a break with the precedent humanist tradition. It rejected the divisions of public/private or between nature/culture, which are inherited from humanist tradition in favour of interfacing.

However, the break with humanist tradition did not only happen on the level of the body definition but it also put forward a new perspective and methods in relation to objectivity/subjectivity. Haraway questioned the objective master narrative of modernism and started to redefine the subject and expand beyond the realm of the body to overcome nature. In principle, Haraway's aim for science was "to reveal the limits and impossibility of its 'objectivity'". She introduced alternative perspective of the accepted ideologies that continue to shape the way scientific human nature stories are created (Elkins) (Russon, 10).

The significance of Haraway's work is that it also provided a theoretical framework to rethink the problem of embodiment within technological change. The problem with accelerating technological progress lies in the fact that bodies, with the old genetic transmission, have not kept pace with the new language-produced cultural transmission of technology (Haraway, 1991, p. 35). As we move towards cyber-culture, any separation between organic/mechanical, reality/virtuality will be transgressed. This implies a transition from the idea of the body as *biomechanical* system to the body as a *bioelectronic* system. This also implies a radical leap from an anthropomorphic model of formal correspondence to a new form of relationship or "electromagnetic continuity" between man and space through machines (Palumbo, 2000, p. 31).

This transition implies a new aspect of embodiment, identity and power relations. As Haraway (1991) argues *"Our bodies, ourselves; bodies are maps of power and identity. Cyborgs are no exception. A cyborg body ... is an aspect of embodiment"* (Haraway, 1991, p. 180). Haraway uses the metaphor of cyborg identity to expose ways that human bodies are constructed by our ideas about them. The idea of the cyborg deconstructs binaries of control and lack of control over the body, object and subject, nature and culture, in ways that are useful in postmodern feminist thought.

In another context Palumbo argues that the disappearance of these differences allows for "a new compatibility, a convergence between technology and biology." Complex hybridization between the organism and the machine is when the machine merges as part of the body and becomes a complementary member of the organism. The machine then develops into a prosthetic device, an intimate component and a friendly self. And the skin, which used to represent the boundary between the two worlds of inside/outside, is no longer a limit. Rather, this boundary gives place to a strong fusion between the natural and electronic, between anatomic and spatial forms.

This aspect of embodiment is interesting because it suggests very different perspectives on the origins of nature and culture than the currently accepted ones. Not only this, but it also challenges previous aspects of embodiment, it suggests a continuity or 'interfacing' between body and space. With cyborgs, the body's physical abilities are extended beyond normal human limitations by mechanical elements built into the body. In this sense, the cyborg body reflects a representation of embodiment where the machine ceases to be an extraneous tool. Instead, it becomes an extension: another architectonic of embodiment. Technology today announces the invasion of our bodies—entering the very intimate space inside our flesh. This, Virilio (1997) argues, demands a closer observation of the notion of skin, boundaries and limitations (Virilio, 1997, p. 382) that separates the human body from the environment, and how we should define boundaries:

> "[...] the 'boundary' or limiting surface' has turned into an osmotic membrane, like a blotting pad. Even if this last definition is more rigorous than earlier ones it still signals a change in the notion of limitation. The limitation of space has become commutation; the radical separation, the necessary crossing, the transit of a constant activity, the activity of incessant exchanges, the transfer between two environments and two substances. What used to be the boundary of material, its 'terminus', has become an entryway hidden in the most imperceptible entity. From here on, the appearance of surfaces and superficies conceals a secret transparency, a thickness without thickness, a volume without a volume, an imperceptible quantity." (Virilio, 1997, p. 385)

This thickness affects architecture as much as the body. The convergence between body and space ceases to be organic because it stems from the body's rebellion against the organism (Palumbo, 2000). The relation between man and space today is considered on an organizational rather than formal level. Unlike previous (modernist) assumptions where the violation of boundaries would destabilize the closed, univocal and definite form, it is between the information codes of architecture and the body that the boundaries are recognized today. To this end, the flexibility of architecture is assessed in relation to the flexibility of boundaries. Boundaries can no longer be associated with the balance of organism (i.e. boundaries as establishing the difference and degree of autonomy between inside and outside) (Lynn, 1992), and this equally applies to the boundaries between bodies and cities as Elizabeth Grosz (1998) argued in *Bodies-Cities*.

According to Grosz, the body can no longer be assumed to form an organically unified ecosystem. Neither, can it be separated from spatial context. The body can hardly be separated from architecture and from the society or the city. However, it is no longer based on a relationship of two distinct and equal opponents, instead it is more relational. There is a relation of exchange or extension between body and building. More and more we see the body and building each as an extension to the other. The two are connected and related. The interrelation in classical body for instance, where architecture and body are seen as external contingent counterparts, is replaced with a parallelism between body and social order: congruent counterparts, or a 'cross breeding' between body and architecture (Grosz, 1998).

This notion of the body as interface; as unbalanced, 'unstable, and emotional interface' is increasingly incorporated into the discussion of embodiment. In *Flesh Space*, Stensile (1998, p.19) argues:

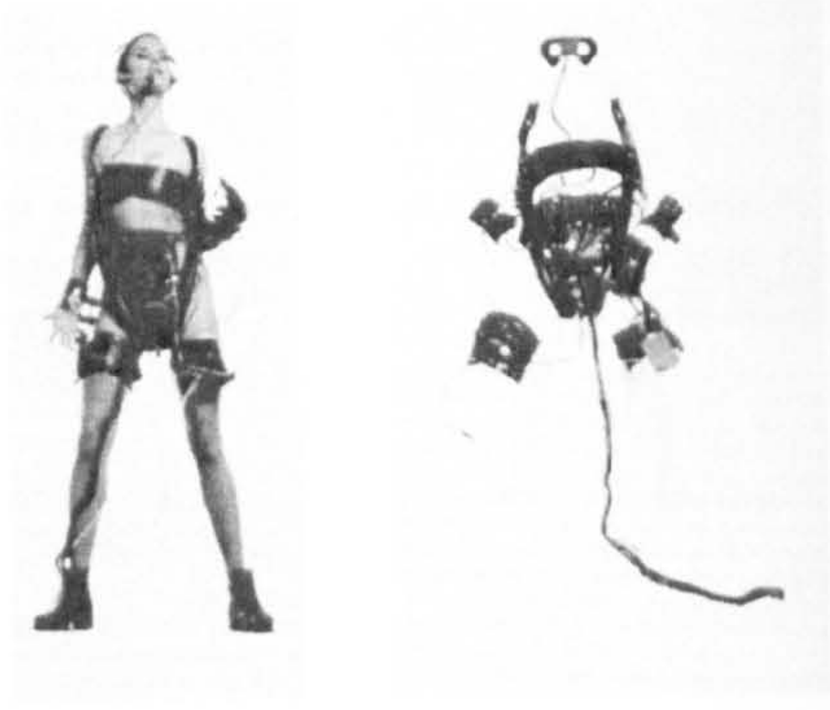
> "Future communication will go beyond the interface as we know it. Not into an absurd "uploading of the body" or the disappearance of the body in information, but rather in the reemerging of the body as interface; as unpredictable, unreliable, unstable, and emotional interface, susceptible to hormonal flox and biological decay, but with a "fuzzy" logic guaranteeing information digestion/exchange in bit rates higher than any contemporary, "logic" interface (Stensile, 1998, p. 19).

Stensile argues "Presently the interface restricts our experience." then he continues by asking: "why not extend the psychophysical relationships between the real and virtual worlds and mold deadly and sensuous phenomena into the virtual dimension?" (p. 21) One of Stensile's project (*Solve and Coagula)* is significant here because it attempts "to give birth to a new life form: half digital, half organic. Through a multisensory interface [technology] networks the human with an emotional, sensing, and artificially intelligent creatures" (Stensile, 1998, p. 21).

As shown in Figure 23, The *Solve et Coagula* project wires the user and the machine through a lightweight body suit, a head-mounted display with a head tracker, a microphone and a three-dimensional audio interface. The bodysuit is equipped with 128 effectors (tactile outputs), pressure sensitive joints, and two handheld pressure pads. The effectors, which provide tactile stimulus, are specially built vibrators pressed against the body by the bodysuit. Some are attached to strings to distribute the vibrations in various ways. They are placed around the whole body and in such positions that the cover both the most touch sensitive and touch significant zones." (Stensile, 1998, p. 21) This approach of wiring man

and machine by Stensile, reminds of Sterlac's famous body represented in Figure 24. The body of Sterlac is another example of the post structural body. It is also a body an amplified multiplicitous body, physically extended in space.

a. Solve et Coagula by Stahl Stensile and Knut Morkby, is "an attempt to give birth to a new life form: half digital, half organic. The installation networks the human with an emotional, sensitive and artificially intelligent creature." (Stensile, n. d.)



b. Stensile, *The Schizoid body*: the Schizoid Body is the future body of Cyberspace. Schizoid because it is moody, a liquid expression of multiple me's, ever-changing, at least compared to the Cartesian model of reality." (Stensile, n. d.; 1998)

Figure 23 Stensile, The re-emerging of the body as an interface (half organic—half digital)
Source: Stensile. S. (1998). Flesh space: In J. Beckmann (Ed.) The Virtual Dimension: Architecture, Representation, and Crash Culture (pp. 18-25), New York: Princeton Architectural Press, p. 20/24.

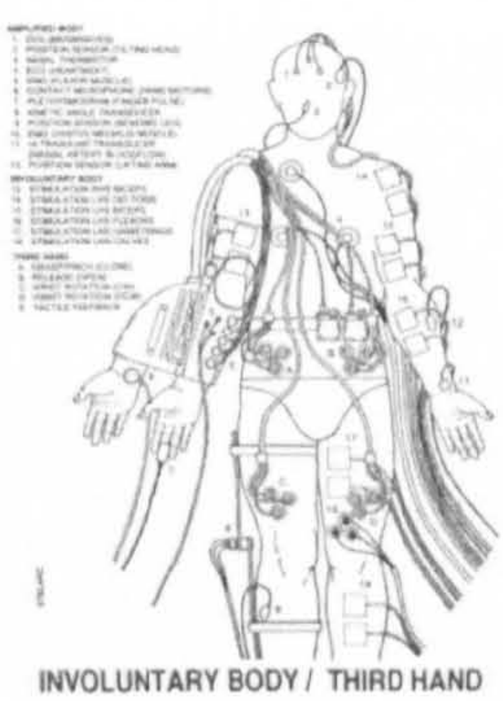


Figure 24 Sterlac Amplified body.
Source: Sterlac, 2000, p. 93

After a long time where architecture was aspiring to look like a body, the interface emerged as the mean for the body to "become architecture". The previous examples show how the interface becomes less focused on direct percept. Rather, it allows for an extension around the whole body. It becomes an aspect of embodiment. This approach is particularly interesting because it put forward a new element in the architectonics of embodiment: the interface. It also illustrates the ambiguity that characterizes embodiment today, as it becomes more and more difficult to define the dividing lines between body, architecture, interface and the cosmos. Today we no longer see a clear hierarchy in the structure of embodiment but continuity between body, architecture and the world. As media technology becomes more ubiquitous, we are faced with mediated bodies, where body, interface and architecture are becoming interrelated—or even sometimes synonymous.

2.3 Mediated Bodies, Architecture, and the Virtual Dimension

As the age of digital reproduction progresses, change is becoming equally, if not more, radical. Interactive technologies have colonized most, if not all, of our cultural practices within just 20 years (Blythe, Light & O'Neill, 2007). Not only did it colonise most of our cultural practices but also our spatial practices. We are currently talking about Virtual Environment, Virtual Reality and Augmented Realities as facts. And more recently, media technology has started to be accounted as a new dimension by some architects.

A growing number of architectural projects started to integrate media technologies in their considerations. There is a tendency to think about buildings as involving both virtual and physical elements. One example of using media technology in architectural buildings is the *Spacelab* (2003) by Cook-Fournier in Kunsthaus Graz, Austria (Figure 25). The Kunsthaus façade is designed as a display architectural (and virtual) tectonic and constituting a medium for presenting art and related information transfers. " *its outer skin is a media facade which can be changed electronically*" (Arcspace.com).

Figure 25 The Kunsthaus by Spacelab Cook-Founier, Graz, Austria
Source: Retrieved March 31, 2007 from http://www.bix.at/

In a recent project for Mossbrook Special School, Architect Sarah Wigglesworth and artist Susan Collins designed their '*Classroom of the Future*' by integrating an interactive visual arts element into the infrastructure of her building (Susan-collins.net, n. d.). The interactive virtual element includes three main elements: *Wildlife Surveillance*, *Camera Obscura* and *The Ballpool*. Each of these elements is integrated into the infrastructure of the classroom, and has the ability to evolve and develop over time. The intention behind this collaborative project was *'to create a place where students have the opportunity to impact the way in which these multisensory interventions are used and inhabited'* (Ucl.ac.uk, n. d.). (Figure 26 and 27)

Figure 26 Sarah Wigglesowrth Architects. Mossbrook Special School, Sheffield, England

Retrieved March 6, 2007 from http://www.swarch.co.uk/

a. Camera Obscura Table

b. Camera Obscura lens and control

c. Remote control boat transmitting video images live back to the classroom from the lake via wireless cameras above and below the water

Figure 27 The camera obscura at Mossbrook Special School
Source: Retrieved March 6, 2007 from www.ucl.ac.uk/slade/sac/mossbrook

The two previous projects are significant examples of a mutual co-existence of the real world and virtuality. Virtuality is forming a new reality that people inhabit. Within the last few years, a new virtual dimension provided by virtual environments, pervasive and locative media,

2.3.1 Virtual Architecture, Virtual Environment and Embodiment

The concept of virtual architecture has emerged with the ability of computer-imaging technology to accurately simulate three-dimensional reality. This is known as Virtual Reality (VR). VR is invaluable to architects. Computer linked fabrication techniques can generate graphics, with unexpected changes of form, which can hardly be represented in traditional drawings. As a result, non-Euclidean space concepts and forms are becoming as familiar as cubes and spheres were to earlier generations. In this context, the old opposition between a digital culture of sensuous, ephemeral images and a tectonic culture of pragmatic building has given way to a new collaboration between the two domains, a 'digital tectonics' (Leach, Turnbull & Williams, 2004).

However, this virtual dimension has led to two approaches to space, body and their relationship. First, many of these 'digital tectonics' often come as a replica of the real world—failing to produce innovative solutions in which the new laws of cyberspace help to challenge and improve our perception (and experience) of the real world, hence of architectonics. These are also often characterized by a denial of the body. A lack, stemming from the move away from the corporeal, almost tactile sense of embodiment which architecture has always been accustomed to.

On the other hand, examples like Greg Lynn or Marcos Novak who developed a practice which lies at the edge between the physical realm (operating to Euclidean laws) and the virtual world (this can be imagined and constructed, not as a replica of a 3D space, but as multidimensional space. Novak in particular created some of the world's first architectural and artistic virtual spaces originated the now well-known concepts of 'liquid architectures', 'navigable music', 'transmodernity' and 'transarchitectures' etc. These works led to an image of the body which differs radically from the conventional types of embodiment. New spatial regulations of cyberspace reinforced this sense of unbalanced, flexible and ambiguous body; a body reinvented in cyberspace, without restrictions of gravity or figurative regulations (Chaplin, 2000).

Virtual space breaks with the conventional understanding of space—as solid static and separate objects with rigid distinctions between subject, object, figure and ground. It thoroughly differs from another reality such as virtual reality (where multiplicities and semitransparent, three dimensional forms are all combined to create perceptual ambiguity and slippages between figure and ground, near and far, inside and out). Thereby, it introduces new type of embodiment allowing the body to experience unusual dimensions of his corporeity and sensibilities. Chaplin (2000, p. 34) explains how the body in cyberspace is reinvented:

> "... [t]he body and its means of locomotion may be reinvented in cyberspace: without restrictions of gravity and without the normal figurative format of the human body, the structure and architecture of cyberspace are free from the old constraints of reality, and are able to reinvent themselves anew... virtual spaces can overlap, coalesce and mutate, as can the virtual body or the user. Gender is flexible or optional, and a whole new persona may be invented."

Not only did Virtual Reality reinvent the flexible and multiplicitous body, it also introduced a new approach focused on experience Virtual Environment provides *a transcendental experimentation of spatial embodiment and perception*. It involves a change in our nature or what Davies described as a process of *Dehabituating* or *Deautomatizing*[5] (Davis, 1998). Examples of projects in this area include *"OSMOSE"* [6] (Davis, 1998) and the *"Legible City"* (Shaw, n. d.). Those examples developed virtual environment through which experience was heightened by the use of body-driven navigation interfaces. *Osmose* for instance, is "an interactive, fully immersive, virtual environment that uses a stereoscopic head-mounted display, three-dimensionally localized interactive sound, and an embodying interface driven by the user's breath and balance"[7] (see Figure 28).

Figure 28 Char Davis, OSMOSE. 1995
Source: http://images.google.com/

Char Davis (1998) described her observations on the behaviour of participants who went through the immersion. The unusual sensations which people claimed they have experienced during immersion in *Osmose* are similar to scuba-diving and they include: a feeling that they had indeed been somewhere else, in another 'place'; loosing track of time; heightened awareness of their own sense of being *'a consciousness embodied, occupying space'*; a deep sense of mind/body relaxation; an inability to speak rationally or put logical words together afterward; and finally, an intense emotional feelings, including euphoria and/or an overwhelming sense of loss when the session was ending, causing some to cry and others to exclaim they were no longer afraid of dying.

Osmose consists of a dozen environments (or realms), through a metaphorical reconstruction of 'nature' (Davis, 1998, p. 145). The users navigate through these spaces as they experience the work. Osmose is a post-modern work par excellence, reflecting a post-modern approach to embodiment by shifting experience away from "reality", to "hyper reality" with

an excessive amplification of the real, the lived, and the felt. To demonstrate the unusual sensibilities provided by this work, I compare *Osmose* experience with Virilio's perception.

> "So there is something very complex that happens at the level of the stages before the fall, and they say that very clearly: their vision goes through several modifications right up to the point where it stops changing because they are afraid of going too far, because the ground is too near. There are radically different sequences in free fall. At first the ground doesn't seem to be coming, you have the impression of being in a kind of nirvana, let's say till about three thousand feet; then the ground seems to be coming, that is to say, the tables turn; and then finally it seems to open up. There would be still more stages, but they are beyond human possibility because of the risk of smashing against the ground." (Virilio, 1994, p. 43)
>
> "After becoming accustomed to the interface of breath and balance, most people become intent on "doing", travelling around to see as much as possible in what appears to be an extension of everyday goal-oriented, action-based behaviour. After ten minutes or so, however, most undergo a change: their facial expressions and body gestures loosen, and instead of rushing, they slow down, mesmerized by their own perceptions within the space. In this final phase, attention seems to be directed toward the unusual sensations of floating and seeing through things in what becomes a kind of slow-motion perceptual 'free-fall.'" (Davis, 1998, p. 194)

In a similar vain, the body in *Osmose* is a post structural body. Here again, experience becomes a process: a maze of sensations and intensities. The body in *Osmose* is a post-organic body, recalling some qualities of Deleuze & Guattari's definitions of the Body without Organs (BwO). Hence, movement in *Osmose* is very interesting, the body moves in space through levels of intensities rather than real displacements. With *Osmose*, we start to see new directions in embodiment and an application of post-structural theories. But more importantly it suggests prospective examples of relations between body, virtuality and environment.

In his book on *The Metaphysics of Virtual Reality* (1993), Heim investigated how virtuality can promise (or threaten) to become an integral part of everyday life in the twenty first century. As cyberspace becomes the new architectural promenade, the 'virtual' will become the narrative. VR enhances the power of art to transform reality. It also allows a smoother, more controlled transition from virtual to real and back; a capability, which Heim explains, may offer artists an unprecedented power to transform societies (Heim, 1993, p. 128). Another relevant topic, which I have already mentioned, is the interface. As we more and more talk about virtuality, the interface becomes a significant element of embodiment. Heim (1993) also relates the "interface" to the logic of feeling in the human users but also shows how much it is getting close to cyberspace. The interface ceases to be a tool and becomes itself part of the environment or the process.

2.3.2 The Body in Augmented (Hybrid) Reality

In response to the growing embrace of virtuality and clear separation between cyber world and real world, Sarah Chaplin (2000) questions this phenomenon. Chaplin suggests a non-comparative or perhaps a 'metaphoric' approach, which links the architectonic to the electronic: a framework where architectural theory and practice must *'linger in the threshold'*. This implies two interpretations. Firstly, cyberspace can be considered more than a sophisticated means of drawing or models into a means of creation: in this case, virtual buildings can be designed and built as end products in their own right—I have just discussed some projects which are working towards this approach, like the work of Markos Novak. Secondly, Chaplin discusses augmented or hybrid realities as a valid approach where activities in real life are supplemented by actions carried out in a virtual or simulated environment. Examples of this may be found in some recent art practice, working with sounds and image/video projections, such as the work of Toyo Ito. Sarah Chaplin refers to Toyo Ito's work in this context: "Ito conjured up his own version of cyberspace, yet chose to locate it in real-

ity: the experience of being virtually immersed in another world was ensured by being literally enveloped in images or another place and time as you moved in another real space in real time" (Chaplin, 2000, p. 35).

Like many other art practices, which have been emerging since Chaplin's article, Ito's successful merging between the real and the virtual is a result of the cross referencing between the two. It blurs the threshold and makes the viewer questions the primacy of each world, and the metaphors borrowed from reality work as references and imitations (Chapin, 2000). There are other works, which emerged recently with a similar approach for merging real and virtual spaces. In this context, locative media has been an important development in this sense.

A recent definition describes locative media as the combination of mobile devices with locative technologies, and which supports experiences and social interaction that respond to a participant's physical location and context. This comprises mobile, wearable, distributed, networked and context-aware computing devices. It also includes everything from mobile games, place-based storytelling, spatial annotation and networked performances to device-specific applications (Galloway & Ward, 2005, p. 4). Together these convergent fields raise possibilities for new cultural experiences in areas as diverse as performance, installations, games, tourism, heritage, marketing and education (PLAN:ICA, n. d.).

This new art form emerged over the last half decade as a response to the decorporealized, screen-based experience of net art, claiming the world beyond either gallery or computer screen as its territory. As opposed to the World Wide Web the focus here is spatially localized, and centred on the individual user; a collaborative cartography of space and mind, places and the connections between them (Tuters & Vernelis, n. d.). Locative and pervasive media promise to reconfigure our understandings and experiences of space and culture. Although little has been said about it in architectural circles, it seems that this new art form is deeply concerned with urban and architectural issues. Examples may be found in projects presented at the UK based PLAN Network (a recent and significant manifestations on locative and pervasive media). The network sponsored collaborations, projects and research into the field of locative and pervasive media. The network also involved artworks.

> "location aware, networked, mobile devices make possible invisible notes attached to spaces, places, people and things.
>
> Real space can be marked and demarcated invisibly.
>
> ...what was once the sole preserve of builders, architects and engineers falls into the hands of everyone: the ability to shape and organise the real world and the real space.
>
> Real borders, boundaries and space become plastic and malleable [sic], statehood becomes fragmented and global.
>
> Geography gets interesting.
>
> Cell phones become Internet enabled and location aware, everything in the real world gets tracked, tagged, barcoded and mapped." (Ben Russell as cited in Tuters & Vernelis, n. d., ¶4).

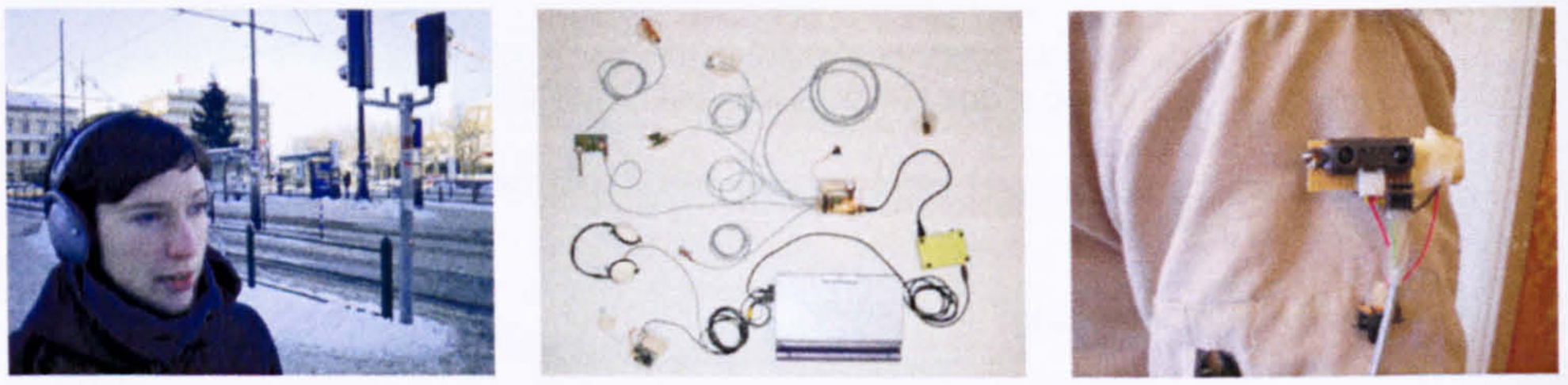
Among projects involved a study on interactive architecture systems and researches how people relate to each other and their spaces (i.e. Haque). Another example is *Murmur*[8] an audio archival project by Gabe Sawhney, collecting and making accessible personal, anecdotal stories about places. The stories are made available via mobile phone. Signs posted on the street offer a telephone number and location code; by dialling the number and punching in the location code, pedestrians can listen to one or more stories about what makes that place important for someone. *Murmur* stories are intimate commemorations of social (more than physical) places and from centuries ago to days ago. They capture a hu-

man element often left out of "official" histories, and often contradict those "official" histories (Murmur, n. d.) (Figure 29).

"Click the red dots to hear the stories."

Figure 29 Gabe Shawney, [murmur] + Storyscapes, sound mapping in Vancouver, 2007
[murmur] presents a montage of stories about the relationship between Aboriginal and Chinese communities in the Chinatown area. These stories could be heard at new [murmur] locations at 27 W. Pender and 50 E. Pender. The work portrays the rich history these two communities have shared in Vancouver's oldest neighbourhood. The above image illustrates a map of story locations. When one clicks on the red dots, the recorded stories are activated. Source: http://murmurvancouver.ca/

In the *Sonic City* (2002-04), Gave, Maze, Jacobs & Skoglund developed a wearable system that enables users to create a real-time personal soundscapes of electronic music by walking through and interacting with urban environments. Sonic City is a new form of interactive music instrument using the city as an interface. It enables users to create a real-time personal soundscapes of electronic music by walking through and interacting with urban environments. Paths are considered as musical compositions and mobility through the shifting contexts of a city as a large-scale musical gesture (Viktoria.se. n. d.). As shown in Figure 30, they explored the use of public space and everyday behaviours for creative purposes, in particular the city as an interface and mobility as an interaction model for electronic music making.



a. Prototype worn in the city

b. Hardware

c. Proximity sensors

Figure 30 Gave, Maze, Jacobs & Skoglund, Sonic City, 2002-2004
Source of illustration: Retrieved April 1, 2007, from http://www.viktoria.se/fal/projects/soniccity/index.html

Other works by Teri Rueb explore the relationship between sound, space and human movement to investigate issues of architecture and urbanism, landscape and the body, sonic and acoustic space. As a digital artist, Rueb[9] explores the relationship between sound, space and human movement in location-aware installations and large-scale responsive spaces. These works are primarily created with wireless and wearable technologies including GPS, laptops, pocket PCs, and cellular phones and modems. In her essay "Syn-

copated space", she enquires into the ability of wireless technologies to expand the context of human communications (Rueb, 2004).

Rueb seeks to identify key issues in locative media as they relate to the long history of site-specific art practice. In 'Syncopated Space', the artist discusses how the virtual, physical and users relate: Hertzian space is fluid space of overlapping fields and frequencies, *"Hertzian space is characterized by connectedness as opposed to the discrete boundaries and territories suggested by physical architecture and visually based constructions of space."* (Rueb, 2004, p. 2) Rueb continues:

> "In my work, Hertzian space becomes both a medium and a metaphor for alternative constructions of space, movement and interaction. Like snow, my work seeks to offer a temporary transformation of the physical and social landscape. Through it, I aim to engage people in an alternate reality where exploratory movements lead to surprise and accidental discovery. Leaving the gallery behind, the stationary viewer becomes a mobile listener whose movement through space literally brings the work into existence." (Rueb, 2004, p. 3)

Locative media provides a new representation in architectural environment. This environment is augmented, multiplicitous and 'syncopated' by another dimension. Galloway and Ward (2005) defined this dimension. For them, locative media is best represented by one of Deleuze and Guattari's maps:

> "The map is open, connectable in all its dimensions, and capable of being dismantled; it is reversible, and susceptible to constant modification. It can be torn, reversed, adapted to montages of every kind, taken in hand by an individual, a group or a social formation. It can be drawn on a wall, conceived of as a work of art, constructed as a political action or as a meditation... Contrary to a tracing, which always returns to the 'same', a map has multiple entrances" (Galloway & Ward, 2005)

2.4 Architecture and Phenomenological Bodies

Architecture is by nature related to embodiment, experience and perception. The built is revealed to us through our bodily encounter with environment. We use our bodies to communicate and explore the world around us, and it is mainly by moving and sensing the space that we form our conception of both our own bodies and of the world. As Moran (2000, p. 427) argues, "[w]e understand the nature of spatiality through the way our body inhabits and moves through space. We also are incarnated in a specific manner ...which colours our relations to everything in the world."

But in architecture, there has been a tendency to perceive space as increasingly abstract and remote from the body and its sensations. And although the visual perspective remains present, the other senses need to be addressed; space needs to be considered with all its phenomenological associations. In this context, phenomenology responds to abstraction and seeks the lived experience: "Space should be experienced as much through the echoes of singing in the cathedral evoked by Lefebvre or the odour of drying raisin in Bachelard's oneiric house, as it is through any visual means of representation" (Leach, 1997, p.83).

Gaston Bachelard, for instance, has been concerned with exploring the ontological significance of architecture. In the "Poetics of Space", Bachelard (1969) based his analysis of architecture on the lived experience of architecture. His project moved beyond the fundamental themes of the philosophy of science, and broke with the habits of philosophical research to study the problems posed by poetic imagination. In his example of the house, Bachelard goes beyond mere description and beyond the limited constrains of a realist (Cartesian) conception.

Phenomenology was originally derived from Martin Heidegger around the 1927. In *Being and Time* (1927), Martin Heidegger examined the ontology of *"Being'*, in particular, human existence as involvement with a world of objects (*Dasein*). In Heidegger's thought, "space is re-introduced, not primarily as a mathematical concept, but as an existential dimension" (Hale, 2000, p. 103). It was Heidegger's theoretical dispute with Husserl which influenced the development of existential phenomenology. Husserl and Heidegger have informed relevant aspects of many philosophies, including Merleau-Ponty.

In architectural theory, there have been many efforts to study environment phenomenologically (Norberg-Schulz, 1996a; Norberg-Schulz, 1996b; Frampton, 1996; Gregotti, 1996). Kenneth Frampton, for instance, discussed the interdependence between the tactile resilience of the place-form and the sensorium of the body (Frampton, 1996). Even in practice, many projects share an approach that concentrates on the objects of direct experience. Among such projects we find works by Tadao Ando and Steven Holl. Both treat movement and articulate material qualities to reach higher perceptual experience. Louis Kahn's *Salk Institute* in California is also an example.

To this end, studying embodiment, within phenomenology, involves examining the cognitive, haptic and spatial experiences of the user. A phenomenological understanding of experience in architecture involves discussing: location, sensory perception, movement, memory and sensibility. It even extends to introduce new dimensions such as the concept of 'sensible' or the 'chiasm' as explained by Merleau-Ponty.

2.4.1 Perception

Sensory systems offer a natural interface relating the body to the world. It is through the senses that we draw our 'image' of place. As we move around buildings, we create a model of how these buildings work. We sense them. Then, the information we get though sensations become precepts. Generally, there has been a tendency to prioritize visual and sound stimuli. Perhaps this is due to the ability of the eye and ear to perceive what is ideal or non-external in the object, acting to appeal to what is spiritual or non corporeal. Bloomer, Moore and Yudell (1977) argued that the two senses have been classified as 'senses of aesthetic pleasure'. The authors explain the reasons behind hierarchy "sight and hearing are ideal senses because they do not alter and consume their objects, while smell, touch and taste are unable to leave the object in its free independence, as for the smell, it is still not able to become an organ of artistic enjoyment" (Bloomer, Moore &Yudell, 1977, p. 26).

The five senses defined by Aristotle as (sight, sound, smell, taste, touch) are typically used to refer to perceptual experiences. However, James J. Gibson (1968) rejected the claim that perception depended only on sensation. Gibson (1968) defined the *'active detective systems'* and investigated what information is actually presented to these perceptual systems. He detailed how the world could be specified to a mobile, exploring organism through the lawful projection of information about the world into energy arrays. This included visual system, auditory system, haptic system, taste-smell system, and basic-orienting system.

Bryan Lawson (2001) explained that sensation and perception are by no means the same thing: "Perception is actually more than sensation. Perception is an active process through which we make sense of the world around us." (Lawson, 2001, pp 43) In this context, Lawson defined the mechanisms of perceiving space; he argues that users rely on size, distance, scale and movement in their perceptual experience. However, there is more to this in the architectural experience. Lawson (2001) continued to discuss the impact of distance, social practice, other users and even time on spatial experiences.

Today, soundscapes and media images are increasingly used to stimulate interactivity or to obtain the attention of the users. Many interventions and architectural buildings involve the use of sensory and interactive systems. A few recent installations examine how a space might be structured without relying on either physical boundaries or visual clues; they build

their concept around the interaction with space through the senses like the *'Reactive Spaces'* in which architects develop a system that uses smell, colour and to define soft spatial boundaries in response to the way people occupy the space (Haque, n. d.). Also, in the pilot intervention *Body & Matter*, done as an early preparatory study prior to *Sited Moss*, the senses of the body were used as a measure of the materiality of the space; the main focus was given to two undervalued senses: Touch and Smell (Mounajjed et. al. 2007).

2.4.2 Movement

Lawson (2001) and Gibson (1968) argued that, in perception, movement forms a mechanism of perceiving space. Equally in his essay on *'Body Movement'*, Robert Yudell (1977) talked about the repertoire of movement (the various body motions that are comprised in a typical day's activity constitute what we might call our repertoire of movement). Today, Yudell argues, the individual's sense of their body's mobility and independence, as well as the concept of the body in action, seems to fade in front of the vibrant image of action. We seem to be functioning with a reduced repertoire of active movement; hence the body of the modern human is being frozen, encapsulated and propelled.

One aspect of this issue may relate to design. Robert J. Yudell (1977) described the role of buildings in generating body response; the building as a stimulus for movement (the building as an incitement to action, a stage for movement and interaction). He refers in this context to childhood games (i.e. hopscotch) where *"the building is stimulated by the physical pattern into an interaction which generates a kind of spontaneous primitive dance."* (Yudell, 1977, p. 58) Our movement around buildings are affected by the sensory experiences, as I explored in the previous paragraph. However, movement must not be reduced just to the perceptual mechanism, in the sense of displacement (the act or an instance of moving; a change in place or position). Instead, it is a quality of space. We must think the building as 'a partner in dialogue', as Yudell suggests. In Le Corbusier's Villa Savoie movement becomes part of the quality of the space.

Paul Virilio (1994) proposed a new criterion for design by moving from the traditional way of drawing and design (measuring surfaces) to measuring time and volumes. Virilio (1994) suggested 'movement' as a new tool to measure the space—that is to say, a measure of quality of the volume. In this context, Virilio referred to choreography as a source to consult because dance links time and space and measures the quality of the volumes. Virilio refers in this particular point to theory of Rudolf Van Laban. Laban (a dancer as well as a dance theorist) published a dance notation system that came to be called 'Labanotation' and is still used as one of the primary movement notation systems in dance. His theories of choreography and movement served as one of the central foundations of modern central European dance. Laban (1928) described movement in terms of the frontal, the vertical and the horizontal.

An interesting lesson one can learn from dance, Virilio (1994) argues, is the celebration of the present. In dance, there is an obsession 'to suspend time'. Thus, one has to think of body movement in relation to the real time or the present time: the living present.

Like Virilio, Yudell also looked at Labanotation as a source to rethink the spatiality of movement in architecture. Yudell draws on Laban's trilogy of movements to define three types of movements in architecture. First, he discussed feeling the centre *"as musculature concept with kinaesthetic ramifications, of orientation in response to the pull of gravity, and of a sense or feeling of inside"* (Yudell, p. 58). The ballet dancer, for instance, responds to his body's need to feel "the centre". S/he can feel the world of inside, before moving in the world of outside. Inspired by the movement of the dance which stems from the inside *'the dancer and the space animate one another'* (Yudell, 1977, p. 58) The second dimension of movement in architecture, argues Yudell, is vertical—as the communication between the two realms of earth and sky (two polarities of material/spiritual, light/dark, solid/light). Thirdly, there is the horizontal plane as the zone of communication of social interaction. Yudell and

Virilio's suggestions about movement in architecture are significant particularly when related to social, temporal and virtual aspects in architecture. Rarely do we see design rethinking movement in such depth. In my future analysis I would like to see if this can be applied to measure some aspects of users' experience.

Yudell explored theoretically what performance can teach architect. There are other examples where movement was rethought in relation to location, narrations or memory. This is particularly true in installation art. To give an example here I refer to Maynard Smith's installation *"When you drink yourself under the table it is good to come back in through the door"*. Ken Wilder argues that this installation provides a powerful approach to narrative as the piece becomes pure architecture, yet an architecture independent of any symbiotic narrative drive. Being a performance artist, Maynard Smith creates a narrative integrated in the experience of the work, and left to our imagination (Maynard Smith & Wilder, 1998).

2.4.3 Location

Architecture has periodically shown strong a relationship to its location. Phenomenology in architecture engages in part with tectonics in relation to the location. The buildings come to solve issues emerging from the specificity of the site; site here not only in the topographic sense, but also approaches as the site as a place for events, or as a site for the architectonics of embodiment.

According to Norberg-Schulz (1996), phenomenological architecture should make visible the essential "structures" of the natural environment, particularly the characteristics of the local landscape and the changing conditions of natural light. In the *Phenomenology of Place*, on the other hand, Norberg-Schulz referred to phenomenology as a method that urges a return to things as opposed to abstractions and mental constructions. He interprets dwelling as being a space in a protected place. Thus, enclosure (the act of marking or differentiating a *place* with a space) becomes for him the archetypal act of building and the true origin of architecture. Norberg-Schulz emphasizes the importance of basic architectural elements like wall, floor, or ceiling, experienced as horizon, boundary and frame for nature. The boundary, argues Norberg-Schulz (1996, p. 417), *'makes the spatial structure visible as continuous and/or discontinuous extension, direction and rhythm.'*

Jonathan Hale (2000) also defined space as the three-dimensional organisation of elements, which make up a place. The place is seen to be dependent on the articulation of boundaries and edge-conditions. Drawing on Heidegger, Hale argues that places can also be created through the intervention of a newly built object (such as the example of the bridge linking the two banks emphasises the two banks). Yet by considering the recent involvement of virtuality in space, one may ask: what about places which are created by the intervention of both physical and virtual layer? The virtual and the architectural site coexist to make up a place: a place to be experienced (and used/practiced) by a user. Can we go on to say that the dynamics of such places are then subject to the articulation between location (site), physicality and the virtual elements?

2.4.4 Memory

Many cognitive theories of perception claim that sensations by themselves are unable to provide a unique description of the world. Sensations require "enriching", which is the role of the mental processes of imagination and memory. Joseph Rykwert provoked reflection on the status of the memory in relation to perception: "Every moment of perception contains a whole personal and collective past, our body is the incarnation of that past; and with every moment of perception this past is reordered and revaluated" (as cited in Leatherbarrow, 2002, p. 269)

There is, according to Rykwert, a "semantic" aspect to the built world. And, there is a situated and ambulatory aspects to memories through which each of us knows and lives in the world. Bryan Lawson (2001) also explained that space is an active experience involving reading and interpreting buildings according to meanings and signs and architectural language. In other words, perception is a way of regarding, understanding, or interpreting buildings.

Bloomer and Moore argue that the historic overemphasis on seeing as the primary sensual activity in architecture necessarily leads us away from our bodies. The personal world of the body is a redoubt, a place to turn toward.

> "Although we cannot see the inside of our body, we do develop memories of an inside world that include a panorama of experience taken from the environment and etched into the "feelings" of our identity over a lifetime of personal encounters with the world. We populate our inside world with the people, places, and events that we "felt" at one time in the outside world, and we associate those events with the feelings themselves." (Bloomer & Moore, 1977, p. 49).

The power of works of art derives from the association of ideas that they evoke. In the *Art of Memory,* Joseph Addison argues how the pleasure derives not just from sight and other senses, but from the contemplation of what is imaginary: this secondary pleasure of the imagination proceeds from that action of the mind which compares the ideas arising from the original object with the ideas that we receive from the statue, picture, description, or sound that represents them.

In the twentieth century, memory became a popular and strong theme in philosophical writings (i.e. Walter Benjamin, Bergson, Bachelard and Foucault). Some works particularly emphasised the necessary association between embodied memory and imagination such as Gaston Bachelard. This association is clearly evident in some art practices where the question of place and non-place become central. Such artworks suggest sites for imaginative projections in the viewers minds, in what may be comparable to daydreaming.

Bachelard emphasises the daydream. Because it is in the world of the daydream where "memory and imagination remain associated", for daydreaming is more powerful than thought, and through its poetic dimension can recover the essence of the 'other site' that has been lost. Bachelard's primary idea is that people crave spaces that inspire them to daydream. The 'Poetics of Space' tells us that we read spaces like we read a book. And there is a distinct psychology to each type of space - attics, cellars, the forest, and nests are just some of the spaces examined.

> "To be embodied is to assume a particular perspective and position... it is to occupy a portion of space from out of which we undergo given experiences and remember them. To be disembodied is not only to be deprived of place, unplaced; it is to be denied the basic stance on which every experience and its memory depend (Reference: Gasey as cited in Trigg)
>
> As "embodied existence opens onto place; indeed takes place in place and nowhere else, so our memory of what we experience in place is likewise place-specific" (Carsey, as cited in Trigg, n.d.)

Adrian Forty (2000) explained the link between art, architecture and memory. Forty argued that the power of works of art derives from the association of ideas that they evoke.

> "Our imagination... leads us unexpectedly into cities or theatres... far removed from those presented to perception; ... when the fantasy thus reflect on the scenes that have past in it formerly, those, which were at first pleasant to behold, appear more so upon reflection...and memory heightens the delightfulness of the original" (Forty 2000, p. 208).

But Memory is not only an individual but also a cultural faculty. Roger Connerton provides an account of how bodily practices are transmitted in, and as, traditions. He concentrates on bodily (or incorporated) practices and explains bodily social memory, where memory is

"silted" into human corporeal consciousness and praxis. In this context, he defines two activities as the operative agents of memory: (1) inscribing practices: those where memory is recorded in an object (e.g. a war memorial, a monument). And (2) incorporating practices: involving some kind of bodily action (the ceremonies around the war memorial) (Connerton, 1989).

2.4.5 Sensibility

The perceptual experience of architecture does not only extend to imply memory and imagination, but may also suggest a 'sensible' dimension. The word may sound out of the ordinary in an architectural discourse: a field which remains weary of transcendental and phenomenological approaches, and which always intends to rationalize the spatial and perceptual experience. Perhaps this sensibility can be defined as the metaphoric representational meaning of the experience—in the metaphysical sense of the engagement of the users—by raising consciousness, or perhaps it can be thought in the sense of 'empathy'—if we borrow Robert Vischer's terminology[10]. Vischer surmised that we might empathise with objects by projecting our personal emotions into them. He suggested in this way that the feelings of the artist while making a work of art could become the content of the work of art. In the context of architecture, this implies that feelings of the inner self might be projected to the walls, doorways, and domes of a building (as cited in Bloomer & Moore, 1977, p.27).

Otherwise, how can we substantiate the future of architectural projects combining sensors and virtual layers? For instance, the *'Son-o-House'* art installation by NOX architects uses sensors to trigger musical responses to visitors' movements. The *Performing Arts Centre* by Rafael Viñoly includes sensors that map the movement of actors on the stage on to a huge display screen. Another example in Madrid is the *Puerta Americana Hotel* by Jean Nouvel and Jason Burges. In another context, *Smartlab* are producing responsive graphic images that interact directly with their audience. Haque Design + Research are also working on environments which also stimulate and respond to the users. These examples may (consciously or unconsciously) be developing a new approach to sensibility in architecture. An approach, which fits with Anthony Vidler's view on the transference between the qualities of the body and architecture, where the building starts to borrow qualities from the body—of architecture somehow becoming a body.

Palumbo (2000) talked about this new sensitivity in architecture, where the wall shifts into a hyper surface, and where the intelligent room is an environment that is sensitive to human presence—or, even where the fridge "notes that the milk is finished by reading the barcode on foodstuff, it can remind you to go to and buy another pint on your way home" (Palumbo, 2000, p. 67). This kind of application has been criticized as a rationalization of the kitchen and work practices within it. But how about literary fridges which can read a book of the week and enable users to make 'digital fridge poetry'? Mark Blythe, Joe Cutting and Marie Jefsioutine are currently working on the development of a 'fridge poetry kit' containing differing vocabularies—romantic, Shakespearean etc. The poem below resulted from word searches from the fridge in online collections of the works of Shakespeare, Byron and Shelly for the word 'egg':

"To pay him a fresh visit, with a dish

For breakfast, of eggs coffee and fish.

Exposing what is mortal and unsure

To all that fortune, death and danger dare,

Even for an egg shell.

But what am I about?

If my grandmother sucks eggs, was it I who taught her?"

The designers argue that if a user could edit the results of searches in this way they could produce fridge poetry that they might want to display on the fridge and dedicate to family members (Mark Blythe, Joe Cutting & Marie Jefsioutine, n. d.). What is interesting about this work is that it would focus not only on tasks but also on art and entertainment. It provides an example on what Susan Sontag referred to as the new sensibility in environmental design. In this fridge/poet, if the user could determine which texts were to be sampled, then this might form the basis for a great interaction, but it could also be the beginning where interactive and virtual spaces would be turned into a more unified environment, or perhaps by mirroring the users' sensibility and adopting designs which focus on buildings as sensible. As Maria Luisa Palumbo argues:

> "It is difficult to deny that through the possibilities offered by the electronics, architecture tends to become a body, to become animated and develop that capacity for sensitivity, flexibility and interactivity that is the very essence of the human body." (Palumbo, 2000, p. 65)

Susan Sontag (2001) suggested that art and particularly architecture has a role in the creation of new kind of sensibility. Susan Sontag (2001, p. 300) argued that: "Sensation, feelings, the abstract forms and styles of sensibility count.... The basic unit for contemporary art is not the idea, but the analysis of and extension of sensations." And one of the manifestations of this new 'sensitivity' is a new attitude towards pleasure: where *"the new sensibility takes a rather dim view of pleasure"* (Sontag, 2001, p. 303)[11]. She goes on to argue (2001) that this sensibility requires a high standard of education. The role of the individual artist (or architect), in the business of making unique objects, for the purpose of giving pleasure and educating conscience and sensibility, has repeatedly been called into question. Likewise, Vidler (1990) explains that the role of buildings today is instructive, suggesting new sensibilities. Sontag also suggested that, "[n]ew architecture and art are being addressed in an educational manner to people. Such an art is also notably apolitical and undidactic, or, rather, infradidactic" (Sontag, 2001, p. 300).

The sensible dimension appeared clearly in the thought of Merleau-Ponty. Merleau-Ponty argued it is in the sensible itself that one experiences a segment of the durable flesh of the world.

2.4.6 The Notion of Chiasm in Merleau-Ponty's Phenomenology

Merleau-Ponty questioned the subjectivity of perceptual experience. Taking the study of perception as his point of departure, he was led to recognize that one's own body *(le corps propre)* is not only a thing, a potential object of study for science, but is also a permanent condition of experience, a constituent of the perceptual openness to the world and to its investment. He therefore underlines the fact that there is inherence of consciousness and of the body of which the analysis of perception should take account. The primacy of perception signifies a primacy of experience, so to speak, in so far as perception becomes an active and constitutive dimension (Merleau-Ponty, 1962).

For Merleau-Ponty, "the body brings me into a spatial world in a special way. I discover things as left and right, tall and small, etc. all on the basis of my orientation wherein my body occupies the 'zero point'" (Moran, 2000, p. 420). In fact, the complicated issue related to the subjectivity of bodily experience in the world. It is a body "built around the perception that dawns through it; ... it is, as it were, prepared for a self-perception, even though it is never itself that is perceived or itself that perceives" (Moran, 2000, p. 424).

In *The Phenomenology of perception,* Merleau-Ponty pushes the question of perception further; it does not only depend on the conceptual or sensual experience but rather on going beyond the sensory perception to live the experience. Merleau-Ponty thinks sensation is the experience. The experience in itself is the important thing; it is in the grasping of the na-

ture of the 'sensory matter'—of the sensible for itself—that one experiences *a segment of the durable flesh of the world.*" (Moran, 2000, p. 422)

For Merleau-Ponty, detached perception is difficult to achieve, as the subject is always involved. This difficulty in separating the object from the perceptual experience of the subject drives Merleau-Ponty to explore this pre-objective realm. Claiming that the problem of the body comes from the subjectivity of experience, to consider the body as an object is to forget about one's own being and about the perspectivism of that experience. At this point, the positing of one single object will go beyond perceptual experiences to a "completed and explicit totality, in which the relationships are those of reciprocal determination" (Merleau-Ponty, 1962, p.71)

For Merleau-Ponty, the concept of an object is not a meaning for understanding but rather a structure accessible for bodily inspection, In order to explore a universe where beings display themselves, the gaze of the seer surveys the object—which becomes an abode to inhabit—trying to explore all its aspects:

> "To look at an object is to inhabit it, and from this habitation to grasp all things in terms of the aspect which they present to it. But in so far as I see those things too, they remain abodes open to my gaze, and, being potentially lodged in them, I already perceive from various angles the central object of my present vision" (Merleau-Ponty, 1962, p. 68)

Merleau-Ponty introduced a hierarchy of sensory perception, by drawing a structure of the relationships between the *visible*, the *invisible* and the *sensible*. He explained the being of the thing as related to two qualities: firstly, the 'visible' as the existing; physical; in the here and now, and secondly the 'invisible': as the immaterial or the 'essence of signification' which can be sensed with metaphysical perception. Merleau-Ponty defined perception as not just first perception of things, but *perception of elements... things, which are dimensions, which are worlds...* For Merleau-Ponty, the thing is a *dimensional this*—pregnant with productivity and generativity. Moreover, he described the sensible field relating subject and object as exterior to the being of the subject. For Merleau-Ponty, the sensible thing is not *in* the here and *in* the now, but it is not intemporal and aspatial either, an ideality: *'It presides over a region, it is a field being'* (Merleau-Ponty, 1968).

This premise on the hierarchy of sensory perception suggests different levels of perceptual experience. First, by considering the conceptual or metaphysical significance of the thing; second, by exploring the real or physical which is also accessible through direct sensory perception, and third by considering the contextual framework by drawing on Merleau-Ponty's definition of the 'sensible'. Merleau-Ponty pushed perception even further by proposing perception as dwelling, or perception as measurement as well as the spatiotemporal dimension of experience (Merleau-Ponty, 1968). In his work, he described the experience of relations with the world on the part of a being essentially situated *'in relation to a milieu'*. Hence, his 'relational' theory attempts to explain and explore the order of relationships based on the conditions of perceptual experience of users in space.

In *The Visible and the Invisible* (1968), Merleau-Ponty re-explored the production of visibility and the metaphysical structure of our flesh. The author endeavoured to state why it was no longer appropriate to think perception within the framework of the former systems, which I have discussed in Chapter One. Merleau-Ponty rejected the empiricist account on perception (which developed in the 17th and 18th centuries, expounded in particular by John Locke, George Berkeley, and David Hume). In return, Merleau-Ponty introduced his views and ideas on perception. In a particularly interesting section entitled: *The Intertwining of Flesh—the Chiasm*, Merleau-Ponty developed a notion of continuity between body and environment, which he called *The Chiasm*.

The *Chiasm* is what acts as a go-between the body and the world offering a means of communication between the two. Merleau-Ponty described it as the *intertwining of flesh;* the flesh in the sense of the 'element' of being, which bounds the body and relates it to the

world and the other – all held in particular moment at a particular place. Merleau-Ponty defined the *flesh* further by arguing that "The thickness of the body, far from rivalling that of the world, is on the contrary the sole means I have to go unto the heart of the things, by making myself a world and by making them flesh" (Merleau-Ponty, 1968, p.135). For Merleau-Ponty, the notion of the "thickness" which separates body and environment or separates objects in space is 'continuity':

> "We understand then why we see the things themselves, in their places, where they are, according to their being which is indeed more than their being perceived—and why at the same time we are separated from them by all the thickness of the look and of the body; it is that this distance is not the contrary of this proximity, it is deeply consonant with it, it is synonymous with it. It is that the thickness of flesh between the seer and the thing is constitutive for the thing of its visibility as for the seer of his corporeity; it is not an obstacle between them, it is their means of communication." (Merleau-Ponty, 1968, p. 133)

Merleau-Ponty was one of the most influential (and debatable) phenomenological philosophers. Although it remained unfinished, his work on *The Visible and the Invisible* is loaded with new concepts to be explored on the phenomenology of experience and the interrelation between body and environment. The notion of 'Chiasm' for instance, may suggest new dimensions and interpretations to the relation between body and environment—especially when considering the introduction of virtual dimension into architectural experience. The notion of chiasm allows in fact for a perceptual interpretation of this undefined boundary or cross-breeding which emerged with virtuality and the introduction of new technologies in architecture.

2.5 The Body and the Contemporary Condition

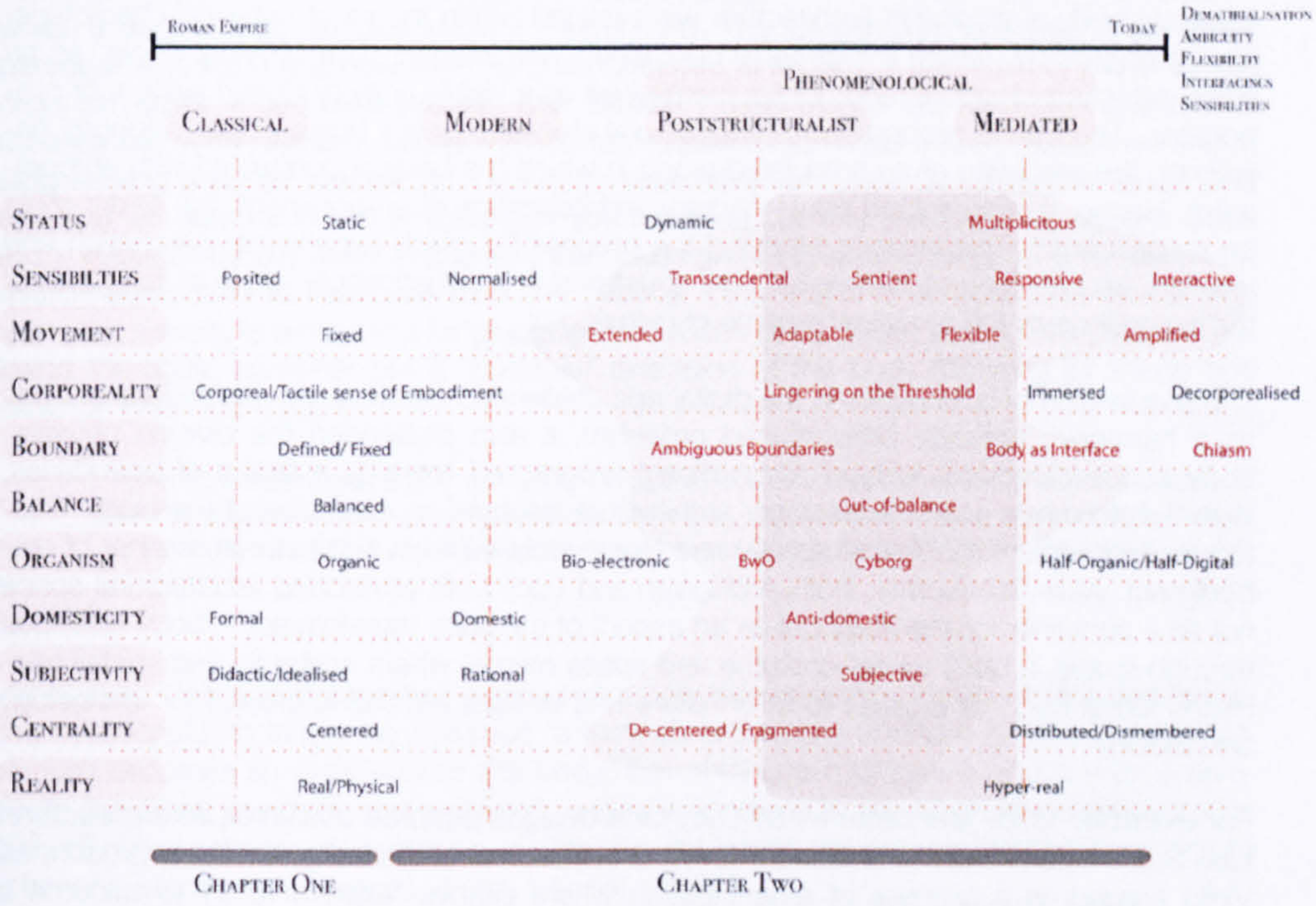


Figure 31 Aspects from the historic development of body analogy in architecture

Figure 31 illustrates the development of the body analogy in architecture. The highlighted areas illustrate more recent analogies. For instance, some of these show a cyborg or an extended body. Others present a mediated body, augmented, lingering on the threshold, half-digital and half-real. Most of these representations seek to suspend the boundaries and divisions between body and architecture. They also reflect an ambiguity in relation to the hierarchy of perception and the notion of location. That is why we see ideas like the Chiasm emerging.

However in the context of this development, one aspect of embodiment remained beneath the surface: and this is the microcosmic doctrine. Whereas this doctrine has also been evolving in response to the changing socio—cultural context, architecture has in fact always formed a principal part in the representation of the structure of embodiment: it is both a microcosm and macrocosm.

The microcosmic doctrine, according to Joseph Rykwert (1996), suggests that at some points in history, the body was represented as analogous to the world. (At times, the human body was figured as the true temple. Other times, it represented the epitome of the world or universe.)

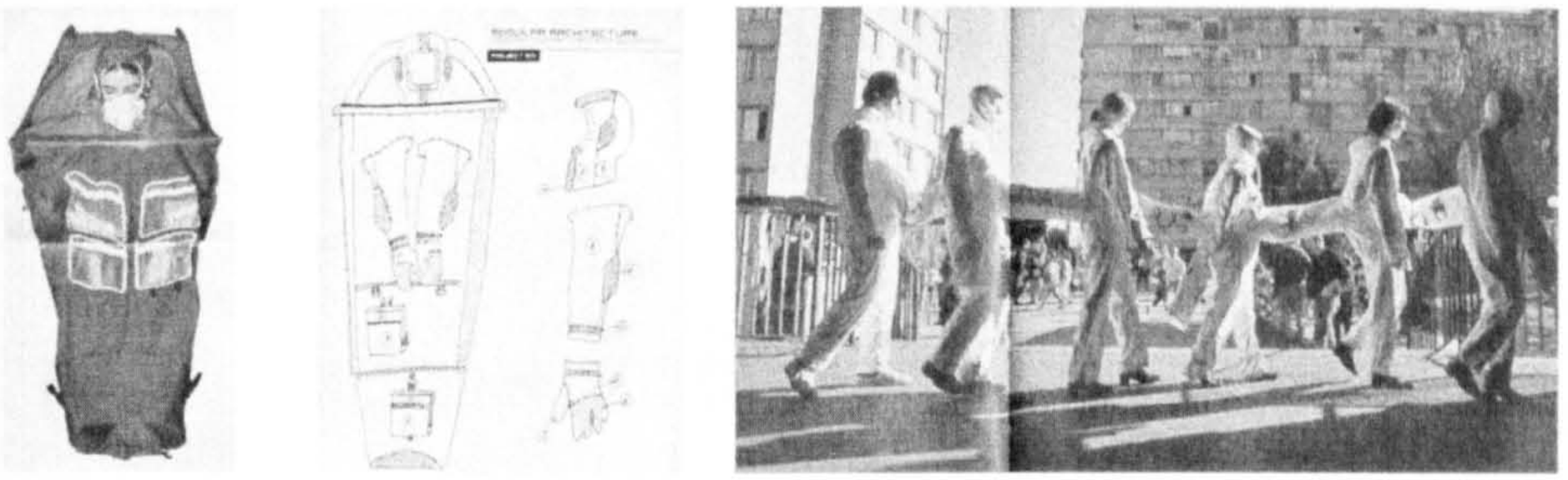
In the Vitruvian tradition, the human body represented a manifestation or exemplum of reality as a whole. The reality of the world was seen structured through degrees of embodiment, which represent a continuum of mediation between the human and divine, terrestrial and celestial, sensible and intelligible. The cosmos then was the universe seen as a well-ordered whole and the body formed a link between nature and architecture through geometric proportional correspondences of part to whole, microcosm to macrocosm—both fixed and defined. The classical analogy of body and architecture, or body and cosmos, would be incomprehensible without a mediating link or structure between the different ontologically realities.

Classical body analogies in architecture were related within the most essential characteristics of proportion, where things as proportioned with respect to a unifying whole, as an open dialectical structure, and not for themselves as a visible unity or closed system of proportions. The role in proportioning architectural elements or the human body depends entirely on the presence of an articulated world in which the body is connected with embodiment. Hence, to understand contemporary architectonics of embodiment, the Order must be reconsidered. This involves studying the process by which experience, perception and location, and the flow of information, are structured in a unified whole, since all form part of the experience as fed to us in the name of culture.

The suspension of boundaries in the digital age challenged classical representations of body as a harmonic, naturally proportioned organism. It also challenged the division between body and architecture. Instead embodiment progressed towards a fading of boundaries. With Schlemmer's costume designs, architecture became an extension of the body. Costumes, architecture, body and space were inextricably linked in a structured manner of embodiment. After Schlemmer, both Archigram and Lucy Orta envisioned architectural space not as a container for the body but as an aspect of the body transformed; A body extended through space, a body where costume and space merge, where anatomic and spatial geometric forms become a single form of nature and culture; a meeting ground for technology and biology.

For example, 'Body architecture', by Lucy Orta designs explored costumes as architecture. Like Schlemmer, Orta's architecture forms an aspect of corporeality. Orta's approach, as Virilio argued, is a process of emancipation where clothes "expand to try to become a house, a pneumatic raft" (Orta, 2001). *Body Architecture* acts as a platform for exchange between the bodies; Orta tries to soften the boundary existing between bodies; between body and architecture; and between social divisions. "The boundaries between the dancers' bodies and the structures' fabric began slowly to dissolve." (Orta et al., 2001) By making costumes which act both as a building and as an extension of the body, Orta suspends the

boundaries between body, architecture and social context. She merges clothes to create a symbolic gesture—the merging of bodies in a collective shelter. The collective wear is a 'protective skin', hinting at physical and psychological refuge within the full-body, even maybe towards a healing of the body. And the outfit gains a symbolic meaning as a shelter or a house for the spirit, for the identity of those living on the edge (i.e. homeless, unemployed or children). (Orta et al., 2001) (Figure 32).



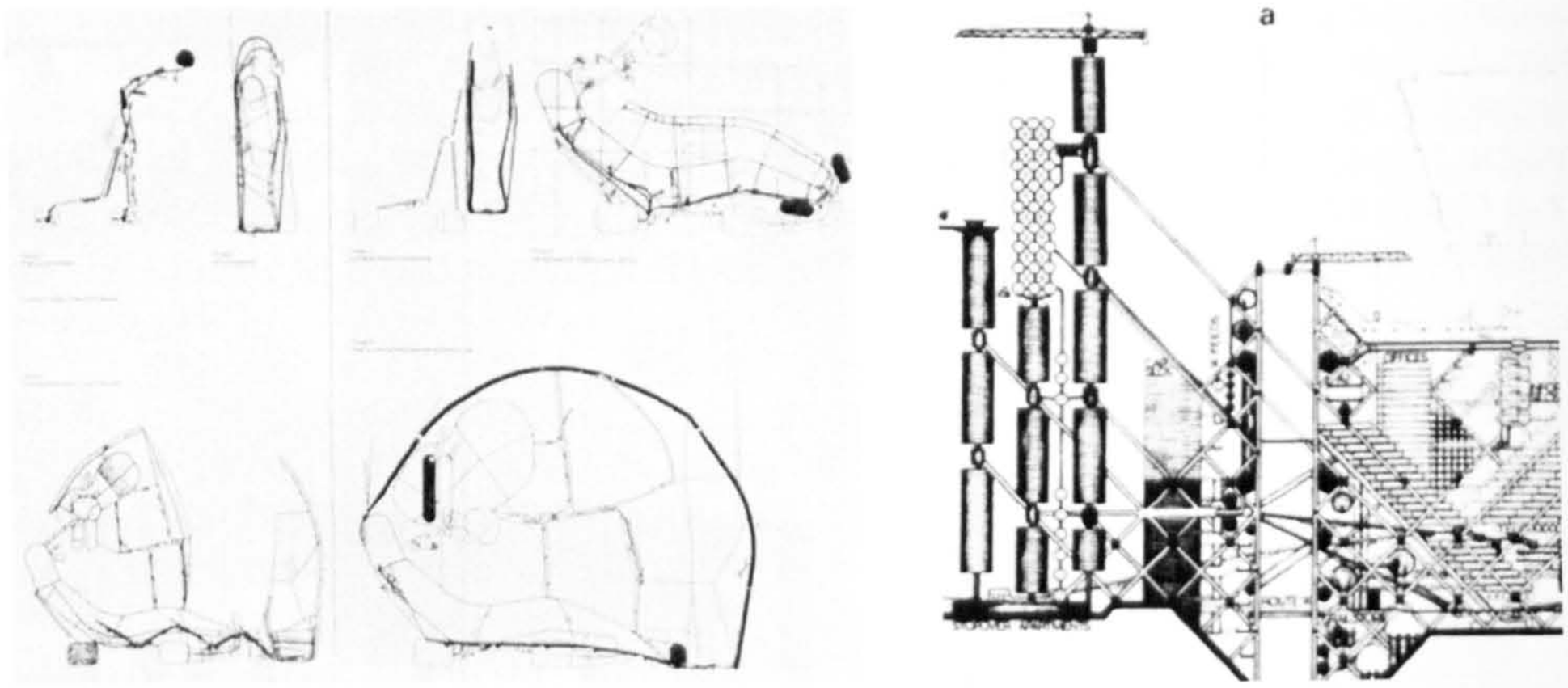
a. Refuge wear b. Refuge wear design c. Social ... in Johannesburg

Figure 32 Lucy Orta, Body Architecture
Source: Orta et al. 2001, p. 21, 65,30-31

With Archigram the body is a 'pluggable' body, plugged in the machinery of the house—which is also, in turn, plugged within a *'Plug-in'* city. The 'Plug-in City' is a machine city, but paradoxically, it is a machine that has characteristics of a body; it can walk or move like an organism does: It can be a *Walking City*. Bodies inhabit niches like electronic chips in an urban/social wider system. Michael Webb formulates these ideas better: "[e]ach suit has a plug serving a similar function to the key to your front door, you can plug into your friend and you will both be in one envelope, or you can plug into any envelope" (as cited in Cook (Ed.), 1999, p. 80-81). With Archigram, the house gives up its traditional form to become a micro house, tailored especially to fit the body.). "the house is an appliance for carrying with you; the city is a machine for plugging into" (Cook (Ed.), 1999, p. 52). The house stops being the static container but a *"portable"* extension of the body following its shape and skeleton (see Figure 33).

> "One constituent part is the 'armature' or 'spinal' system. This forms the chassis and support for the appliances and other apparatus. The other major element is the enclosure part which is basically an inflated envelope with extra skins as viewing screens" (Cook (Ed.), 1999, p. 64)

Archigram, Orta and Schlemmer suggested a new microcosmic doctrine in the sense that the body could no longer be assumed to form an organically unified ecosystem and architecture becomes an extension to this body: epitomising a microcosm and a macrocosm. From this point, the body and architecture form extensions to the other. And both act spatially to represent the architectonics of embodiment where the body is located in relation to a larger system (e.g. a cosmos, a city, a social system).



a. Cushicle

b. Plug in city

Figure 33 Archigram Projects
Source: Cook, P. (ed.) *Archigram*. New York: Princeton University Press, 1999

But in the context of digital age, architecture moved beyond the physical, and started to involve communication systems, virtuality and interfacings. These interfacings became an as aspect of embodiment, Moreover, technology allowed the interface to become the spatial interval between body and environment through new methods of telecommunication. All this led to a new definition of architectural experience. It also redefined how body and architecture relate in the architectonics of embodiment. The bodily analogy is no longer based on a relationship of distinct and equal opponents. Instead it is a relation based on crossbreeding, or a relational interfacing.

Chapter Three

3 Body & Architecture: A Relational Hypothesis

In the *Law of Proximity*, Virilio (n. d.) discussed the new environmental conditions implied by post-industrial machines and technological reductionism. Virilio, for instance, referred to this recent evolution by adopting the famous motto "less is more": but this time "less is more" not only on the level of volume, of the physical bulk of the object, but also on the level of material and the internal constitution of the device. Virilio then posed a question, which probably many (including myself) share with him: *"if less is more, to what extent? To the extent of the virtual? To the extent of that image, that virtual reality, which is finally more determining that the thing of which it is, after all, only the image?"* (Virilio, n. d.). This perplexed inquiry may be pursued further: "What about bodily analogy in architecture?" and "How will virtuality develop in relation to body and architecture?".

Virtuality and the interface are part of post-modern culture. In the previous chapter, I explored this point. I also explained that what I am really interested in is the impact of virtuality, and the interface, on bodily analogy to architecture. One aspect of virtuality points to a practice, which considers the virtual beyond the image, where virtuality becomes a way of re-appropriating/reconstructing space; virtuality as an intervention to change the dynamics and articulation in architecture.

My study looks at virtuality beyond its conventional definition (that which tends to reduce it to imagery, virtual reality or computer programming). I prefer to think about virtuality as a constituent of architecture—not a supplement or a replacement for it. I am also interested in the layers and articulations, which may result from the coexistence of virtual and physical in the architectonics of embodiment. And here, I return to Chaplin's essay (1995) where we find ourselves "lingering on the threshold" between a cyberspace and a physical space.

My understanding of the body is based on post-modern approach. Some post-modern critics suggested that today we see a body becoming like architecture. They also suggest ambiguous boundaries and crossbreeding between body and building. And an important aspect of this ambiguity is due to the notion of the interface. It is in this context that I intend to pursue my research on the analogy between the contemporary body and architecture.

3.1 Relational Assumptions

Recent cultural theories have been exploring different approaches to the structure of embodiment and the relational links that mediate between body and space. Whereas some tried to define the hierarchy of perception and bodily experience in order to find connections with the technological 'mediation' between body and space (see Merleau-Ponty, 1968; Virilio, 1997). Many have also been involved in the discussion of the nature of spatial boundaries which have been inherited from classical and modernist theories (i.e. Virilio, Merleau-Ponty, Haraway, Grosz). Such theories examined in their own ways the order of relation between spatial elements. These studies have led to a discussion on the structure of location, spatial practices and the difference between concepts of space and place (de Certeau, 1984; Augé, 1995) and the production of space (i.e. Lefebvre's long search for a unitary theory of physical, mental and social space (Lefebvre, 1991)).

In *The Practice of Everyday Life*, Michel de Certeau (1984) tries to draw a theory of the productive/consumptive activity inherent in the everyday life of users. This means examining the way individuals unconsciously navigate everything from city streets to literary texts. In this context, de Certeau identified two practices at odds: strategic and tactical. He describes institutions as "strategic" and everyday people (who are non-producers) as "tactical". The strategy defines itself as producer/manufacturer as opposed to user, and has only indirect contact with its audience (institutions adopt different strategies to assimilate the users). On the other hand lies the "user," whose behaviour is a 'tactic' of consumption. De Certeau presumes that it is in the activity of re-use that lies a potential for ordinary people to challenge the rituals and representations that the institutions seek to impose upon them.

This re-appropriation can be achieved by re-considering the use of culture in everyday situations. From an architectural perspective, this implies the exploration of new tactics by users to re-appropriate their built environment. A good example is *'Urban Tactics'* (a project by the *atelier d'architecture autogérée*) in which Doina Petrescu explores the re-appropriation of abandoned urban spaces and the creation of new forms of urbanism by reversible, everyday practices, through the inscriptions of users' different skills. *Urban tactics* considers the political condition of the use of space and explores symbolic tactical instruments *'outils d'appropriation symbolique'* (such as trans-local networks, catalyst processes, nomad architecture, platforms of cultural production) (urbantactics.org, n. d.). The work also underlies a Lefebvrian understanding of the re-appropriation and production of space (re-public.gr, n. d.).

According to Lefebvre (1991), space embraces a multitude of intersections with its assigned location, power relations and practices. A space contains these relations in forms of buildings monuments and works of art. In *The Production of Space,* Henri Lefebvre explored the relationship between the users' bodies and their spatial environment. Lefebvre discussed the re-appropriation and production of space and the concept of social body. In this context, Lefebvre (1991, p. 33) suggested a conceptual triad to explain the production of space, and as a way to analyse space and its social effects. This triad consists of: (a) spatial practice: explained in relation to association between daily routine and urban reality, (b) representations of space (conceptualized space) and (c) representational spaces (or the space of users).

More Recently, Marc Augé (1995) defined the distinction between the concept of *place,* encrusted with historical monuments and creative of social life, and *non-place*, to which individuals are connected in a uniform manner and where no organic social life is possible. Augé's distinction between place and non-place suggests, "unlike non-places the place as an assembly of elements coexisting in a certain order and the space is animation of these places by the motion of a moving body" (Augé 1995, p. 80). Marc Augé therefore, presents a relational connection between embodiment, location and spatial orders. Augé (1995, p.79) argued that *"Places come to life and journeys have to be made; a place can be defined as relational, historical and concerned with identity. Places are like palimpsests (never completely erased), on which the scrambled game of identity and relations is ceaselessly rewrit-*

ten". In this text, Augé, distinguished between the two meanings of 'space' and 'place'. In his division, Marc Augé referred to Merleau-Ponty's *Phénoménologie de la Perception.* Maurice Merleau-Ponty, as Augé argued (1995, p. 80), has explained the distinction between 'geometric' space and 'anthropological space' in the sense of 'existential' space.

The previous approaches depart in their relational investigation from spatial examination: space deriving its significance (re-appropriation) through users' practices and subjective interventions. This interrelationship is reversed with Merleau-Ponty who starts his investigation from the body or even from what is in-between body and world: from 'the intertwining of flesh'. Merleau-Ponty emphasised the reciprocal interdependency of the seer with that which s/he sees, but is only in *The Visible and the Invisible* that he pursued the logical limits of this interdependency (as cited in Bishop, 2002, p.213):

> "What marks the act of perception is the eminent nature of the intertwining of flesh, the chiasm can never be achieved really, and this chiasmic communication holds the body, the thought and world in a contingent relationship without really happening in order to maintain the sense of inter-subjectivity of the flesh" (Merleau-Ponty, 1968)

Merleau-Ponty (1968) introduced a hierarchy of sensory perception, by drawing a structure of the relationships between the *visible*, the *invisible* and the *sensible.* His premise on the hierarchy of sensory perception suggests different levels of perceptual experience. In his work, he described the experience of relations with the world on the part of a being essentially situated *'in relation to a milieu'*. Hence, his 'relational' theory attempts to explain and explore the order of relationships based on the conditions of perceptual experience of users in space. In *Spatial Stories,* Michel de Certeau followed up Merleau-Ponty's ideas, arguing:

> "This experience is a relation to the world; in dreams and in perception, and because it probably precedes their differentiation, it expresses "the same essential structure of our being as a being situated in relationship to a milieu" – being situated by a desire, indissociable from a "direction of existence" and implanted in the space of a landscape. From this point of view "there are as many spaces as a being as there are distinct spatial experiences"" (as cited in Ballentyne (ed.), 2002, p.74).

In *The Visible and the Invisible* (1968), Merleau-Ponty re-explored the production of visibility and the metaphysical structure of our flesh, and introduced the notion of Chiasm as the *intertwining of flesh*, or as the "thickness" which separates body and environment, or separates objects in space is 'continuity'. The notion of *thickness* was brought up in architectural theory after Merleau-Ponty's notion of the Chiasm. The concept evolved with the post-modern condition and took new meanings and interpretations (such as creating a fluid relationship between body and environment). This time, thickness is exchange, interdependency and continuity. Paul Virilio, for instance, examined the boundary between body and environment. When discussing the *Law of Proximity*, he defined the thickness as an interface between the physical environments (the exterior world) with the microphysical environment (the interior world inside the body) (Virilio, 1997)[12]. Virilio (1997) argued that this interface is ruled by a constant activity in the form of an exchange between the two substances placed in contact with one another. Both Maurice Merleau-Ponty and Paul Virilio made it clear that the concept of *thickness* is not meant as a fixed boundary or a limitation (Merleau-Ponty, 1968; Virilio, 1997). It forms extendibility and the elimination of boundaries between body and architecture.

The term 'relational' came to light with *Relational Aesthetics*: a book by Nicolas Bourriaud. It also reflects Rafael Lozano-Hemmer's 'Relational Architecture' (Lozano-hemmer.com, n. d.). In his book, Bourriaud (2002) discusses a 'relational' art, which takes as its theoretical horizon the realm of human interactions and its social context. Relational art seeks to establish inter-subjective encounters that literally (or hypothetically) take place as a potential outcome of our encounter with a given art piece. What is interesting about 'Relational Art' is that it engages with its context and is beholden to the contingencies of its environment and audience. For example, in some manifestations of this art (such as the performance-installations

of Rirkrit Tiravanija) viewers are addressed as a social entity, and are even given the wherewithal to create a community, however provisional or utopian. This text is significant here because it introduces in a clear and defined way, perhaps for the first time, a relational criterion for relational art. It also draws on spatial conditions and structure of relations resulting from encounters with artworks.

My suggestion is that the interface may be a relational dimension to the body—building analogy. On the one hand, the virtual effects of the interface relate to body sensibilities, on the other, they relate to the location. One example is relational interfacings which form a mediation between corporeality and architecture. I explore this type of interfacings by examining specific virtual constructions in architecture. There are preceding examples on virtual interventions—particularly in installation art. We can learn from these to test the effects and potential of designing relational interfacings in architecture. Always taking the post-modern body as a base to my design. This approach, I believe, can provide an example on how the body can become one of the measures in architecture today.

3.2 Rethinking the Interface as an Aspect of Embodiment

The interface is a relatively new term; it only goes back to the end of Twentieth century. But it already has different interpretations. In principle, the interface emerged as a result of technology and information culture. In information technology, the familiar definition describes the interface "as a program that controls a display for the user and that allows the user to interact with a system" (Dictionary.com; Paul, 2003).

Heim relates the "interface" to the logic of feeling in human users but also shows how much it is getting close to cyberspace. The interface ceases to be a tool and becomes itself part of the environment or the process. Paul Virilio saw that the interface is closely related to the new change in limitations—where the interface becomes "the interval for the instantaneous monitoring of the "microphysical" environment through new methods of telecommunication" (Virilio, n. d.). And in the case of Stensile or Sterlac, we see the "body as interface". Stensile (1998, p.19) suggested *"the re-emerging of the body as interface; as unpredictable, unreliable, unstable, and emotional interface, susceptible to hormonal flux and biological decay, but with a "fuzzy" logic guaranteeing information digestion/exchange in bit rates higher than any contemporary, "logic" interface."* (Stensile, 1998, p. 19) He continues: *"Presently the interface restricts our experience...why not extend the psychophysical relationships between the real and virtual worlds and mold deadly and sensuous phenomena into the virtual dimension?"* (p. 21)

Most of the previous examples see the interface as one aspect of embodiment in space. Sometimes, it is an extension of the body. And at the same time, it is also architecture. And even though the notion of interface is still vague or ambiguous in these examples, it is this vagueness which makes it a rich ground to speculate on how it can actually intervene 'spatially' in architecture. There is another dimension to the interface: a relational dimension. This dimension seeks to redefine aspects of the body and architecture interrelationship. Architecture often involves physical and virtual elements. As we have seen in latter sections of Chapter Two, the interface can hardly be separated from the architectural context—nor can it be thought outside embodiment.

Earlier in this thesis, I referred to Joseph Rykwert. Rykwert initiated the recent discourse on bodily analogy in architecture. And although his focus was on the Vitruvian tradition, but his work remains a principal source for further examination across all times. In *the Dancing Column*, Joseph Rykwert suggested a double metaphoric equation between body and architecture (1996). This equation, argues Rykwert, can then be expanded into a 'function' by further examining the variables, which come to constitute the dynamics and changes of such function. To recap in Rykwert's own words:

> "The condition for any person "finding himself" in the man-made world must therefore be that buildings should be like bodies in the first place, and in the second, like whole worlds—far-fetched though this may sound. More explicitly, there is a way in which all the different parts of my metaphoric equation make up a "function": they bring a number of variables together with a fixed element. On one side is a perpetually changing awareness of the body, the slower modification of buildings methods, and the differing visions of world order (or disorder); on the other is the sure expectation of the metaphoric commerce between them against which all the changes may be rung." (Rykwert, 1996, p. 373/4)

In this extract, Rykwert suggests some of these variables, yet he does not specifically define them, leaving it open, I assume, to further interpretations. In this light, I suggest the interface and virtuality as variables in this function; the interface relates to the body and architecture, but it is also a significant factor in changing the architectonics of embodiment. Hence, as I illustrate in Figure 34, the analogy is no longer limited to the two elements of the analogy **[BODY: Architecture]**. The interface becomes another element in this equation. And we can start to think of a triadic relational schema linking: **[BODY: INTERFACE: Architecture]** where the interface acts as mediation, or a part of this extendibility of body and architecture.

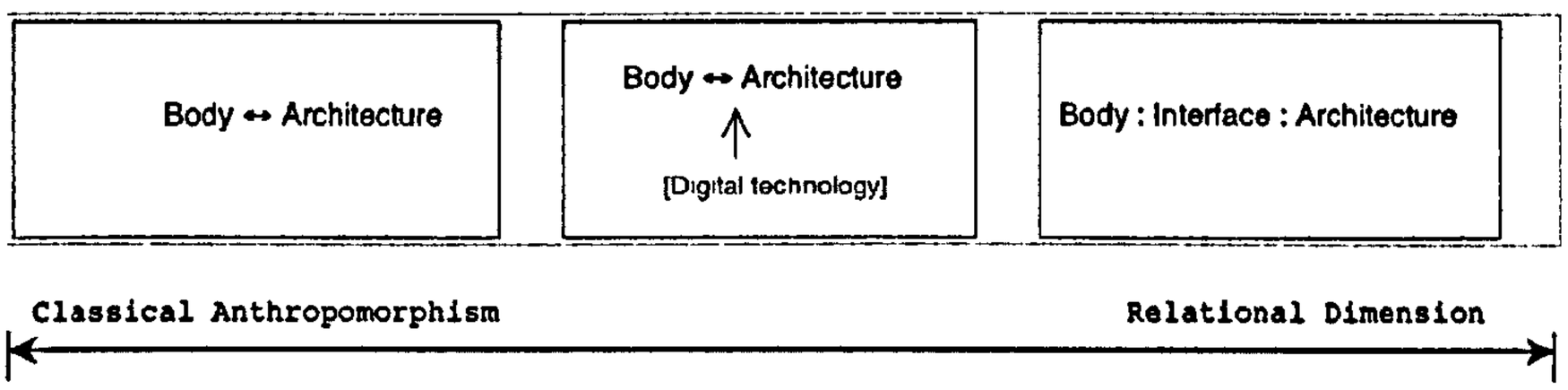


Figure 34 Development of the bodily analogy in architecture

Hypothetically, I draw a triadic interrelation between the three concepts: body, architecture, and interface. And I illustrate it in Figure 35. Each of these elements must be considered through the other two. They only find meanings through their interrelations and trans-projections. I believe there exist different possibilities between these three spatial elements. Based on the two diagrams in Figures 34 and 35 I ask: "What are the underlying analogies that may exist between body, architecture and interface?"

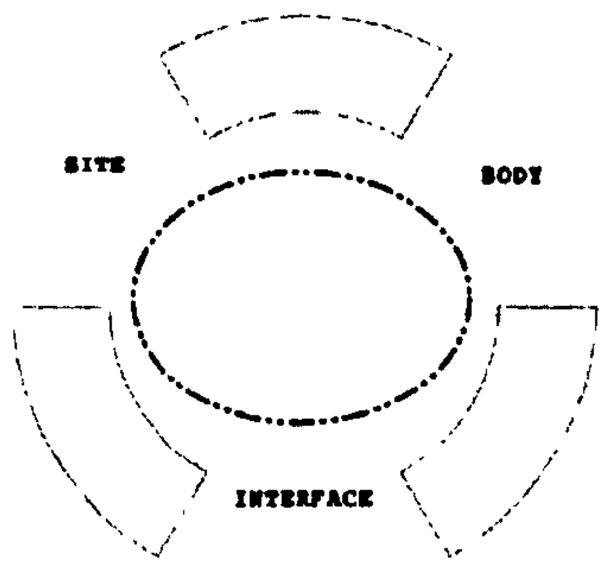


Figure 35 Diagram showing the triadic relationship between the body, architecture, and interface

In the context of augmented architecture and locative media, the interface becomes related to architecture through site-specificity and site-mapping. Mapping virtuality in architecture allows for multiplicitous/augmented spaces where two sites are mapped, related and over-layered. This promises to help in re-appropriating architecture through inscription of the virtual (non-site) over the physical (site).

On the other hand, the interface is considered as an aspect of embodiment. It allows the body to experience unusual sensibilities. But more importantly, the interface opens the path for the reappropriation of the body, as a means for reappropriating space. Relational interfacings allow for extendibility, and the suspension of boundaries and for a new representation of the body as flexible, activated, performing in space.

It is at this point that the interface becomes an important aspect of the analogy between body and architecture as it promises to change the dynamics between architecture and users. In the course of examining this approach to the interface, I intend to formulate a relational schema. This schema provides a framework for examining the impact of virtuality on body and location. This schema responds to contemporary understanding of the body. Also, it respects location and the articulation of interface (virtual) and (physical) site (interface: site).

3.3 Relational Artworks [Reference Projects]

In order to explore the relations between the body of the user, site and interface in architecture, it is important to look at real practices, which have explored these issues. The following three examples are artworks by renowned artists. These works are relevant because they suggest relationships between body, site and virtuality, which I believe relate to the relational theories mentioned above. The artworks are site-specific. They involve the use of interface and virtual constructions in architectural and urban locations. They treat the subject from a fresh and contemporaneous perspective on site-specificity, socio-spatial practices and the introduction of virtuality to architectural sites.

3.3.1 Mapping Site with Soundscapes: Bruce Nauman

In 2002, in the fifth commission for the Turbine Hall at the Tate Modern (London), Bruce Nauman exhibited an installation called *'Raw Materials'*. Nauman is recognised as an innovator in the field of multi-media art. He was one of the first artists to explore a full range of media, materials and ways of working in the 1960s, moving between photography, text, video and performance (Barrett, 2002). In this piece, Nauman created soundscapes using 22 recordings of the human voice to fill the vast space. Figure 36 illustrates users experiencing the artwork.

As users walked the length of the Turbine Hall, they passed through a series of audio recordings. These recordings were projected from speakers mounted in pairs opposite each other on the walls of the space. Soundscapes consisted of texts used in previous video or sound works by Nauman, stripped of their original contexts and redeployed as material for this new work (Higgins, 2002). Wave after wave of different voices, sometimes urgent, sometimes meditative, merged to create an overall ambient sound (Barrett, 2002). The work contained no visual component and the hall was completely empty. Adrian Searle wrote about his experience of the work. He explained his movement in the work and his spatial awareness (2002):

> "The experience is a little like treading water beyond the surf, riding the troughs and swells of sound, each work another wave. Swept along by an unseen current, you are towed into deeper water, until you find yourself amid a flotsam of old routines and riffs, half-remembered

snatches of things, the wreckage of words... It makes you, too, totally aware of the volume of the space and where you are in it. I became intensely conscious of my own body and its orientation - whether I was standing a little to the left or right, closer to or further from one speaker or another, tracking the advance and retreat of different voices as I walked. I found myself looking down much of the time, and walking slowly, like a man who has dropped a coin or lost a beloved" (Searle, 2002).

Figure 36 Bruce Nauman, Raw Materials, London, 2002
Source: http://arts.guardian.co.uk/news/story/0,,1325065,00.html/

The design of the acoustic intervention in *Raw Materials*, Bruce Nauman took into consideration the viewer and the location. First, the work showed that the artist followed an interesting approach to the body of the user. The artist aimed to stimulate specific responses from the users by drawing attention to soundscapes as well as creating uneasiness: *"like getting hit on the back of the neck"* as Nauman himself, explained (as cited in Barrett, 2002). However, there was still clearly a natural aspect to the work: *"Voices screech "thank you" or bark "work" like a whipped dog. There is something human in their repetition without the empty detachment of a computerised loop"* (Gavin, 2002). On the other hand, the artwork implied a certain organisational setting to space. Nauman explained: *"There are a lot of kids who come in and make a lot of noise... That contributed to the idea of using the space"* The artist continued: *"The recordings are a sort of abstract material. They are not arranged in the space by content, but by intensity and rhythm—there is a rhythmic connection between them"* (as cited in Higgins, 2002). Barrett (2002, ¶ 7) described this spatial arrangement further; he explained how soundscapes were mapped over the space of the Turbine Hall:

> "Standing from the bridge across the hall, it sounds as if an unseen riot has broken out on the South Bank. Disembodied voices shout at visitors. From the endless and desperate 'Thank You, Thank You.' near the entrance ramp, through tones of hysteria, anger, pleading, singing and whispering. An exhausted voice implores us, or perhaps himself, to 'work! work!' whilst above the bridge an irate and urgent 'think! think!' shrieks at us as we exit to the galleries and beyond onto the street"

Bruce Nauman's work is part of a series of contemporary interventions taking place in architectural spaces, in galleries, public spaces, etc. These interventions often involve the use of sounds and/or images. They imply a specific statement to site-specificity and to the representation of the body. Some aspects of the work may also question memory, spatial practices. Some also seek to highlight the macro relations between body and socio-political order; a good example is the work of Krysztof Wodiczko.

3.3.2 Images as Parasites on Site: Krzysztof Wodiczko

Krysztof Wodiczko is an artist renowned for his large-scale slide and video projections on architectural facades and monuments. By appropriating public buildings and monuments as backdrops for projections, Wodiczko focuses attention on ways in which architecture and monuments reflect collective memory and history. Figure 37 illustrates one of his projects. The Tijuana Projection in 2001, it was a public projection at the Centro Cultural de Tijuana,

Mexico (as part of In-Site 2000). The purpose was to use progressive technology to give voice and visibility to the women who work in the "maquiladora" industry in Tijuana. The participants, in a public plaza on two consecutive nights, shared these problems live. In such works, Wodiczko disrupts our traditional understanding of the functions of public space and architecture. He challenges the silent, stark monumentality of buildings by 'activating' them in an examination of notions of human rights, democracy, and truths about the violence, alienation, and inhumanity that underlie countless aspects of social interaction in present-day society.

a. Users interacting with the work through headset.

b. A conceptual sketch of the projection overlaid on site

Figure 37 K. Wodizscko. 'Tijuana Projection', Adam Whiton and Sung Ho Kim, in Mexico, 2001
The artists designed a headset that integrated a camera and a microphone allowing the wearer to move while keeping the transmitted image in focus. The headset was connected to two projectors and loudspeakers that transmitted the testimonies live. Source: http://architecture.mit.edu/people/profiles/prwodicz.html

In 1996, he added sound and motion to the projections and began to collaborate with communities around chosen projection sites, giving voice to the concerns of heretofore marginalized and silent citizens who live in the monuments' shadows. Projecting images of community members' hands, faces or entire bodies onto architectural façades, and combining those images with voiced testimonies, Wodiczko disrupts our traditional understanding of the functions of public space and architecture. He challenges the silent, stark monumentality of buildings, 'activating' them in an examination of notions of human rights, democracy, and truths about the violence, alienation, and inhumanity that underlie countless aspects of social interaction in present-day society.

Wodiczko uses post-modern tactics towards the architectural site. He projects images on to specific buildings in order to reveal the languages of power and authority operating within the cityscape. The artist deals with buildings while assuming that the built environment functions as a signifying system within which meanings can be *'destabilised'*. The images act as parasite onto the buildings they illuminate. Kaye explains this further:

> "[Wodiczko's] points of departure are analyses of architecture and spaces as loci of power and authority ... indeed, in grafting these appropriated 'media images' of the body on to the 'official body' of the 'official façade'... Wodiczko's projections challenge the distinction between the 'built monument' and the 'projected image' by resolving the cityscape into a play of representations (Kaye 2000, p. 36).

On the other hand, Wodiczko has also developed 'instruments' to facilitate survival, communication, and healing, for homeless people and immigrants. Since the late eighties, he has developed a series of nomadic instruments for both homeless and immigrant operators that function as implements for survival, communication, empowerment, and healing. These therapeutic devices address physical disability as well as economic hardship, emotional trauma, and psychological distress. Wodiczko envisions these devices as technological prosthetics or tools for empowering and extending human abilities (Mit.edu, n. d.; Art: 21, n.

d.). More recently, Rafael Lozano-Hemmer produced video projections in public space questioning the relationship between public and site. The artist developed the concept of 'Relational Architecture' through a series of interactive interventions in public space. His work has been associated with Wodiczko media projections because it questions architecture through parasitic projections on monumental buildings.

3.3.3 Video-Portraiture: Rafael Lozano-Hemmer

Rafael Lozano-Hemmer had a growing impact in the media scene and in telecommunications art, which uses mobile phones, faxes, slow-scan television, satellites, and networks. Lozano-Hemmer named his practice Relational Architecture and designed a number of successful interactive installations in different public sites. Some were staged on monumental façades, thresholds of historical buildings and other public spaces. Examples of his work include *'The Able Skin'* (1997), a media structure and a virtual reality installation in which participants travel around the *Able Skin* covering Palladio's Villa Rotonda. The participant's motion controlled the point of view in the projected environments on the wall and the floor. Another example could be seen in a tele-absence interface used by Lozano-Hemmer (1997) in *'Re: Positioning Fear'* installation in Graz, Austria. In this work he used tracking systems to focus on the shadows of passers-by and to generate sounds; a real-time Internet Relay Chat (IRC) discussion about the transformation of the concept of 'fear' was projected inside the shadows. Figure 38 demonstrates the users interacting with the shadows and projections.

Figure 38 Rafael Lozano-Hemmer, Repositioning Fear, Graz, 1997
Source of illustration: www.lozano-hemmer.com

According to Lozano-Hemmer, in Relational Architecture there are intensely different planes of experience. These planes may be very different, but sometimes a small connection is be-

ing made, either locally or temporarily or post-geographically. What is important in Relational Architecture is the interconnection or *"the relationship between our experience and the outside world of constructed, consensual, sensory experience"* (Adriaansens & Brower, 2002). Lozano-Hemmer's installations are largely participant-centred, often computer augmented. The artist creates a situation where the building, the urban context and the participants relate in unconventional 'alien' ways (Adriaansens & Brower, 2002). In a previous interview, Lozano-Hemmer described his beliefs in his work:

> "[m]y work derives from an existing special effect. Sometimes it's more historically motivated, sometimes it comes from the research of an interface. I have no problem saying that my work is effectist. But participation transforms special effects into what I call "special causes and effects". Through participation special effects become something that is more dialogical, something that is more of an exchange. Depending on public participation is a humbling affair because the work will not exist without the main protagonist, which is the public as actor" (Adriaansens & Brower, 2002).

Lozano-Hemmer's interactive installations implied an interesting humanist approach. His works remained strongly dedicated to the user and particularly to the human body with its movements, shadows and sensibilities. In many works, Lozano-Hemmer used shadows as an interface to connect body and site. Furthermore, the interfaces he implements are considerably intuitive; they successfully create an instinctive and immediate dialogue between the users and the artwork. Throughout his work, Lozano-Hemmer invited the body to perform and participate in the experience of re-appropriating, re-presenting or activating an architectural site.

Lozano-Hemmer's work is not necessarily site-specific. For him *'locality, like Identity, is a performance'*. "Placelessness" and "multi-place" are terms concerning the condition of the artwork, but also of us, and of architecture in general. According the Lozano-Hemmer, the sense of continuity and complicity is created through the persistence of connectivity and dialog with these places (Adriaansens & Brower, 2002). A number of installations in the *'Relational Architecture'* series were mnemonic. In this context, the artist referred to the use of the *Art of Memory* in Chinese, Hermetic and Renaissance rhetoric traditions. In those traditions, architecture was used as a repository of relatively located memories, which could be recalled by a speaker through a mental "walkthrough" (Adriaansens & Brower, 2002). The artist explained further:

> "Relational Architecture can be defined as the technological actualisation of buildings and public spaces with alien memory. Relational Architecture transforms the master narratives of a specific building by adding and subtracting audiovisual elements to affect it, affect it and recontextualize it. Relational buildings have audience-activated hyperlinks to predetermined spatiotemporal settings that may include other buildings, other political or aesthetic contexts, other histories, or other physics. "

Like Nauman and Wodizscko, Lozano-Hemmer has thought about the spatial qualities of his setting when mapping the virtual layer over the space. But how does this setting function? Did they use a criterion? And how did they conceive their interventions and what were they thinking about its relation to the site and the user?

First, the interventions discussed above make critical sited pieces, offering ephemeral inscriptions in cityscape. Some allow for the analysis, destabilization and/or activation of architectural sites. Second, the interventions allow for a certain embodiment and specific spatial experiences to the users. From this, I wish to proceed to formulate my premise in this thesis. I believe that the investigation of a relational paradigm can also emerge from the interrelation between body and architecture—or between the user and the site.

3.4 Bodies, Interfaces and Sites: A Relational Schema

The previous discussion of the artworks confirms that, when creating their work, the artists considered the three principal aspects of such work: the users, the interface and the site. It is also clear that they somehow considered the interrelations and implications between these features. Nauman, for instance, clearly thought about users movement and perception while designing his piece. As I mentioned above, he confirmed his views on the relation between soundscapes and site, and he carefully selected his recordings before mapping them on site. Lozano-Hemmer also thought about how users would interact with the shadows and conceived the piece accordingly. On the other hand, Both Hemmer and Wodiczkoalso suggest specific articulations between the virtual and the physical, on the one hand, and the users' experience, on the other. Krzysztof Wodizscko's work is an exploration through imagery of the underlying power structures of a building, and the deconstruction of these *'Grands Récits'*. Other virtual interventions (like Lozano-Hemmer) focus on the temporary, minor histories that can be established with relationships between the site and the public. These projected media images or soundscapes act as visual and acoustic articulations of the built environments [in this case: monuments].

So, the works are not uninformed. Whether the artists are aware of it or not through their design process and practices, there is obviously some relational framework underlying their work. This framework is based on three concepts: mediation, embodiment and contextualization (see Figure 39).

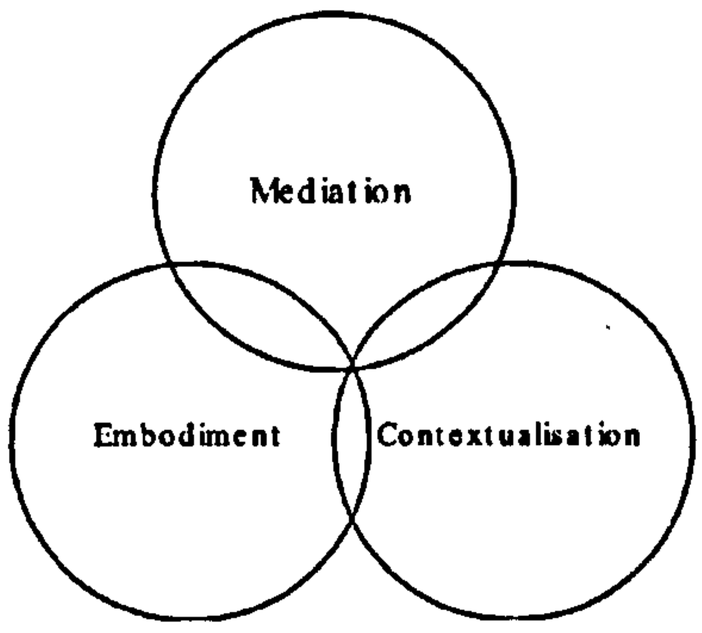


Figure 39 A conceptual diagram for relational artworks

First, *mediation* refers to the relational interfacings through soundscapes and video projections. However, these interfacings are not only technical but also involve a conceptual (representing an idea) and contextual (suggesting a certain relation to the context, even when it chooses to move on from it). Digital images and sound projections involve the manipulation of images and sounds to redefine the relations between the user, the world and its representation (i.e. dematerialisation, dislocation, institutional critique).

Second comes *embodiment*. The work is not significant unless a user experiences it. In this respect, the artists would create a certain representation and relation to the body of the user. They conceive body movement, interactivity and exchange. They organise the work (physical and virtual) to stimulate the users. This is not only perceptual, but it also addresses the sensibilities of the users by questioning memory, intimacy, or even feeling of uneasiness (Nauman).

Finally, the *contextualisation* of the work involves thinking about the physical context and/or the virtual site (on Internet). The artworks discussed above reveal awareness to the site, whether it is a monument, a gallery or a public square. For example in the case of Lozano-Hemmer, the physical space and the virtual space of the Internet were simultaneously re-considered). Even when they try to destabilise/problematise the site, these works actually emphasise the site as a territory of exchange; a place of event.

It is these processes, which develop in between the three elements of (body, interface, site) that I am interested in here. I am also interested in the possibilities, which result from these processes.

3.4.1 The Body of the User

The user is a conscious subject in action. But action here implies positive action, not necessarily a potential for *mis-use* (Hill, 1998), I focus on a positive representation of the body as subjective, active, interactive and flexible. Unlike the terms participant or visitor, the user is interesting because it refers to a frequent conscious user: a subject, which can also be considered as a measure for the reappropriation of space, and which form a critical aspect in architecture especially when such active bodily engagement and the 'lived space' it produces has been undervalued by the architectural profession and the powers the profession has served. As Herman Hertzberger suggested, architecture should be considered through the way space is used, the diversity of activities which they attract, and the opportunities they provide for creative reinterpretation' (As cited in Forty, 2000, p. 312)[13].

The body of the user cannot be abstracted or anonymous. Rather, it is existent, actual and immersed in the everyday life. Moreover, this is a subject exposed culturally, socially and politically in the contemporary condition of embodiment. In *'The Production of Space'* Lefebvre's extensive writings examined the relationship between the users' bodies and their spatial environment. He discussed 'concrete' subjective space of the users; a space which is not just represented but also rather lived; a space of 'subjects' rather than that of calculations, a 'representational' space (Lefebvre, 2001).

This approach to 'lived' space takes into account the user's bodily sensibilities. The body is not only a perceptual body but also a social and 'practico-sensory' body. Lefebvre argued that bodily engagement in space is not limited to physical involvement (provided by our sensory involvement with the material/physical aspect of the environment), but is also social – a body inserted into a social space and strongly drawn in spatial and social practices. "The socio-spatial practice secretes the society's space; it propounds and presupposes it in a dialectical interaction, and it produces it slowly and surely as it masters and appropriates it" (Lefebvre, 1991).

Lefebvre interpretation of the users' practices reflects this very notion of the subject user in action. This subject has been implied by Elizabeth Grosz who described the notion of an 'agent or a subject, who performs an 'act'', "which produces a certain kind of identity." This notion of performativity claims that identity is performed or produced through action and not simply, as psychoanalysis suggests, through identification. Grosz draws a difference between an action and a performance based on the notion of other. "An action doesn't require an audience in the way that a performance does."[14] "Acts don't have an "other."[15] (Here, Grosz wants to move away from an idea of an "other" because as it already does not deal very well with the question of nature.) (Ausch, Doane & Perez, n. d.)

Such definition of the body is radically different from previous models where the body was objectified, defined and measured. In this context, the difficulty of measuring the body of the user emerges from the fact that previous lines of research may not work any longer to study the contemporary user in the new context. Whereas previously architecture considered the body as a model of dismeasurement, this formal approach tends to dissolve when the body as object disappears from the network of interconnections and becomes flexible and sub-

jective. This leads us to a comparison between an absolute and universal geometry and the geometry of ephemeral, vulnerable, relative flesh, which distinguishes the body of the user here. From the body in the circle to the body as a system of perception emerging with enlightenment, underlying a conflict between the subjective reality of perception and the objective dimension of harmony and on aesthetic principles whether beauty (aesthetics should be built) is related to harmony or to sensitivity of the subject (Palumbo, 2001). Hence, a need for new methods and strategies emerges to understand the body.

3.4.2 Architecture – Site: Non-Site

> "[t]he site is not available as an 'object', for it is non static: the site is mobile, always in a process of appearance or disappearance, available only in a dialectical move which the Non-Site prompts and to which it always returns" (Kaye, 2000)

In recent years, many writings have focused on site-specificity in relation to art/architectural theory (Kaye, 2000; Kwon, 2002; Rendell, 2006). Jane Rendell (2006) explored contemporary meanings of place, space and site. Rendell examined new models of site specificity informed by postmodernist criticism in art and architecture and changes in institutional forces as well as urban theory. Earlier, both Kaye and Kwon explored the development of site-specific art. Nick Kaye (2000) traced the historical antecedents of today's installation and performance art. On the other hand, in *"One Place after Another"*, Kwon (2002) offered a critical history of site-specific art since the late 1960s as well as a theoretical framework for examining the rhetoric of aesthetic vanguardism and political progressivism associated with its many permutations. Site-specific art emerged in the late 1960s in reaction to the growing commodification of art and the prevailing ideals of art's autonomy and universality. Throughout the 1970s and 1980s, as site-specific art intersected with land art, process art, performance art, conceptual art, installation art, institutional critique, community-based art, and public art, its creators insisted on the inseparability of the work and its context.

In *The American Heritage* (2000), a 'site' was defined as *"the place where a structure or group of structures was, is, or is to be located"* It was also defined as *"The place or setting of something"*. Can the idea of a structure, from the first definition, suggest a certain relational schema between different elements (i.e. user and site)? Or can the second definition, which presents the site as a terrain for a 'setting' to take place, and imply a dynamic potential for a happening on site or a 'mobility' as Kaye suggested (2000, p. 96). Is it possible that this 'setting of something' be a story or a narrative? Or can it be an exchange between the users of the site and the stories, which this site may suggest, such as memory, perception or movement?

Kaye (2000, p. 1) referred to the *Onions* dictionary to identify three meanings for the term Site: a substantive, a transitive and an in transitive one. He argued:

> "'Site' *substantive*. [...] the place or position occupied by some specified thing. Frequently, implying original
>
> 'Site' 1. *Transitive*. To locate, to place. 2. *Intransitive*. To be situated or placed"

Kaye (2000, p. 3) noted that site-specificity should be *"associated with an underlying concept of the site rather than with any given or particular kind of place or formal approach to site"*. The 'Siting' of artwork today involves the practices which in one way or another articulate exchanges between the work of art and the places in which its meanings are defined'.

In art, Nick Kaye (2000) explained the shift in site-specific practices from a *"minimalist engagement with the present space"* (substantive notion of site) to focusing on the elusiveness of the real site: *"reading the site in terms of its absences"* (a transitive notion of site). For

some time, and particularly with the minimalist works such as Robert Morris and Richard Serra, a site-specific work would articulate and define itself through properties, qualities or meanings produced in specific relationships between an 'object' or 'event' and a position it occupies, it would assert its relationship with its location, *"claiming an original and fixed position associated with what it is"* (Kaye, 2000, p. 1). However, more recent artworks and architectural interventions aim to *'destabilise'*, *'write out'* or *'move on'* from site.

Both Kaye (2000), as well as Kwon (2002), described the 'siting' of art as more than an artistic practice and examined the unstable relationships between the work, the site, and the context. In this respect, Kwon (2002) described site-specificity as a complex cipher of the unstable relationship between location and identity in the era of late Capitalism. Many artworks incorporated mapping to depict, represent and record specific social or spatial condition. Kwon (2002) suggested a new reading/understanding of site-specificity in art and architecture by relating it to social issues and the 'community', as well as the ideas of 'place' and 'non-place'.

3.4.2.1 The Site as a Spatial Palimpsest

In order to investigate this 'siting' of artworks today, Kaye discussed the different strategies applied in some artistic practices. These practices worked against the assumptions and stabilities of site and location (Kaye, 2000, p. 1). In this context, Kaye (2000) focused on the *Non-Sites* of Robert Smithson. Unlike what we would think of site-specific work the *Non-Site* draws attention from the site to the intervention, it asserted that the site against which it claimed definition is 'elsewhere'. Kaye explained: *"the site is neither that which it was, a stable point of origin, nor that which will be, a specific, 'knowable' point of destination"* (Kaye, 2000, p. 97). As a result, the work of Smithson challenged the concept of the site as a permanent knowable whole. It was characterised by the inability to locate or identify the site. The site in other words was negated, rewritten somehow, like a spatial palimpsest.

Nick Kaye formed an analogy between such works (sites) and a palimpsest, he explains that the notion of spatial palimpsest as a model of the *"transitive definition of site-specificity"* (Kaye, 2000, p. 11). Spatial palimpsest can also be used as an analogy for the relationship between place and non-place as Augé suggested previously: *"Place and non place are rather like opposed polarities: the first is never completely erased, the second never totally completed; they are like palimpsests on which the scrambled game of identity and relations is ceaselessly rewritten"* (Augé, 1995, p. 79). Kaye discussed the notion of spatial palimpsest in relation to the siting of artworks. In this context, the author discussed *Nights in this City* by Tim Etchell (1995). Kaye (2000, p. 11) argued that the project approached the real city as a palimpsest, by acting out writing over sites already written upon.

Spatial palimpsest can also be discussed in relation to memory in the siting of artworks/interventions. In *The Production of Space*, Lefebvre argued that:

> "The past leaves its traces; time has its own script. Yet this space is always, now and formerly, a *present* space, given as an immediate whole, complete with its associations and connections in their actuality. Thus production process and product present themselves as two inseparable aspects, not as two separable ideas" (Lefebvre, 1991, p. 37).

According to Lefebvre (1991), every society must produce its own space. It must be clear that space is not a vacuum waiting to be filled by people, but rather it is actively constructed and produced. This concept implies potentials for the re-appropriation and activation of historical sites through art interventions. Studying a site involves the process of 'unfolding' the specificity, history, associated stories and collective memories in order to outline the various events and experiences located on-site. The adding of virtual interventions into the architectural contexts can be considered as implicit spatial palimpsests for enhancing habitation with virtual effacing, transparency, scribing, layering, tracing, collage etc.

3.4.2.2 [Dis]locating Specificity

In 2002, a conference was held between Bartlett School of Architecture and Slade School of Fine Arts (University College London). The conference aimed to engage with a location, resulted in proposals for installations involving different materials and processes, from mosses to voices, from meteorology to memorialisation, extending debates around site-specificity into the production of practice-based research within the academic institution. Where the work "implies but is displaced from the site". Among the installations presented was *Sited Moss by* Kim & Mounajjed (n. d.), which will be a case study in this thesis and will be discussed in detail later. There was also a number of other installations such as Robert Wenman's *'nothing, 2002'* and Kristen Kreider's *'Untitled II (for M.)'*.

With *'Untitled (for M.)'*, Kreider explored elements of poetic practice (word, line, page, punctuation and voice) in relation to visual arts and architecture by undertaking textual interventions into architectural and urban spaces. Kreider referenced a series of site-specific dislocations with the co-ordinate information of one site (park) being mapped and retraced onto another (corridor) and then another (observatory). Such action worked to create a series of potential projects. Robert Wenman's Site-specific installation *'nothing, 2002'*, on the other hand, used specially printed parcel tape to create a temporary site-specific installation. As shown in Figure 40, the word *'NOTHING'* was repeatedly printed along the tape and so negated the object it might be wrapped around i.e. a cardboard box and in doing so describe the contents. By obstructing the interior it negated the very space itself and deemed it ultimately redundant: *"A space full of nothing"* (Wenman, n. d.).

Figure 40 Robert Wenman's Site-specific installation 'nothing, 2002'
Wenman used specially printed parcel tape to create a temporary site-specific installation in the Old Examinations Building, University College London, Taviton Street, London. The work lasted only a matter of minutes and formed a momentary obstruction or demarcation. The spatial-tectonics of how we experience terms such as 'nothingness', 'vacuum', 'void' or 'emptiness' rely on a nexus of methods including hapticity and notional tactility in relation to acknowledged markers. Source: Personal correspondence with Wenman

Both projects held specific approaches to site. Like the first examples of Forced Entertainment, which use writing over site in a way to shift from place, the works of Kreider and Wenman move on from the site by creating a new spatial narrative. These works follow tactics of deferral, by pointing to gaps and disparities between the work and locations, where the real work and its real site evade the specific. However, they are paradoxical in their treatment of site. As site-specific works, they work against their own final or definitive location precisely in order to expose the unstable, evasive, and shifting nature of this place (Kaye, 2000, p. 105).

Although the previous examples did not all involve virtual over-layering on site, they do deal with superimposed texts, images and narratives on site. They certainly treat the site with an awareness of the perception, imagination and reasoning of a user. If we look at the articulation between the elements of the work and the site, then it is interesting to observe the ways they question location.

According to Heidegger, architecture clarifies the location of human existence. But the previous examples, instead of asserting site, deliberately shifted the human existence to a new location, thus stimulating memory or imagination in relation to the 'other' site or event. However, projecting a virtual layer in physical spaces does not only involve the soundscapes or images. The process is more complex; it involves questioning the nature of the site (physically and conceptually). It also involves a study of the users' embodiment, the spatial setting and the organization of spatial elements.

Technically speaking, this virtual layer (which takes the form of visual or acoustic projections) is an outcome of media technology, or an interface; we need an interface to be able to project soundscapes and images on site. Sometimes, this sometimes involves using tracking systems, projectors and surveillance cameras. In the light of relational theory, it is useful to consider the interface beyond its technical potential towards a conceptual framework

3.4.3 Relational Interfacings: A Hypothesis

Interfaces and virtuality can relate to embodiment in different ways: locative, chiasmic, or intuitive. In order to become really part of the structure of embodiment, the interface needs to be naturally integrated in the spatial setting.

Earlier in this chapter, I explained the different approaches to the interface; one of these approaches provided by locative media. Locative media in architecture relates to the architectural site in different ways. In the previous section, I introduced the notion of 'site' as a terrain for exchange. In a similar way, locative interfaces are also tools to re-appropriate, write-over, dislocate, destabilise or activate this site. We have seen examples in this chapter from Lozano-Hemmer and Wodizscko. Examples from Chapter Two suggest other practices, which involve mapping soundscapes in relation to places. This new perspective for *siting* media technologies and virtuality in relation to architecture can be further used in architecture. We may start to think, for instance, how media technologies generate more extendibility, sensibility and interactivity in architecture.

Another approach to the interface sees it as intuitive and sensible interface—in the sense that it mirrors human characteristics. This statement follows on a previous one, which I made in the previous chapter, and in which I talked about the possibility of media technologies to allow for sensible inter-facings in the relation between body and space. Currently there is a growing interest in intuitive interfaces. Again, this relates to the notions of extendibility, flexibility and interactivity in environmental design and the arts. In the previous chapter, I discussed the 'breathing' interface used in the OSMOSE virtual environment (Davis, 1998). In Body Movies, Rafael Lozano-Hemmer developed the concept of 'shadow as interface'. It is difficult to think about more intuitive and human approaches to the interface than using breathing and shadows[16]. In this light, the interfaces can be designed to respond and stimulate body sensibilities and movements. In our first intervention *Sited Moss*, the voices were made irregular because we wanted to allow the users time to reflect, therefore to get the alternation/succession between a virtual and a real space, memorial and physical and between a consciousness and unconsciousness (breathing).

In her masters' thesis, Mette Ramsgard Thomsen (2001) investigated the design of intuitive interfaces for virtual environments. Her research explored the feasibility of alternative means of physical interaction in virtual environments and aimed at analysing whether humans can

re-map established body functions to learn and understand interactivity with digital information, in the context of a cross-sensory (virtual) environment. In this context, she focused on visualising prosodic aspects of the human voice. The author explored the ability of such application to enable cross-sensory interaction by visualising certain aspects of the user's voice and, more concretely, to map actions (i.e. voice) to a certain response (i.e. visualisation).

More recently, Thomsen explored new possibilities of intuitive interfaces through collaborative projects. For example, in the *escape* project, intuitive interfaces were developed for dynamic interactive environments. The practice explored new paradigms of interactivity, probing the use of imperative as well as genetic algorithms developing intelligent environments for architecture, performance, event design and games (Thomsen, n. d.). Like Hemmer and Davis, Mette Ramsgard also thought of an interface which is prompted to automatically track the body's sensibilities in space without the need for the body to adapt to it. Similarly in this PhD project, the interface will be using technology in a way which respected the human body, its needs and sensibilities, instead of imposing other aspects of technological supremacy on space.

Intuitive interfaces are becoming a popular area for research. In a previous paper, Peng, Walker and I (2006) explored this area. We also defined the interface as a mediating field of exchange between body and environment. In order to explore the nature of this interface further, we referred to Merleau-Ponty's explanation of the *Chiasm* and the hierarchy of sensory perception (1968). Three interrelated concepts were identified then: the physical, the metaphysical and the field of exchange. By relating these concepts, we tried to infer a framework for rethinking the interface architectural interventions. We suggested that one way of considering the interface today would be to see it as a 'chiasmic interface'. One may think of the interface as a spatial and perceptual extension of the body in space—something similar to the *'sensible'* concept used by Merleau-Ponty. In this context, one may also start to consider the spatial qualities of the interface and its ability to stimulate new experiences, movement, sensibilities and memories in the body of the user. This notion of the interface as an active process of exchange between the users and their environment should be considered in the light of pervious philosophies. The interface is related to the *"Chiasm"*. And the chiasm is a *"thickness"* between body and environment. It is 'element of being' (see 2.4.6 The Notion of Chiasm in Merleau-Ponty's Phenomenology, p.57)

Thinking about the interface in this way does not mean that we are rethinking technology. Of course the technical aspect is important. In the examples we reviewed, the interface constitutes of a set of apparatuses including sensors, projectors, soundscapes and images. Sensors trace body movements and sensibilities and as a result trigger projections on site, it relates to the users by interaction or projection. But also the interface is considered on a conceptual level by exploring its role in re-defining and re-forming the conditions of sensory and perceptual experiences in the architectural site. In this research, I acknowledge this part in the design of the interface. And in this way, I am turning the table; instead of looking at the representation of interface in embodiment, I start to test how the interface can actually be integrated in architectural thinking of embodiment and experience. To this end, the interface is as a spatial extension of the building and of the body at once. It has locative qualities, if we use it to re-appropriate or destabilise the site. It is also intuitive (or even chiasmic). This generally depends on the way it represents the body, initiates cultural and social associations, and relates the user to the site.

If we start conceiving the interface in relation to the architectural and socio-cultural, then we will be able to intervene virtually in architectural context. There is a significant potential for virtual interventions in the space of the city particularly in evoking cultural, social and even perhaps historical references. Keeping in mind all the lessons learned in previous sections: the structure of embodiment, how it relates to the site, architectural space, its spatial dimension and qualities and its ability to transform the experience and embodiment, the ques-

tion becomes, what can this add to architectural design and how we can start to perceive the interface in relation to architecture?

But before opening this question up, there are general conditions and qualities which result from relational spaces which can be summarised. For instance, we can see from the previous discussion that virtuality leads to a new representation of the body and can provide multiplicitous sensibilities, new concepts to movement and new dimension to perception. We also see the emergence of new approaches to the interface: (i.e. locative, intuitive, chiasmic). As for architecture, I looked at the condition of the site as augmented, dislocated or reappropriated. Figure 41 summarises these conditions according to each of the three elements we looked at in this chapter.

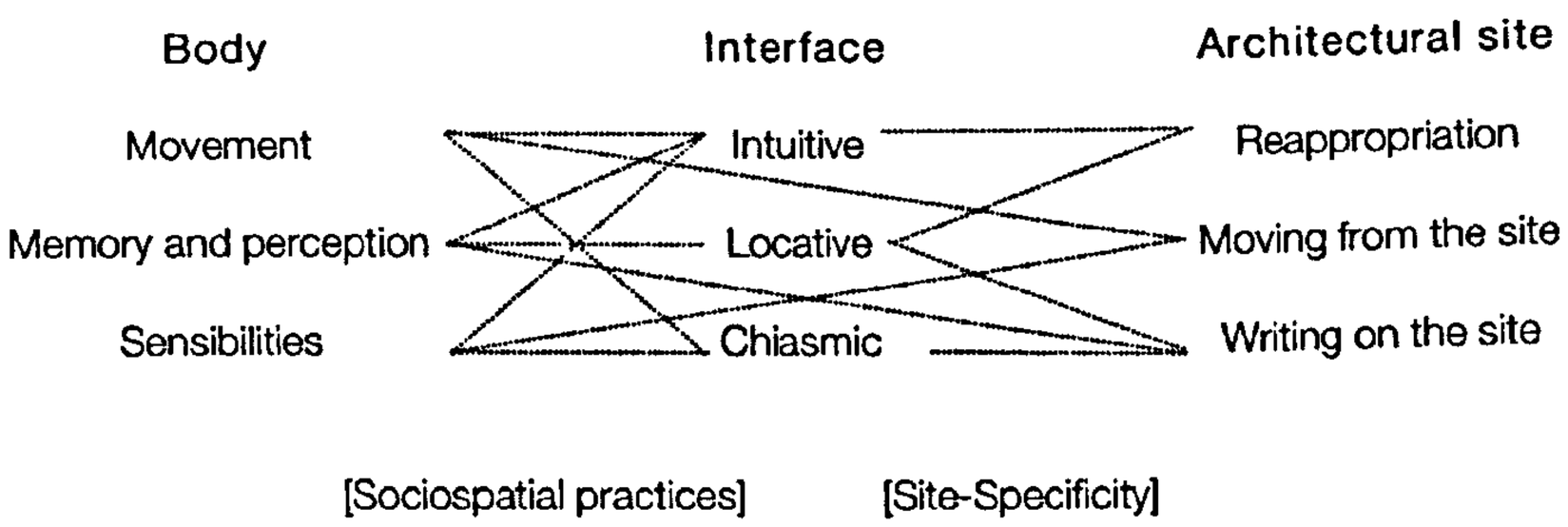


Figure 41 Relational possibilities between body, interface and architectural site

Looking at the above figure, one can start to see some of the possibilities that exist in such relationships. These possibilities are numerous, and difficult to cover in one research project. What really interest me here are the analysis of layers and articulations, which may result from the coexistence of bodies, sites and interfaces in virtual interventions. We see two main areas in which the interface can influence body and the site. First, the interface can change sociospatial practices: Here, I use the term 'sociospatial practices' to refer to bodily experience in architecture and in response to the interface. This includes movement, interactivity, memory, perception, sensibilities, social integrations etc. On the other hand, we see the interface affecting site specificity. What I mean by site specificity here is how the intervention relates to its location (i.e. the architectural site). Here we find different possibilities from site reappropriation, dislocation, over layering etc. The way the interface can do this is through its technology (sensory elements etc), or by stimulating spatial narratives (history, memory etc).

As shown in Figure 42, one may speak of a 'relational dimension' here as bodies start to relate to buildings in ways which do not necessarily resemble classical bodily analogies. The interface is the mediating element, and perhaps we can think of it not just as a spatial element but also as a dimension creating relational connections with a bigger order (social, cultural or spatial for example). What I also mean by relational dimension are issues related to re-appropriating site-specificity, functionality, spatiality and embodiment. All these issues will be explored through case studies in the following chapters. Virtual interventions will be used to measure this relational dimension (for example, by observing changes in site, interface design and users sociospatial practices). The aim is to see if such interventions lead to more sensible, flexible space, a space where the body's sensibilities are triggered and activated.

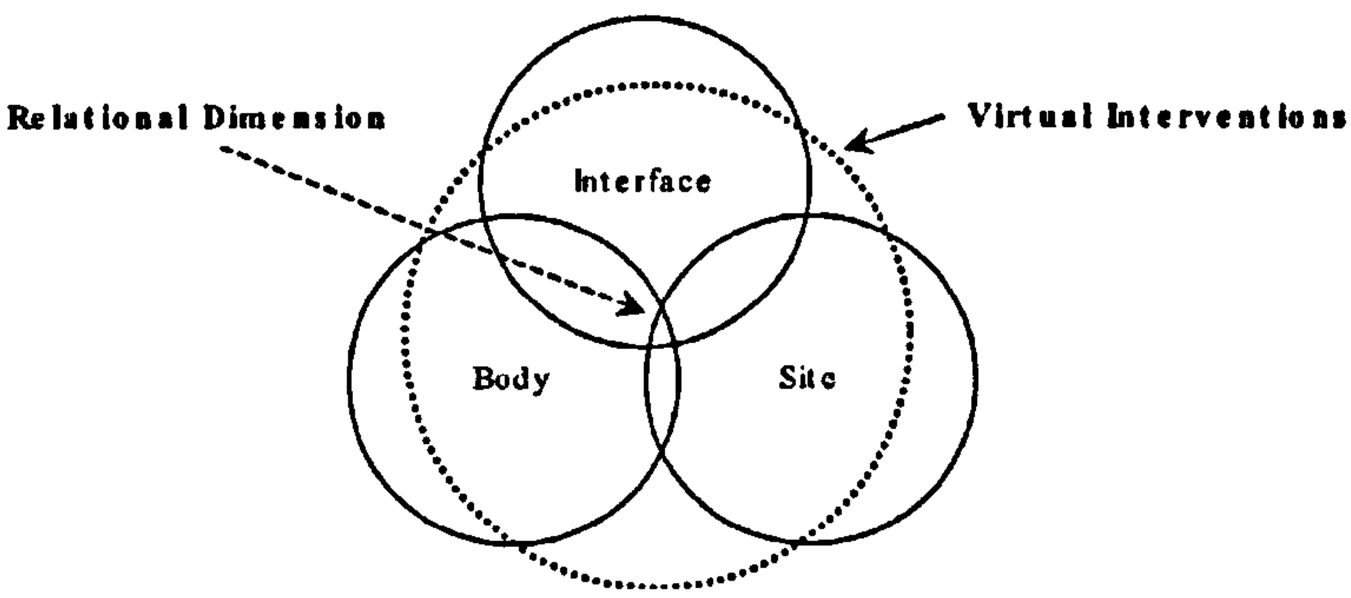


Figure 42 A Diagram of the factors in virtual interventions

3.5 Research Considerations

My investigation of the notion of the interface started with the gradual emergence of the concept of interface in relation to embodiment (with Haraway, Grosz), and notions of extendibility simultaneously. The relational analogy proposed in this chapter calls for a reassessment of the role of the interface in architecture. Relational interfacings can allow for site-mapping, and for the reappropriation of space through the reappropriation of the body of the user. There is also a further relevance to this type of interface, which allows for virtual constructions and reappropriation of the architectural site as more interactive, didactic and even sensible.

And so, perhaps Virilio's motto "less is more" may be interpreted in a different way, in the sense that we start to think less about digital technologies and more about its humanistic, narrative and "relational" aspects. Perhaps we can think of it not just as a layer but also as a spatial and transcendental element creating relational connections with a wider order (social, cultural or perceptual).

However, this definition of the interface begs for new methods which can accommodate the background and potential of relational interfacings. The reality is that the interface, even if it becomes related to embodiment and subjectivity, remains a result of digital culture, and hence requires a consideration of the scientific background from which it emerged.

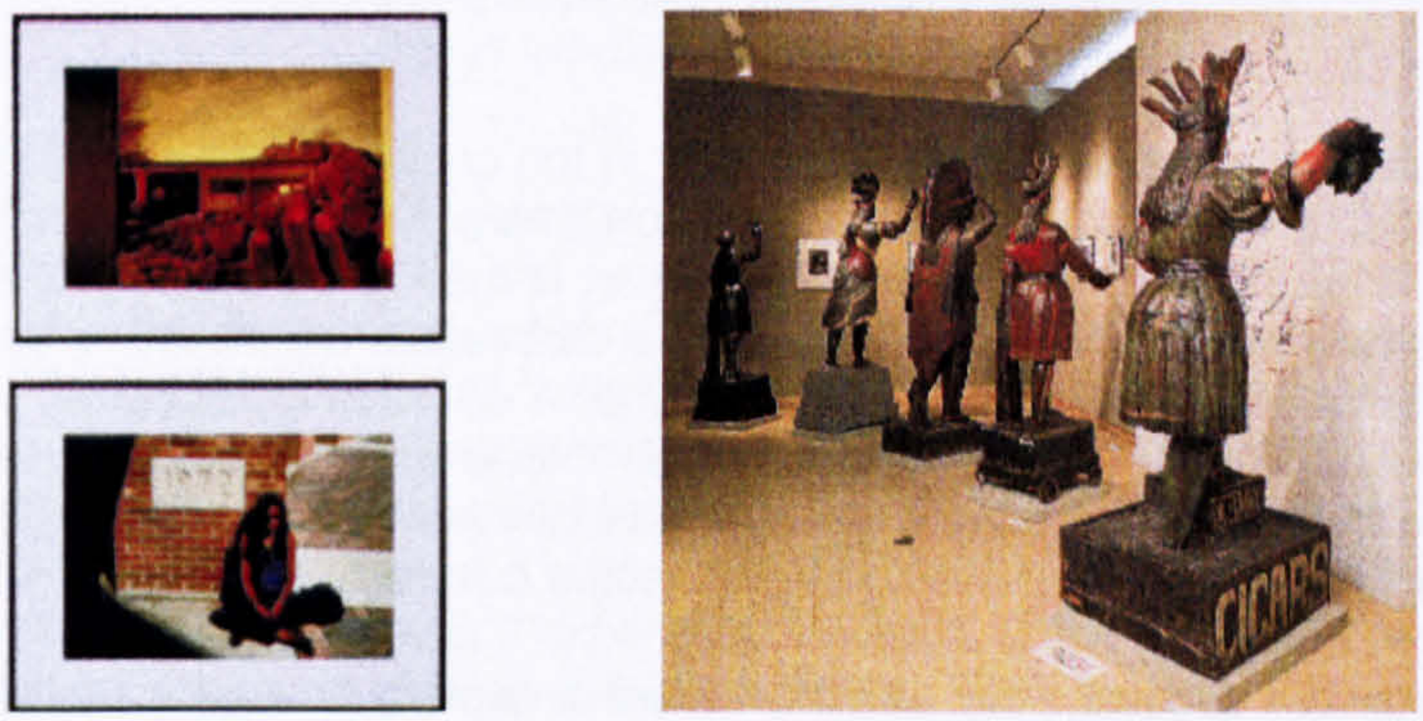
PART II: STRATEGY

Chapter Four

4 The Intervention as a Case Study

4.1 Ethnography & Installation Art

In the 1980s, two separate critical practices simultaneously expanded and touched: installation art and ethnography. This connection turned into a series of "trans-projections between art and ethnography" (Foster, 1996, p. 180). Ethnography first emerged as a medium for major discussions and debates about what was becoming of the social or cultural aspects of life. At the same time, a distinctive installation practice was growing, a practice that extended institutional critique to explore a broader spectrum of institutions and sites (Meyer, 2006). This crossover between ethnography and installation art sometimes took the form of "ethnographer envy," consuming many of the 1980s and 1990s artists (Foster, 1996, p. 180). Many artists used mapping techniques to highlight situations or sociocultural phenomena. Among such artists are Renée Green, Mark Dion, Fred Wilson, Andrea Fraser, Christian Philipp Muller, and The Collective Group Material, who were parts of a wider contemporary critical and interrogative practice (Wallis, 1997) (see Figure 43).



R. Green, Partially Buried, 1996, New York Wilson, Mining the Museum, 1992, Baltimore

Figure 43 Installations by Fred Wilson and Renee Green
Source: http://images.google.com/

This combination is interesting especially when we observe the intellectual backgrounds according to which both practices operate. Ethnography refers to the qualitative description of human social phenomena based on fieldwork. Ethnographic research aims at studying, interpreting and representing human experiences, cultural and social phenomena. Denzin argues that this "is based on the modernist commitment to study lived experience in the real world. Those who honour lived experience ground their work on the study of flesh-and-blood individuals". This experience, and its materiality, as given on the videotape, the picture, or the transcribed text, is taken as the final court of appeal for such researchers' (Denzin, 1997).

Ethnographic methods were originally developed in the field of anthropology where (typically) Western field workers studied no Western societies. In the early 1960s, pioneers in the nascent field of cultural studies began to turn these analytic tools onto Western society itself. A strong tradition arose in the study of subgroups and subcultures. These studies focused on the ways in which participants themselves made sense of their everyday experiences. Eventually this has spread to other disciplines as a method to address issues linked to the minutiae of everyday life including the user studies in HCI (Blythe, Light & O'Neill, 2007).

However, in this thesis, I do not intend to undertake a detailed discussion of the individual discipline. What I am really interested in are the possibilities of crossover between ethnography and art installation. Ethnography emerged as an objective/external process to investigate marginal communities. Leading the researcher to make inferences about a 'unified theory' which may not be able to contend with the complex and fragmentary 'nature' of social life and interaction. (This explains the emerging popularity and potential of ethnography even outside its discipline.) Installation art, on the other hand, calls for a narrative which speaks 'from within' and focuses on the subjective realm of the viewer. What is particularly interesting in the idea of 'artist as ethnographer' is the very possibility of integrating ethnography in the search for subjectivity. In this context, the ethnographic tradition, which spread in some art practices in the 1980s shows that there are grounds to discuss the openness of each discipline to integrate the other.

The aim is then to look for commonalities between ethnography and installation art. And actually, there are many. The two practices are short-lived and characterized by a certain degree of temporal strategy, with ethnography being a temporal experience requiring time for ethnographic immersion, and installation art being a provisional happening (Greverus, Macdonald, Römhild, Welz & Wulff, 2002; Reiss, 1999). But most importantly, the two practices involve studying conditions of human experience (Bishop, 2002; Denzin, 1997). Like in ethno-methodology, a growing interest in contemporary art has been focusing on embodiment. Installation art gave a strategic role to the body and to the experience of the subject in the space of installation (Bishop 2002). The viewer's lived experience in installation art becomes an important stage in the representation of life in art (Rosenthal as cited in McTighe, 2005).

Many installations question models of sociality in the context of the work (Bourriaud, 2002) including the relations between body, location, memory, culture, and sociality. In fact, Bishop (n. d.) confirmed, "the best installation art is marked by a sense of antagonism towards its environment, a friction with its context that resists organizational pressure and instead exerts its own terms of engagement". When it operates in this context, installation art goes beyond the artistic domain to theoretically interfere in the subjective narratives of the everyday world. In other words, it becomes an interventionist practice which explore the subjectivity of experience in an established objective culture.

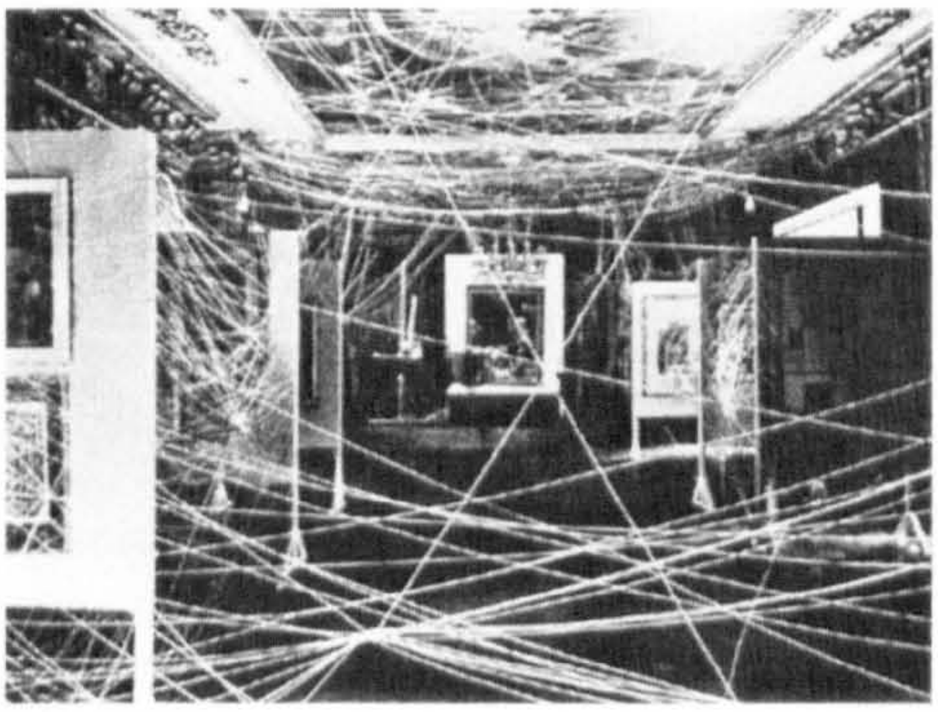
Such approach, I suggest, may allow for a further exploration on the possible association between the practice of ethnography and installation art. It provides an empirical domain with a common object: the body. Installation provides an account of the exigencies of the subjective, while ethnography becomes a way of analysing this subjectivity. In other words, ethnography becomes a form of interpretation; a method based on discourse and behavioural analysis which enables the artist to articulate, and assess a specific condition.

In this sense, the practices of installation (or intervention) is seen as a practice located between art and theory; a ground to question, problematise, or evaluate issues which are central to cultural and architectural studies. In a recent article, Jane Rendell (2003) supported such approach to art. She suggested that what we really need today is a process which might 'problematise' rather than 'solve' urban, architectural and social issues:

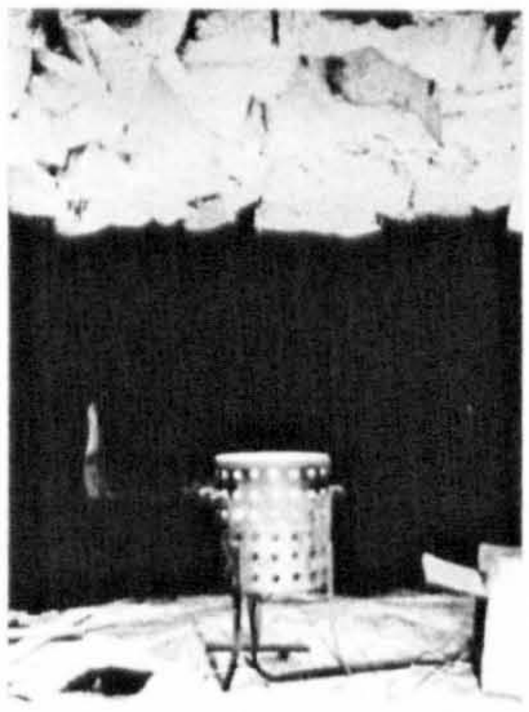
> 'We should be engaged in the making of restless objects, ones that provoke us, that refuse to give up their meanings easily but instead make us question the world around us. The assumption here is that design is the sphere of problem solving, whereas art involves itself in thinking the impossible. Is it possible that design could also rethink the way things are in a questioning rather than a didactic manner?' (Rendell, 2003, p. 222)

4.2 Installation Art: Background, Themes and Mediums

Installation art first emerged as an art form in the late 1950s and early 1960s (O'Doherty, 1999; Reiss, 1999; Bishop, 2002)—one may argue that it even started earlier with Marcel Duchamps's installations in the late 1930s such as *Twelve Hundred Coal Bags Suspended from the Ceiling over a Stove* (1938), (see Figure 44). The genre has proved to be an enduring form of art practice. Reiss (1999) argued that the term *'Art Installation'* started being used around 1960s[17], after a series of indications such as *Happenings, Environments* and *Events* among others.



a. M. Duchamps, *16 Miles of String*, New York, 1942



b. M. Duchamps, *1200 Bags of Coal*, 1938

Figure 44 Installations by Marcel Duchamps
Source: http://images.google.com

Installation art emerged as a critical practice. It started as a reaction to the traditional role of the museum, attempting to bring art into everyday life, and was particularly driven by an artistic political statement of New York artists at the time, '*to make art more accessible to the visitors and make culture more democratic*' (Reiss, 1999). The diversion from a traditional display of art towards installation and alternative spaces came in order to '*break the traditional barrier between the spectator and the work of art in museums*'[18] (Reiss, 1999, p. 111). This way installation remained from the start strongly linked to institutional critique, but also linked to embodiment and the viewer's experience because, unlike painting, this genre provided a first hand experience to the viewer (Bishop, 2002).

Allan Kaprow was one of the first to fully embrace this art genre. In the 1960s, Kaprow focused on the everyday life practices and created *Environments* and *Happenings*, which remained very much associated with his practice. Karpow was the first to stress on the involvement of the audience and the reciprocal relationship between the work and the viewer

(Kaprow, Kirby & Gutai Bigutsu, 1966). Figure 45 illustrates one of Kaprow's '*Happenings*'; the work entitled *'Words'* was created in 1962. This was echoed in the 1980s and 1990s with another rise of instituitional critique through art installation.

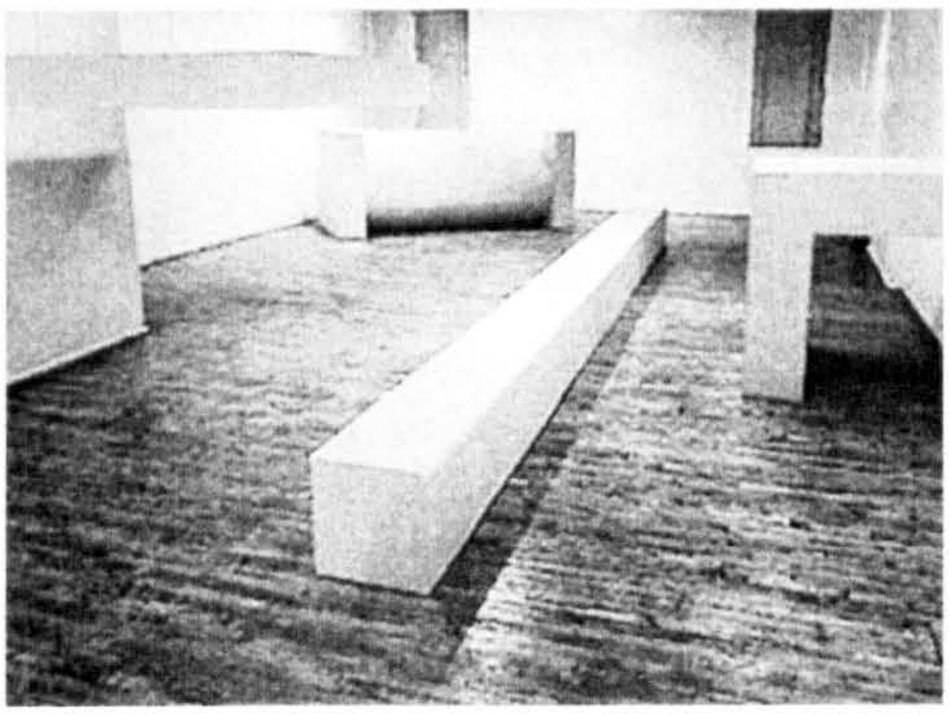
Figure 45 A. Kaprow, Words, New York, 1962

This rise of institutional critique led to European art venues which tended "to re-conceptualise the "white cube" model of displaying contemporary art as a studio or experimental "laboratory" (Bishop, 2002, p. 51). Bishop argues that: "[r]elated to the project-based "laboratory" tendency is the trend towards inviting contemporary artists to design or troubleshoot amenities within the museum" (Bishop, 2002, p. 52). Similarly, Bourriaud (2002) explained some recent artistic practices (including installation) since the 1990s, which installs a new relationship between the *contemplation* and the *utilisation* of a work of art. The author named this '*Esthétique Relationnel*' or '*Relational Aesthetics*'. Bourriaud argued that this art takes as its theoretical horizon "the realm of human interactions and its social context, rather than the assertion of an independent and private symbolic space" (Bourriaud, 2002). Bishop clarifies this further:

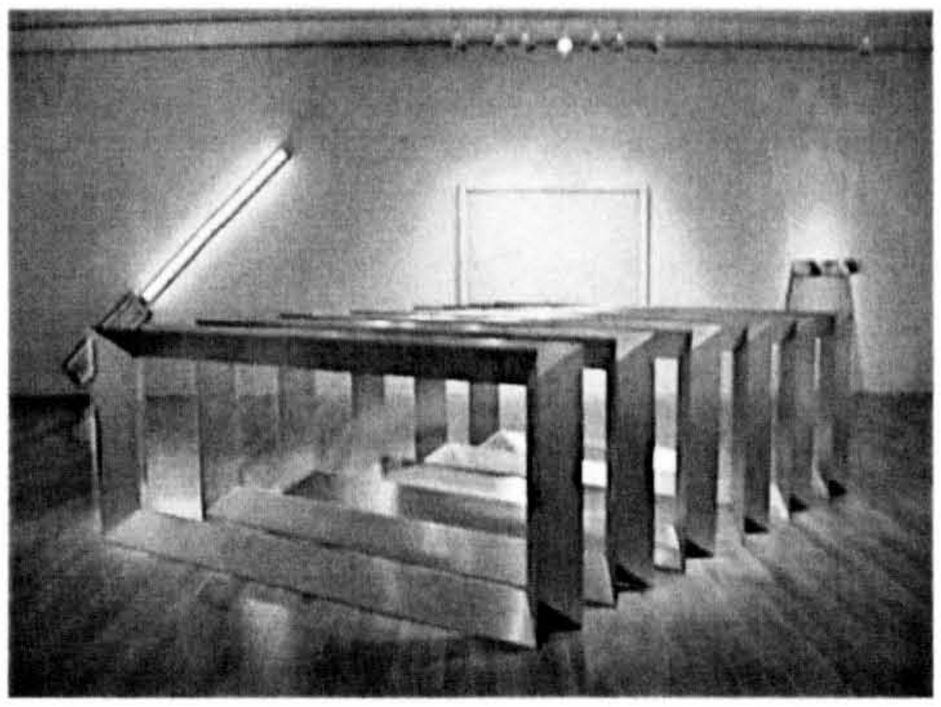
> "Relational art is seen as a direct response to the shift from a goods to a service-based economy. It is also seen as a response to the virtual relationships of the internet and globalisation, which on the one hand have prompted a desire for more physical and face to face interaction between people, while on the other have inspired artists to adopt a do-it-yourself (DIY) approach and model their own "possible universes" (Bishop, 2002)".

Bourriaud (2002) studied this positive recent shift in attitude from, targeted critique of the present order, towards social change. Bourriaud emphasized the ideas behind the art works, which aim at connecting people, creating interactive and communicative experiences. Hence, relational aesthetics relate to the development of 'communicative situations', which relates to the current use of interactivity. However, Bourriaud (2002) insists on the utilisation of this art by strongly questioning what it is for: "[i]f you forget the "what for?" I 'm afraid you're left with simple Nokia art—producing interpersonal relations for their own sake and never addressing their political aspects". This may actually be discussed with the current spread of interactivity and the use of new media, interfaces and virtual environments.

Some artists followed a minial approach in their practice such as Robert Morris, Donald Judd and Carl Andre (Figure 46). Minimal installations defined their terms through the triadic relationship between sculpture, space, and viewer. Many minimalist installations were revolving around the notion of a *'situation'*; the work of art was often regarded as part of a situation rather than divorced from it (Reiss, 1999, p. 51).



a. R. Morris, installation, Green Gallery, New York, December 1964—January 1965. Source: http://territoiresinoccupes.free.fr/art/1_1_F2z_frame.html



b. D. Judd, Hollow Rectangle, 1978-79
Source: http://www.thecityreview.com/f00scon24.jpg

Figure 46 Examples of Installations by Morris and Judd

Gradually, the practice of installation became an omnipresent theme in artistic practice. However, there has been uncertainty on the definition of the practice and a resistance to use the term even among many of its own practitioners,[20] as if defining it would constrain the practice. Today, discussion of installation ranges from site-specificity and institutional critique to issues of participation and the relation between the domestic and public space. Some works involve digital media, virtual reality, video art, painting, collage and sculpture. Hence, installation remained a flexible concept, which extends to embrace different themes and mediums. However, there are common themes, which it sustained over the last few decades including: body, narrative, site etc. (De Oliveira 1996; De Oliveira 2003; Sretenovic 2002; McTighe 2005).

4.2.1 Recurrent Themes and Mediums

In her PhD thesis, Vresela Sretenovic (2002) defined four themes in installation practices from the 1970s until the day. First, she discussed the "*gradual definition of site*" in installation art from 'site specific' to 'site fluid'. The second theme was related to issues on interactivity and the centrality of bodily experience. Third, the author described the impact of new media and technology on installation art. Finally, Sretenovic (2002, p. 185) discussed installation in relation to the changing relationship to art institution: "from re-contextualizing art objects and their meanings through exhibition display to the new issues stirred by installations and virtual reality and digital art, on the collection, maintenance and display of works of art that are no longer material objects but events in spatio-temporal environments"

Reiss (1999) discussed installation art and divided the practice into four themes: (1) Environments, (2) Situations (3) Spaces, (4) installations. More recently, De Oliveira (2003) Where is De Oliveira (bring from old methodology files). (1) Escape (2) Author and institutions, (3) Exchange and interaction, (4) Time and narrative (5) Body of the audience. In Author and Institution, for instance, De'Oliveira explains, for instance, installation as an open-ended experiment, which transforms the art institution into a cultural laboratory. He also explained how time and memory are key concerns for contemporary artists.

Monica Eileen McTighe (2005) also examined the different definitions and taxonomies of installation art and explained the interdisciplinary nature of this practice. McTighe (2005) based the genealogy of installations to two types always in relation to the themes discussed above. To start, McTighe talked about a" *Surrealist and Dada-influenced installation"* which was designed to engage with the body in situations and/or subjective ephemeral experiences (examples of such practices could be found in the works of Marcel Duchamp, the Situationist international practice, Kaprow's *Happenings* 'Surrealism, environment, Dadaism,

Vito Acconti). Second, the author introduced a *'Duchamp influenced art work'* including non-modernist as well as non-art world practices. According to McTighe, this was a non-subjective, based on institutional critique, practice. It included minimalist and site-specific works.

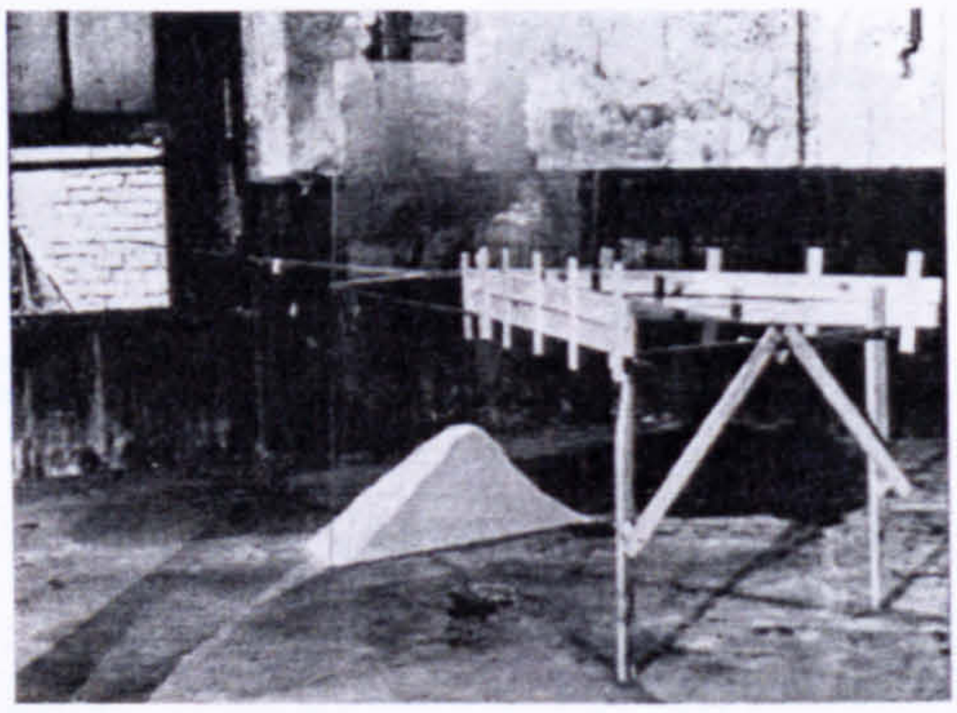
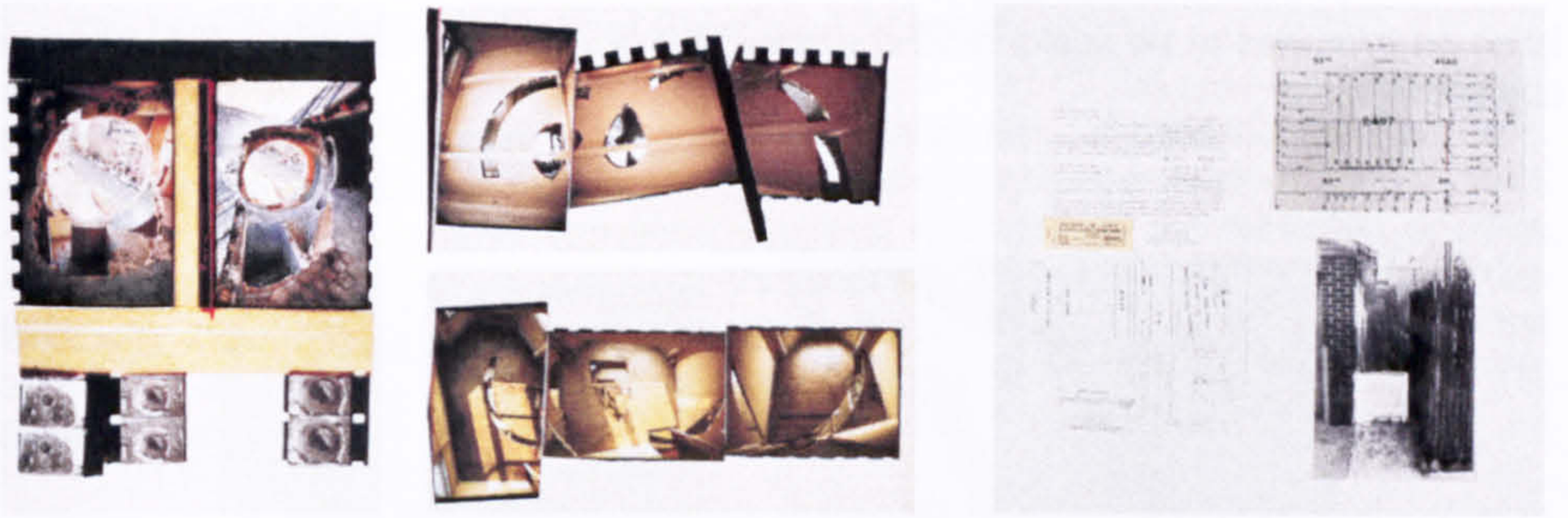


Figure 47 G. Trakas, The piece that went through the floor, New York, 1970
Source: Reiss, The Space of Installation Art, New York, 1999

In the mid 1970s, many works developed site-specificity to explore the relationship between the artwork and its location. Works were designed to draw attention to or from the architectural context and to change the quality of the space and leave traces on it. This was evident through installations made by Georges Trakas and Gordon Matta-Clark. Trakas, for instance, created his works within existing architectural spaces; his work both altered and called attention to these spaces (Reiss, 1999, p. 113 -116). The artist examined the reciprocal relationship between the installation work and the site. He questioned the limitations of the site and tried to breach explore spatial boundaries. As shown in Figure 47, in *(the piece that went trough the window)* (1970) Trakas made components that began indoors and continued outdoor. In his other installation *(↑↓ the piece that went trough the floor)* Trakas created a hole cut in the floor to allow both floors to be seen simultaneously (Reiss, 1999, p. 119). The work is site-specific in nature and is focused on institutional critique.

Another example on architectural interventions and institutional critique is the work of Gordon Matta-Clark, who was a paragon in making site-specific installations. Matta-Clark worked in-between spaces of the urban context, those that were about to disappear or be redeveloped. He called attention to the architecture of a site by treating it as sculpture. His large-scale '*Anarchitecture'* interventions involved cutting away parts of buildings, criticising architectural and urban institutional politics as well as exploring spatial issues.

Figure 48 illustrates some of Matta-Clark's work, which tested possible connection between elements of the installation work and the site in order to restructure, redefine and investigate the urban, architectural contexts and the spaces in between. Matta-Clark's working method formed an attempt to test the architectural dimensions within installation and to employ installation in order to explore architectural matters. Many critics regarded his work as the one installation artist standing for architecture: Matta-Clark, *'revealed architecture to be ideology made concrete'* (McTighe, 2005; De Oliveira 1996).



a. Conical Intersections b. Office Baroque c. Reality Properties

Figure 48 G. Matta Clark, Anarchitecture, 1970s
Source: http://images.google.com

After a few years of *'semi-transparent hibernation'* in the mid 1970s, installation art was on the rise again. It regained its influence from the mid1980s—with works from Jonathan Borofsky, Judy Pfaff, Frank Gillette. Dan Cameron (1984, p. 66-67) related this to *'a tacit acknowledgement of the increased commodity status of fine art, and inspired at times by sincerely populist aims'*. During the 1980s and 1990s, installation art only kept on attracting more attention, with the speed and glitz of the art world, the need for the installation as a self-contained work of art.

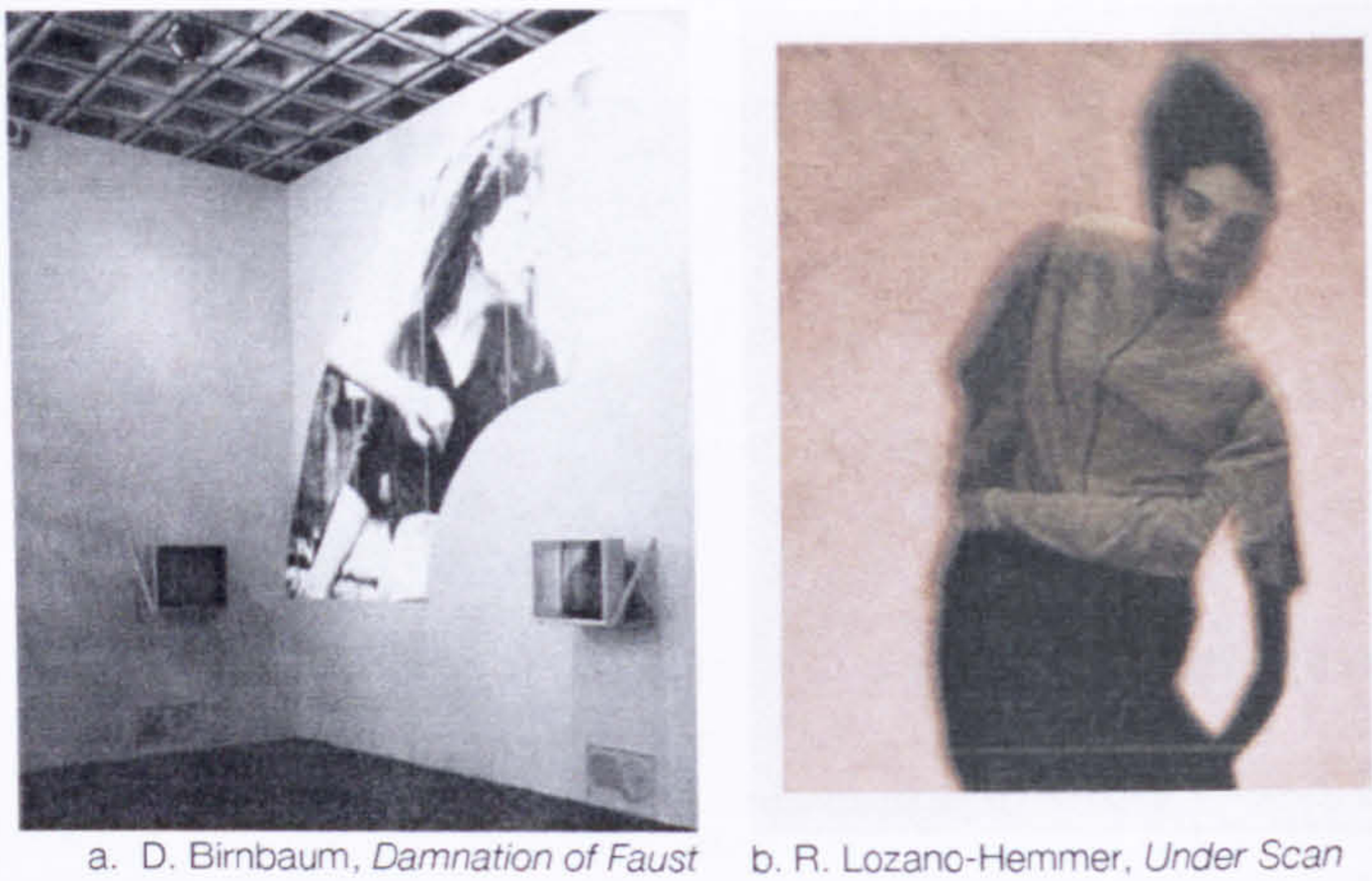
In the 1980s and 1990s, a new theme emerged related to memory and institutional critique. McTighe talked about the mapping of memory in installation art, and explained that the theme of memory is circulating just below the surface of the two types discussed above (Surrealist and in Duchamp-influenced art). McTighe pointed out this important theme in the practice of installation: the taxonomy of 'memory installations', organized according to Benjamin's definitions of involuntary and voluntary memory. McTighe (2005) argued that from 1984 to 2000, memory became a ubiquitous theme in installation art. She discussed two types of this practice: one type of memory was described as continuous, subjective, body-based, experiential or sensual. The other type was characterised as objective and fragmentary, corresponding to modern recording devices such as photography and film[21].

Although it started as physical pieces with collages and environments, Installation art also benefited from new techniques and mediums provided by high technologies, which made it even more popular. Since the 1980s, artists made use of new mediums in art. They started to realise *'the limitless potential of installation'*. Video art in particular influenced the practice of installation since the 1970s and 1980s (Birringer, 1991). This is clear in the development from Dara Birnbaum's "Damnation of Faust" (1983) to more complex contemporary installations involving rooms with different screens and even with interactive video projections such as Under Scan (2006) by Rafael Lozano-Hemmer (Figure 49).

Like any other art form, installation art adjusted with cultural and technological change. It reflects another influence of technologies on the practice and structure of artworks. When our lives become divided between two essentially incompatible stimulis: the physical and the virtual. On one hand, we find the spaceless electronic worlds of contemporary technological culture and, on the other, the physical extensive terrain on which our bodies are situated. Installation art responds and questions this condition.

Much installation art affirms this and claims that experience [and art] is constituted out of the paradoxes and discontinuities of this mixed heterogeneous zone. Today, many installation artists seem to be working with an awareness on how the tangible 'real' world can seem dilapidated in comparison with the infinite phantasmagoria of images and data available on-line and on-screen. The potential decrepitude of our physical surroundings and all the cosmetic, genetic imperfections of our bodies are a permanent humiliation in the face of dematerialised digital phenomena (De Oliveira, Oxley & Petry, 2003, p. 6-8). In this context, instal-

lation art promises to be useful ground to explore the relational interfacings between body and architecture.



a. D. Birnbaum, *Damnation of Faust* b. R. Lozano-Hemmer, *Under Scan*

Figure 49 Video in installation art

Nowadays, several projects focus on experimenting with new media and technologies to explore interfaces, new sensual environments, modes of communication between users and environment, and new social contexts for interactive systems including entertainment, social and institutional critique. examples include the *Relational Architecture* series by Rafael Lozano-Hemmer[22] and Haque's research installations. Usman Haque for instance, is among the few architects who specialised in the design and research of interactive architecture systems. His projects involved responsive environments, interactive installations, digital interface devices and choreographed performances. The aim is to test the ground where "architecture is no longer considered something static and immutable; instead it is seen as dynamic, responsive and conversant" (Haque, n. d.) (Figure 50)

Figure 50 Haque, Scent of Space, 2003, London

Haque's interactive installation *'Scents of Space'* is an interesting case because it rethinks technology in a productive context which extends to relate interface technologies to spatial and conceptual issues; an approach clearly needed in artworks which deal with high technologies, as Bourriaud (2002, p.78) argues:

> "By putting technology in its productive context, by analysing its relation with the superstructure and the layer of obligatory behaviour underpinning its use, it becomes conversely possible to produce models of relations with the world, heading in the direction of modernity. Failing which, art will become an element of high tech deco in an increasingly disconcerting society."

4.3 The Installation in the Light of Relational Schema

Installation art has been frequently denigrated as another form of post-modern spectacle. For Krauss, installation art's use of diverse media divorces it from a medium-specific tradition; it therefore has no inherent conventions against which it may self-reflexively operate, nor criteria against which we may evaluate its success (Krauss as cited in Bishop, 2002). Indeed, very few attempts (through practice and research) have been made to examine the phenomenon and to provide clear criteria to evaluate the practice of installation. But this does not mean that there are none.

An early example of criteria guiding a practice of installation was found in the work of Allan Kaprow. Kaprow (1965c) formulated *The Guidelines for Happenings* and explained six guidelines to the practice of Happenings. He made it clear that "[t]he lines between art and life should be kept as fluid, and perhaps indistinct, as possible". Therefore, (and secondly) "the source of themes, materials, actions, and the relationships between them are to be derived from any place or period except from the arts, their derivatives, and their milieu". Kaprow continued, "[t]he performance of a Happening should take place over several widely spaced, sometimes moving and changing locales". One guideline related to the time 'which follows closely on space considerations, should be variable and discontinuous'. Finally, Kaprow concluded: "Happenings should be performed once only. It follows that audiences should be eliminated entirely". Kaprow's attempt to devise a criterion for his practice reflects a need for a definition of what installation is about. This will be followed by an extensive paradigm *'On the Total Installation'* by artist and academia Ilya Kabakov.

4.3.1 Criterion I: on the 'Total' Installation...

After two decades of working with paintings, the work of Ilya Kabakov progressed into large projects of making installations. Perhaps the earliest complete such project, installed initially in Kabakov's own studio was *'The Man Who Flew Into Space'* (1985). This consisted of the debris of an apparently recently occupied room at the centre of which was a large catapult robust enough to take the weight of a single human being; above the centre of this apparatus in the ceiling, was a large hole apparently made by the exit velocity of the room's missing inhabitant. The work combines an amalgam of biting satire and idealism, which is symptomatic to Kabakov's mixed response to a Soviet reality which generates both an absurd hypocrisy and a measure of utopian grandeur (Mengham, n. d.). After this, Kabakov's work started to gravitate inexorably towards the planning and realisation of a series of 'total' installations (Figures 51 and 52).

a. The Boat of my Life

b. The Man who Flew into Space

c. The Man who Saved Nikolai Viktorovicn

Figure 51 Ilya Kabakov series of total installations

Kabakov (1995, p. 327) defined 'total installation' as an "entirely transformed space inside a museum or gallery in which everything is modified, re-painted, specially illuminated, but into which the viewer winds up only once "inside"; from the outside it is impossible to see it at all." There are specific characteristics to this space, in relation to what is located in it and to the movement, light and other issues connected with it. The elements assigned here are seen as obligatory. Kabakov (1995) also defines the elements of the 'total' installation as follows: (1) the wall, (2) the ceiling, (3) the floor, (4) entry/exit, (5) the preliminary space (gallery or museum) and (6) parameters of the main dwelling (size and configuration). The later related to the construction involved in the making of the total installation. According to Kabakov (1995, p. 259), the construction involves *the* main dwelling along with the preliminary space. Figure 52 shows few possible 'optimal' (according to Kabakov (1995, p. 259)) variations, which are most often encountered in the practice of building the total installation.

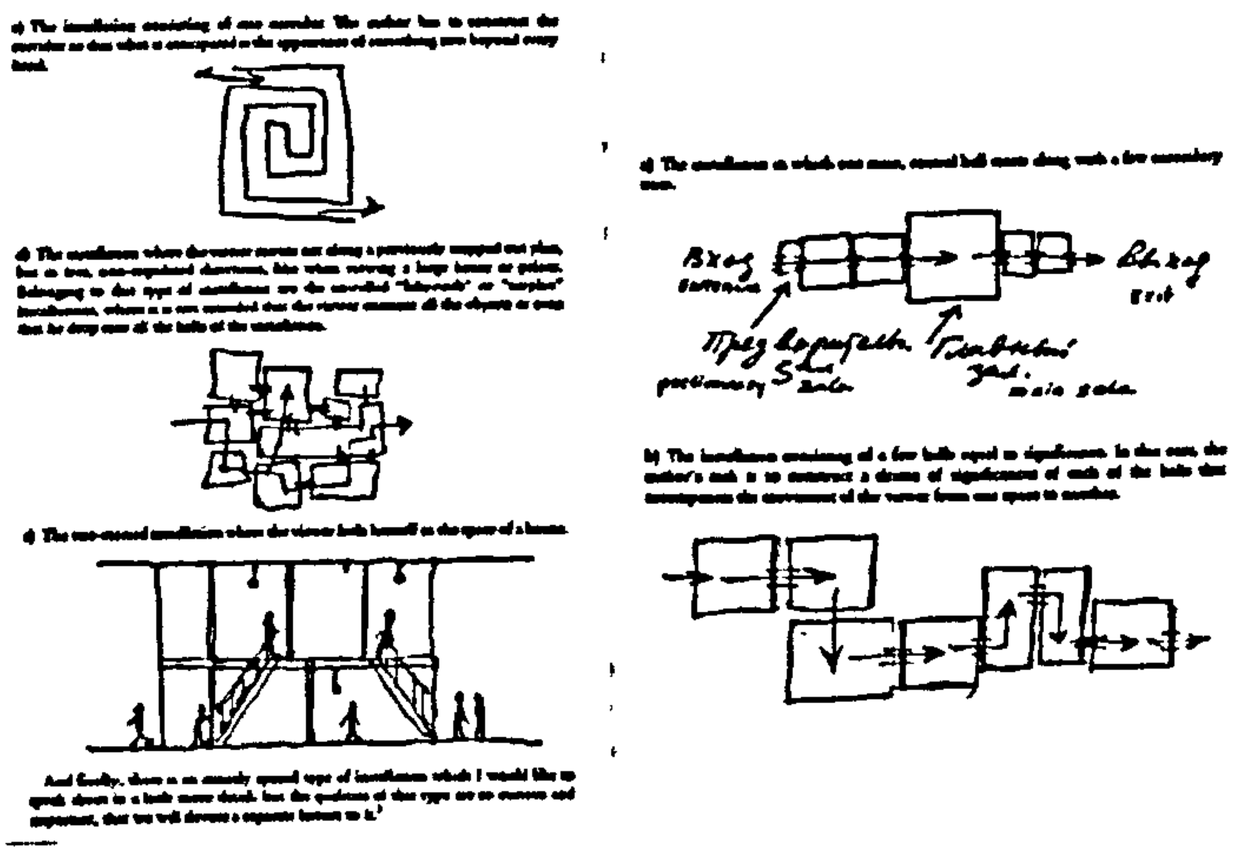


Figure 52 Ilya Kabakov, Typology of the total Installation

However, he does examine other types of total installations, which do not at all fall under that definition which he gave at the beginning. The total installation "can actually be perceived from the outside as some sort of object that is easily read, entirely recognizable entirely" as long as the main effect of the total installation is kept, this effect is "the transition of the viewer into a different world that is new to him" (Kabakov, 1995, p. 327). So the boundary separating the work from nature is imperceptible; it is "one of meaning and not a visual plastic one" (Kabakov, 1995, p. 337). And he particularly relates it to political concepts of the viewer's freedom: "the boundary runs along the dividing line of "freedom—lack of freedom" (Kabakov, 1995, p. 337).

Ilya Kabakov's definition of the total installations spread over fifteen lectures covering all aspects of the design and practice of installation according to his criterion. These lectures provide a clear ground on the structure of the work and on the relationships between the viewer, the medium, the assemblages and the site. Hence, it provides one way of imaging and practicing the medium of installation. In a more recent view, Claire Bishop (2002) suggests that the viewers' presence might be another way to envisage the medium of installation art.

4.3.2 Criterion II: Bishop's Modalities of Viewer's Experience

Bishop's PhD thesis was titled: *The Subject of Installation Art: A Typology*. In this research, the author (2002) devises three typological categories of installations based on the modalities of experiences that they offer. The first category involves a type of installation that presupposes a psychological subject of unconscious fantasy. The second proposes a type of installation predicated on the subject of phenomenological perception. The third proposes a type of installation that assimilates the viewer's body to the surrounding space where subject and object may collapse or differentiate (Bishop, 2002). Bishop (2002, p. 317) concludes with the need to articulate a criterion for successful installation art and to move "from assessing how appropriate the type of experience structured for the viewer is to the thematic content of the installation as a whole". She continues: "The task of installation art today might therefore be envisaged as follows: to account for subjective presence through experiences that reveal our relationship both to the world and to each other—rather than presence as 'grace', however recursively inflected this might be" (Bishop, 2002, p. 320). And this is what Nicolas Bourriaud tries to investigate in his book on *"Esthétique Relationnel"* (Bourriaud, 2002). He aims to produce the tools to enable us to understand today's art – and more specifically installation art.

4.3.3 Criterion III: Bourriaud's Relational Aesthêtics

Nicolas Bourriaud focuses on the relationship between contemporary art and its viewers by revealing the principles that structure the artists' thoughts: an aesthetic of the inter-human, of the encounter. Bourriaud (2002) suggests that the structure of an artwork produces a social relationship. The author explains "[a]rtistic practice brings heterogeneous units together on a coherent level, in order to create a relationship to the world" (Bourriaud, 2002, p. 111). In this context, the author argues that the criteria one should use to evaluate open-ended, participatory art works are not just aesthetic, but political and even ethical. Bourriaud (2002, p. 109) also talks about a "co-existence criterion": he explains that "[a]ll works of art produce a model of sociability, which transposes reality or might be conveyed in it. So there is a question we are entitled to ask in front of any aesthetic production: "Does this work permit me to enter into dialogue? Could I exist, and how, in the space it defines?"

In a critical assessment of Bourriaud's *"Esthétique Relationnel"*, Bishop (2002) agrees for the need for a structure but goes further to suggest antagonism in relation to relational art. Bishop argues that relational artworks need to articulate a problem and question their imbrications within context. As example on this, Bishop (2002) suggests the work of Santiago Sierra. Sierra's actions embed themselves into other institutions in order to highlight the divisions enforced by these contexts. For Bishop, Sierra "creates a kind of ethnographic realism, in which the outcome or unfolding of his action forms an indexical trace of the economic and social reality of the place in which he works". He documents his actions and thereby ensures that we know what he considers their "structure" to be. She argues that Sierra succeeded in setting up "relationships" that emphasize the role of dialogue and negotiation in his art, but did so without collapsing these relationships into the work's content.

4.4 Ethnographic Installation as Intervention

In principle, *'to intervene'* is 'to come between as an extraneous factor or thing': it comes from French *inter* 'between' + *venire* 'come' (Oxford American Dictionary, 2006). The term *'intervention'* previously appeared in an architectural context by different studies on installations (Thompson and Sholette et al. (Eds.), 2002; Rosenthal as cited in McTighe, 2005)[23]. In this context, an intervention has been associated with installations dealing with site-specific issues, or exploring issues on sociality—all of which are central to the nature of this study.

However, when I suggest the notion of intervention here. I also look into Edward Said's definition of the term; the intervention as grounded in the concept of 'interference' and as needed to question the objective master narrative in architecture. Said called for a politics of interpretation which demands a dialectical response towards the homogeneity/objectivity inherited in modern culture:

> "Instead of noninterference and specialization, there must be interference, a crossing of borders and obstacles; a determined attempt to generalize exactly at those points where generalization seems impossible to make. One of the first interferences to be ventured, then, is crossing from the subjective and powerless, into those exactly parallel realms that employ representation but are supposed to be objective and powerful." (Said as cited in Harrison & Wood (eds.), 2007)

What Said is calling for is a critical practice which seeks to respond to the meta-narratives (differences and subjectivity), and to redirect them towards the master narrative implied in modernism. In principle, this approach challenges the ethics of objectivity and realism which are essentially based on an epistemology of separation and difference (difference between art/objecthood, theory/practice, subjectivity/objectivity). However in a post-modern culture, Said's work can be understood by taking a position, which explores the subjective narratives of embodiment (Harrison & Wood (Eds.), 2005, p. 1058).

If we were to continue with this specific definition of intervention, two concrete methods become relevant. One is to use 'embodied' faculty to restore subjectivity as fundamental measure in the study of interfacings between architecture and the body. And here installation art becomes useful. Two, is opening the discussion in architecture to specific experiences which have remained 'outside' the norms manufactured by 'insiders', to activate users and to instigate tactics (in De Certeau's sense) for space reappropriation. And here methods of ethnography or discourse analysis also become relevant.

From this point, I move on to look at ethnographic installations as interventions which focus on the reappropriation of architecture through the use of interfaces. At this point, the ethnographic installation becomes an intervention. It questions models of interfacings, sociality and the relationships between the body of the user and the master strategies produced by architecture. This concept of 'interventionist' installation becomes twofold: Firstly, intervening with an interface serves as a force serving to problematise/question an architectural context, and second, redirecting the relational interfacings between users (subjects) and the site (meta-narrative). Hence, it becomes particularly interesting to see the potential of the interface beyond the analogy between body and building but also as a force for political crossings.

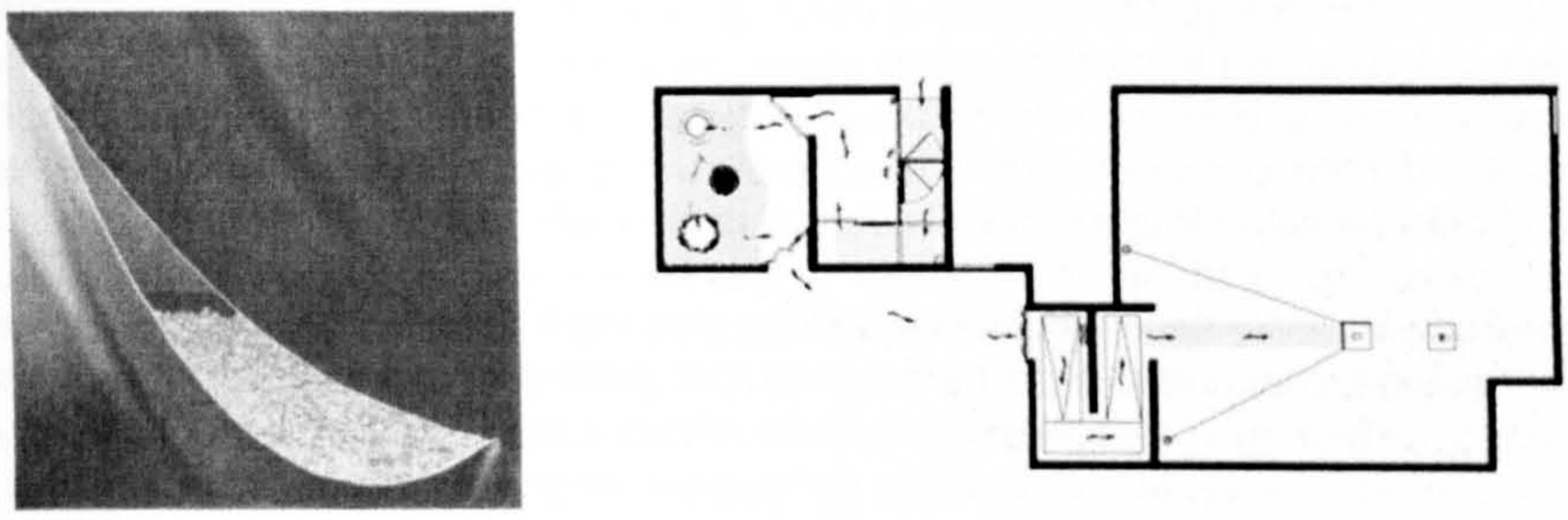
When considered and designed as a case study, the ethnographic intervention provide a ground for research in which detailed consideration is given to the development of a particular architectural situation over a short period of time (in this research the period ranged from one day to one week). The intervention can be physical (an arrangement of physical elements), virtual (intervention through interactive imagery or soundscapes in an architectural setting) or hybrid (a combination of both virtual and physical interventions).

4.5 Body & Matter: A Pilot Intervention[24]

Body & Matter: Materiality and the Senses was set up at the University of East London in 2002[25]. The work was based in the space of the school. The site was three connected but unused spaces with no spatial/material qualities. Hence, the aim was to re-appropriate the site as a sensory environment. The work focused on two undervalued senses: touch and smell. During the passage through three different spaces, we gradually reduced the participants' ability to rely on their sense of vision, in an attempt to reveal the invisible qualities of space; the installation became a journey through the senses (Mounajjed et al., 2007b).

In this intervention, we explored body sensibilities as a measure of the materiality of the space. The work emphasised a view of the 'interface' as related to the 'percept' in embodiment. Here, the interface was reduced to the sensibilties, perceptions, feelings and memories that the users would experience during their encounter with the piece.

The intervention consisted of three spaces (halls) equal in significance (see Figures 53 and 54). In the first space was installed a frame structure which formed a cocoon, consisting of semitransparent surfaces made of a series of fabrics, nets, nails etc. Figure 54a shows how these were all treated to achieve different textures and atmospheres. At this point, the visitor was still in control of their senses but as they moved deeper into the installation, the conventional priority of vision was disrupted. As Figure 54b shows, the second hall/room contained three objects—made by balloons, seaweed and coffee cups- were placed; with their scents, texture and light, they became landmarks in the obscurity of the space, inviting the person to explore further through touch and smell. Thirdly, the visit or was lead by a strong light source into a claustrophobic corridor.

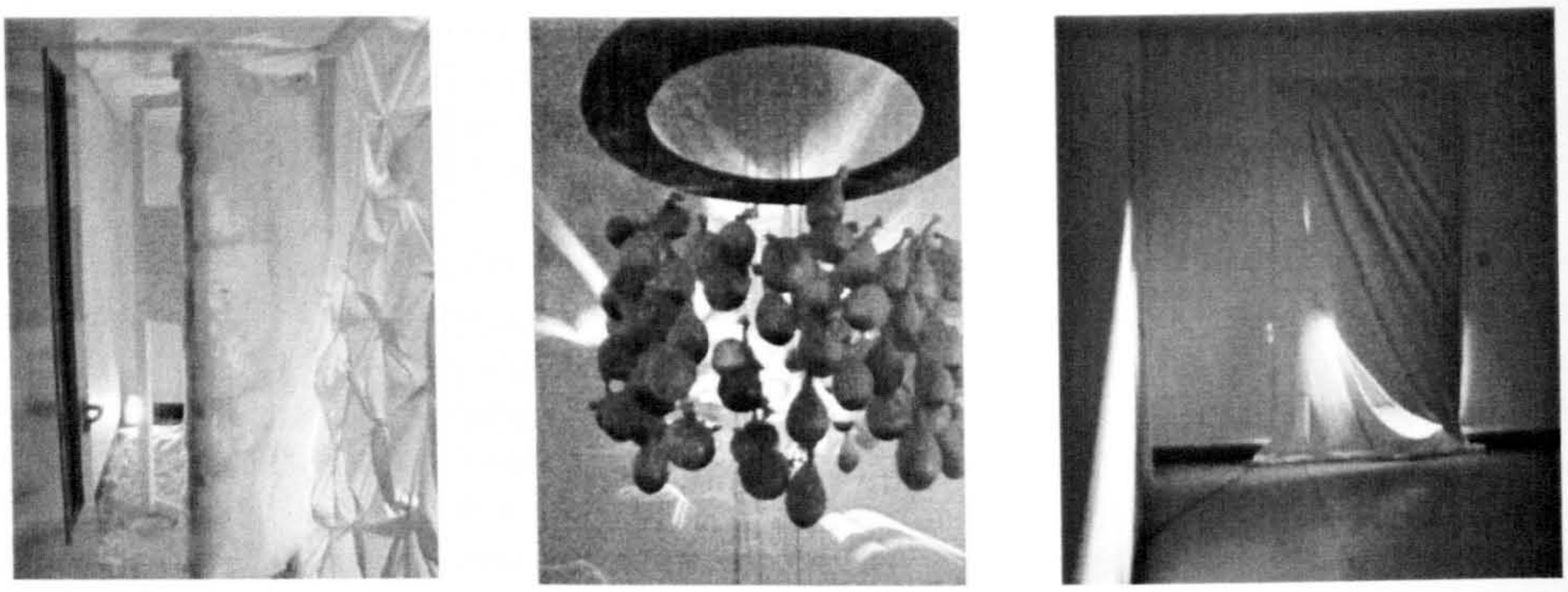


a. Photo of installation b. Installation plan

Figure 53 Mounajjed, Choumouziadou & Walker: Body & Matter, London, 2004

Figure 54c illustrates the space where users had to walk into complete darkness. Awareness of body scale was heightened through the acrobatic access through a labyrinth-like sequence, where the person was urged by a descending ceiling to stoop and huddle in order to access into a large lightless space. The three dimensional aspect of the narrative was enhanced with the sound of rhythmic water drops falling into a metal bucket, combined with the sound of their footsteps on materials. Relinquishing control and exploring through hearing and touch rewarded the visitor who travelled far enough rewarded by having their vision restored (Mounajjed et al., 2007b).

The intervention did not particularly follow a specific criterion to investigate the structure of relationships between users and context. But like many of Kabakov's installations, the viewer was given a primary role. Also if we consider Kabakov's criterion, all elements of a 'total' installation were present in *Body & Matter* including: the wall, the ceiling, the floor, an entry and an exit, the preliminary space of the school and the parameters of the three different halls—the latter was constructed according to the need for embodiment of the viewer and with respect to the preliminary space.



a. First space b. Second space c. Third space

Figure 54 The three spaces in Body & Matter, London, 2004

During this work, I started to explore basic methods to collect information on the subjective experiences of some participants as a way to 'map' the work. As a result of this particular work, I realized how feelings of insecurity are strongly associated with not being in control of our senses; vision proved to be the primary sense, since the person feels confident as long as they can visually perceive and define space. Sound and touch follow, being both significant tools for identifying aspects and characteristics of a space. Physical boundaries and dimensions are delineated through bodily contact, reverberation or echo.

Body & Matter initiated a series of interventions. It also led to thinking of ways to map the next three interventions, and a need for a framework guiding this ethnographic installation practice. Each intervention intervened physically and/or virtually in a particular architectural/urban context. Each was considered a complete case study involving the actual installation, mapping and interpretation. These interventions worked according to similar agendas investigating memory, site-specificity and socio-spatial practices. When possible they were replicated. The second and third interventions, as we will see, moved in a horizontal shift to other sites or contexts where the research cycle was repeated.

Chapter Five

5 The Intervention Protocol

5.1 Context & Background

By studying relational interfacings, I wish to look at the possibility of introducing memory to suspend the boundaries between a physical location and a virtual site produced by an interface. In this context, the interface moves beyond its technological potential to re-present a relational mediation between body and architecture through the particularisation of memory, in a way which may even allow for tactics of spatial reappropriation (i.e. the work of Wodisczko and Lozano Hemmer). The interface promises to redefine the relations between an architectural site and its context. It also allows for models of sociality. However in terms of methodology, this means that two approaches need to be considered: first the design of the interface itself (i.e. programming, digital processing and technological possibilities), and on the other hand, the study of the 'affects of the interface', in terms of how it redefines architectural experience. The latter relates also to the subjective realm of the users where these affects are most significant.

The complexity of this particular study is that it introduces a 'scientific' matter into the study of experience and subjectivity. Hence, to find the appropriate methods for studying the interface we need to acknowledge its background. We need to respect that it emerged within in a scientific tradition; a tradition which only recognizes an objective, unified and fixed theory. (A scientific approach to the interface has been developing within the computer science discipline. In this tradition, the scientist investigates the interface by using methods which are consistent with positivist approach.)

But in cyber culture, and in the context of feminist theory, the interface takes new meanings grounded in the subjective realm, and hence, the interface becomes a crossing of boundaries; a shift from the components of modernism to postmodern alternatives (i.e. from organism to biotic components, and from the division of private/public or nature/culture to suspension of boundaries and fields of differences). In a methodological context, the study of the interface also requires a shift from a purely scientific method to a hybrid/combined methodology.

To investigate subjectivity, feminist theory developed methods involving ethnography, discourse analysis, and activist research. However, recent critics also argued that subjectivity needs to move beyond the production of self-revelatory/confessional discourse to deeper questions on difference, and the potential of technology in changing social order. It becomes a question about redirecting the forces that produce feminism. With Haraway's cyborg myth, the potential for radical political action would allow for political boundary crossings.

In my interventions, I suggest a framework which allows for a balanced discussion and investigation of the interface, first in terms of its design, and second in terms of the experience it allows to users (the interface as embodiment). My investigation moves beyond this to explore the possibilities of 'boundary crossings' between virtual and physical in architecture.

5.2 A Diplomatic Protocol

The fact that this strategy brings together such different discourses begs for some kind of joint framework; a framework to secure the transition (or bridging) between the two traditions: 'a protocol in the diplomatic sense'. A protocol enables the articulation of contradictions between the two approaches. It is a system of meaning, a discourse, which acts as a complex unit or an enunciative field. This discourse can be said to constitute a group of statement; the protocol comprises fragments of imaged discourse or utterances which are anchored by the various methods, practices, commentary. Each of the interventions I discuss more or less a diplomatic protocol which acts as an agenda for the structure of relations in the work. It also allows for a discussion of the role of the interface. (Without such agenda, the intervention would remain an artistic expression with no critical objectives.)

In this context, an intervention protocol promises to respond to the competing discursive positions which avoid recourse to either theories and the researcher making inferences which may not be able to contend with the complex and fragmentary 'nature' of relational interfacings, experiences and social interaction. Such approach respects the limitations of this study. And instead of searching for a total theory or a whole truth, it responds to the meta-narratives provided by the interventions. Whereas, the protocol allows space for the design of the interface both conceptually and technically, it equally looks into the subjective affects of this interface in relation to body and architecture. What is useful here is to do with the subjectivity of meta-narratives in terms of allegory; allowing us to examine the image of those roles we may adopt, those subjects we may become, if we are ourselves to become socially meaningful.

The intervention protocol is not considered as an individual method, but as a category in relation to a complex configuration of methods, in terms of analysis, the protocol marks a crucial intersection of discourses and practices and sites, which locate the intervention within a definite social/architectural formation. Although the protocol provides a framework for the various methods and practices but at the same time it can be exceeded or dispersed in the process of their articulation as events. This, I believe, requires a combination of theoretical methods, and I suggest a form of 'bricolage' to allow for a pragmatic strategy and to overcome any tendency toward a total theory.

A premise based on the concept of 'bricolage' allows for such articulation. The significance of bricolage is due to the different possibilities it allows for the strategy, in terms of accommodating and articulating the different methods within the intervention protocol. Since I discuss here different mapping methods, a bricolage becomes the way to look into these mappings and their interrelationships. Schematically, the bricolage process becomes a discursive practice within the protocol as it relates designing, theorizing, mapping and interpreting the interventions.

The intervention protocol is diplomatic because it becomes a framework that is agreed by multiple parties in the intervention team. In this research, the protocol is also relational in the sense that it relates the different disciplines in one interdisciplinary practice. In fact, most of the interventions discussed in this study were interdisciplinary practices involving a team of architects/artists, computer scientists/programmers and ethnographers etc. The protocol promises to solve issues related to the methodological and strategic division between subjectivity/objectivity, scientific/perspectivist approaches. And where the division between art theory, art practice and criticism becomes less strong.

In addition to bricolage, the intervention protocol involves three processes: (a) Site-mapping, (b) ethnographic mapping, and (c) horizontal replication. Whereas site-mapping methods enable to introduce memory, analyze aspects of the users' spatial experiences and allow for new models of sociality, the replication completes the process by assign for a reproduction of the piece in different contexts.

5.3 Mapping

[Site mapping]

"In the rhythms of appearance and disappearance, anticipation and memory in which these various *mappings* of site are acted our, this site-specific work, from Smithson to Oldenburg to Monk, reflects on a contemporary space or place ' which can only be represented *in motion*'. Indeed these site-specific works can be characterized precisely in their *acting out* of a process, which like its object, is continually on the way between one point or another." (Kaye 2000, p.123)

[Ethnographic mapping]

"I started thinking about the idea of residue. Something left behind or coming after a process has ended. [...] The past and present in one piece. A map. A map is always used as a guide, a reference *before* (sometimes during) travel. In this piece, the map would be a continuous process (during the piece) and a residue of the process of the entire piece." (Jowitt 1997, as cited in Kaye, 2000, p.120)

In "The Artist as Ethnographer", Hal Foster (1996, p. 184) introduced and discussed mapping as a critical practice as well as an intellectual process; a process of highlighting and focusing on a phenomenon within context (social, cultural, or political) then re-presenting it through artistic expression (specifically installation art) for others to experience it. There are different types of mapping: sociological, anthropological, and ethnographic. Foster also gave examples of the analogy of social and ethnographic mapping in relation to the "siting" of art (1996, p. 184). He explained, "mapping in recent art has tended toward the sociological and anthropological, to the point where an ethnographic mapping of an institution or community is [a] primary form of site-specific art today" (Foster, 1996, pp. 184–185). In this context, the writer discussed the work of many artists, all working in an analogous way through ethnographic mapping, yet always doing this ethnographic mapping in order to highlight a specific situation in a context or a sociocultural phenomenon.

5.4 Site-mapping

In architecture, mapping becomes a process to explore spatial experiences or as a basis for formulating design guidelines (Lynch, 1960; Lusk, 2002 as cited in Groat & Wang, 2002). In this case, mapping was considered a research process that allows measuring and evaluating aspects of spatial experiences, such as perception, movement, interactivity, and even memory, especially when these aspects are difficult to analyze through quantitative methods. In 2002, Ann Lusk also used mapping in her investigation of greenway bicycle paths (as cited in Groat & Wang, 2002, p. 228) (see Figure 55). Kevin Lynch's (1960) study of *The Image of the City* is another well-known example. As shown in Figure 56 Lynch used correlational mapping to examine the way physical characteristics of cities were experienced and understood by ordinary people.

The 'architectural approach to mapping' could only be considered in relation to cognitive practice and cannot be clearly related to the above citations. A study like Lynch or Lusk may instead be extended toward cognitive mapping of contemporary spatial, social or institutional relations and effects. (Kaye, 2000, p. 100)

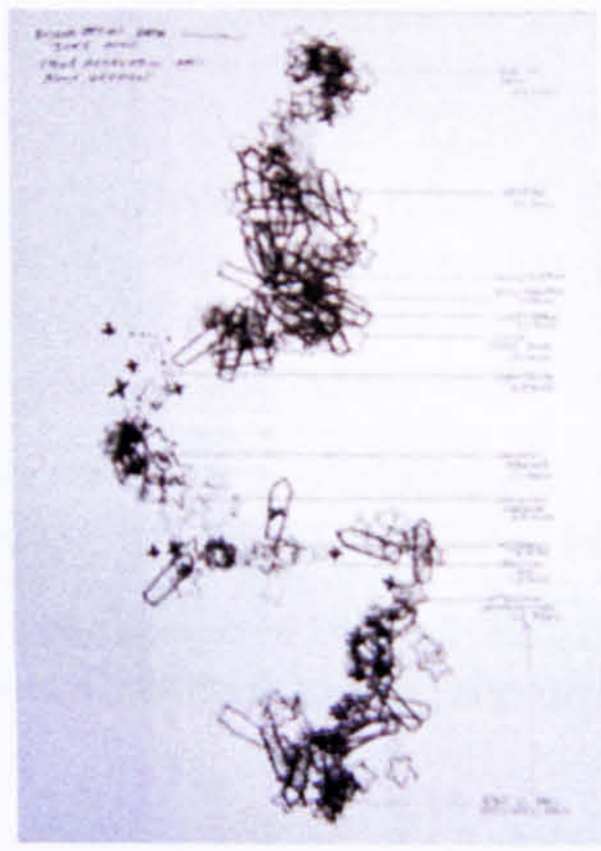


Figure 55 Ann Lusk, Study of greenway bicycle paths.
Composite map of Staowe, Vermont greenway. Source: Groat & Wang, 2002, p. 231

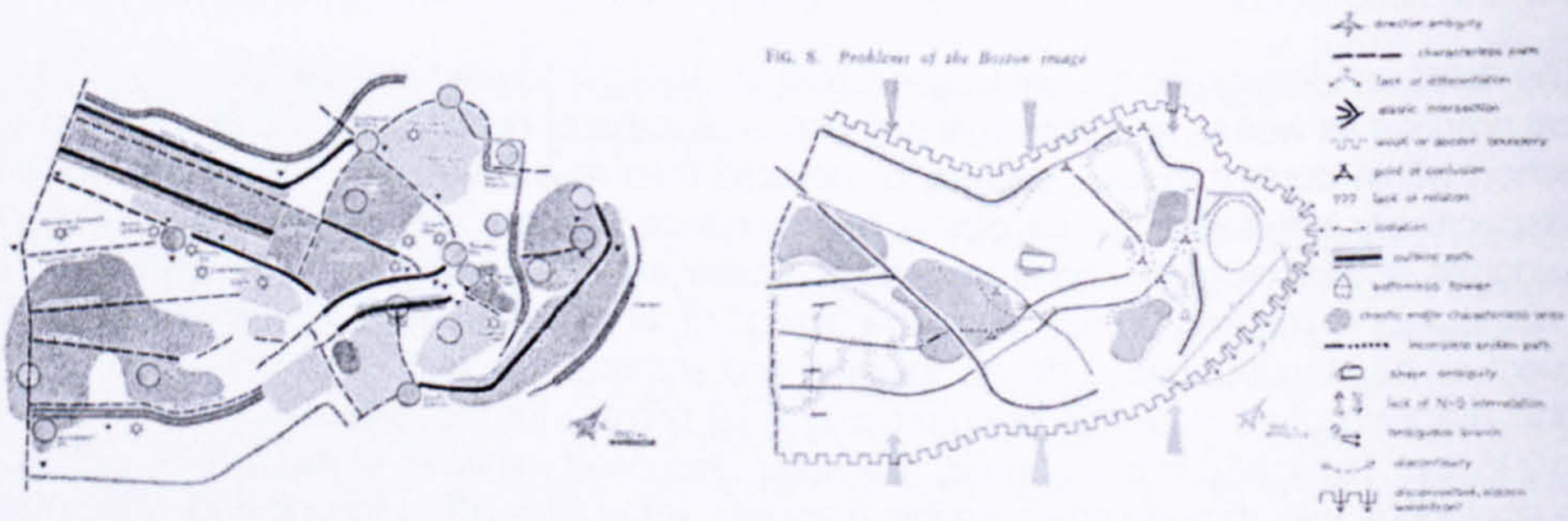


Figure 56 Correlational mapping in K. Lynch's study of the image of the city
Left: the visual form of Boston as seen in the field. Right, Problems of the Boston Image. Source: K. Lynch (1960). The image of the city, MIT Press: Cambridge, Massachusetts, p. 24, 147

> *"A city like Boston [...] with its monumental perspective, its markers and statuary, its combination of grand but simple spatial forms, including dramatic boundaries such as the Charles River, not only allows people to have, in their imaginations, a generally successful and continuous location to the rest of the city, but gives them something of the freedom and aesthetic gratification of [a] traditional city." (Lynch as cited in Kaye, 2000, p. 101)*

In defining cognitive mapping Jameson draws on his reading of Kevin Lynch's celebrated study of the image of the city. Proposing that urban alienation is directly proportional to the mental unmappability of local cityspaces. Lynch's study addresses the individual's sense of disparity between the 'here and now of immediate perception and the imaginative or imaginary sense of the city as an absent totality'. In this sense, perhaps architectural analysis can learn from art. Where lynch engages with a phenomenology of the city, Jameson extends his analysis toward ideology's attempt

to 'span or co-ordinate, to map' the gap between the 'local positioning of the individual subject and an imaginary totality.

Where postmodernist space exposes the inability of spatial practice to rest in the order it implies, a cognitive mapping functions in the very sense of lacking a place, as if tracing the co-ordinates of a terrain from which it is continually displaced. This sense of a site which evades the coordinates of the map is also evident in artworks rehearsing a transitive definition of site (i.e. *Nights in the City* by Tim Etchell, or *nothing, 2002* by Robert Wenman). Whereas the site-specific work foregrounds site's elusiveness and mobility, the concept and features of the site, which it articulates, are continually annulled, displaced, or surpassed, (Kaye, 2000, p.103) Drawing on Kaye in my interventions, I suggest mapping as always in process, contingent, temporary, where the representation of site is always subject to being written over. Also, I suggest a mapping process which can be linked to various readings of the peculiarities of contemporary place and space, and which is symptomatic of approaches to site in performance (Kaye, 2000, p. 100).

In this study, the site is considered a palimpsest on which the memories, events and are constantly re-written. In this context, site-mapping happens within the possibilities of such articulations between the site and the map through memory and models of sociality. And in order to map the 'other site' on a specific location I use soundscapes. Soundscapes are organised in a fragmentary to attain to the primary virtues and to reveal an attachment.

5.4.1 Mapping memory

Regarding mapping memory, McTighe (2005) discussed the work of two artists (Ann Hamilton and Doris Salecdo) as examples of artists who practiced the process of mapping to involve voluntary or involuntary memory. These artists' works, argues McTighe, are distinguished by using a division of memory found in the work of twentieth-century writers, such as Walter Benjamin. According to McTighe, Hamilton and Salcedo's works correspond to two separate moments in the experience of involuntary memory. Their installations generate aura by referencing the body, the practice of handcraft, and evoking past social connections. Hamilton's work, on the other hand, corresponds to the first moment of involuntary memory when a past moment returns with all its somatic intensity. Doris Sacedo's work, which is inspired by the stories of violence in her native Columbia, corresponds to the subsequent fading of involuntary memory and the disintegration of aura (McTighe, 2005).

Memorable place has an assembly of elements and a semantic reference. In the context of Bachelard's account of the association between imagination and memory, intimacy and protection are essential in the construction of memorable place. A memorable place presupposes being intimate. While intimate place is often regarded as archetypal in its containment of memory, the radical division between place and non-place (principally in the form of 'site') means that any such ambiguity between the two has been neglected. Here, I wish to address this neglect and in the process posit the memorable power of site.

In my interventions I devise a taxonomy of memory installations, organised according to Bachelard's definition of embodied memory. In the course of my investigation, I wish to contest a specific analysis of place memory which derives from Bachelard. The study examines the role that mapping 'sites' play in contributing to a memory-based theory in architecture. Echoing Bachelard's explanation of embodied memory, I look at sited memory. 'Sited memory' allows rendering my sites as events for the users' imaginative projections. This memory is also subjective, body-based, experiential or sensual or it is objective and fragmentary, corresponding to modern recording devices such as sound projections.

Whereas Freud argues "the same space cannot have two different contents", I look for possibilities of overlapping sites. By mapping memory, I allow a past (or possible) moment to return with all its somatic intensity. Through my interventions, I seek to create perceptual connections between the

illusory (imaginative) scene and the actual physical site. The aim is to be able to posit an idea of place as a place-holder of memories, so securing spatial memories – where the particularization of sited-memory instigates its unique embodiment. In this context, two of my interventions allow memory of a specific place to be situated on an existing architectural space.

5.4.2 Sociological Mapping

In the context of Bourriaud's relational aesthetics, sociality is raised here as a question of context. Most of the installation works which I referred to as examples in this study, focus on models of sociality which derives from the tension between an existing system of relations and the intervention. From Kaprow to Lozano-Hemmer, the gallery system becomes a model of a critical reassessment of the institution itself (inside vs. outside), and the commodification in art (object vs. process, action, idea) in relation to it. Site-specific artworks particularly focus and evolve in reference to this context.

The reassessment of site-specificity initiated an original view of artworks and architectural spaces by relating them to social issues and to the community, as well as ideas of place and non-place (Kwon, 2004). In such contexts, mapping has proved to be a compliant and evolving technique. And it has been used in site-specific art installations (McTighe, 2005). Examples include mapping as an approach to site specificity, space as a map, and the unmappable space (Kaye, 2000).

Recently, some interventionist practices have adopted activist approach to examine sociopolitical issues within context. These 'actions' were often informed by a worldwide tendency to insert the practice of art into the social realm. A few social practices have already used tactics borrowed from art and from a range of visual, spatial, and cultural experiences. Hal Foster (1996) discussed Dion's practice in this context. Mark Dion's work may be considered as a model of 'sociological mapping'. He is an example of artist who uses site-specific work for social outreach by "mixing mapping-site with situationist *detournement*" (p. 197–198). His work is a model "of the total integration of artistic and social practice" (Meyer, 2006, ¶ 8).

In *Tate Thames Dig* (1999), Mark Dion was working with art as a social practice by studying found objects in their social (and archaeological) contexts. In a process that involved three stages, Dion applied his archaeological process to art. First, with local community groups, he undertook an archaeological dig on the Foreshore of the Thames River adjacent to the Tate Modern gallery to look for materials left behind on the riverbank. In the course of this process, a wide variety of objects and fragments were uncovered (from plastic toys to shoes). Hence, a profile of the city was built up through its one constant and reason for being: the river. The second phase involved the cleaning and then classification of finds in archaeologists' tents on the lawn of Tate Gallery. The objects were represented in a curiosity cabinet in an exhibition space of Tate Modern (Dion, 2000; Tate Online, n. d. c). Figure 57 illustrates the *Tate Thames Dig*.

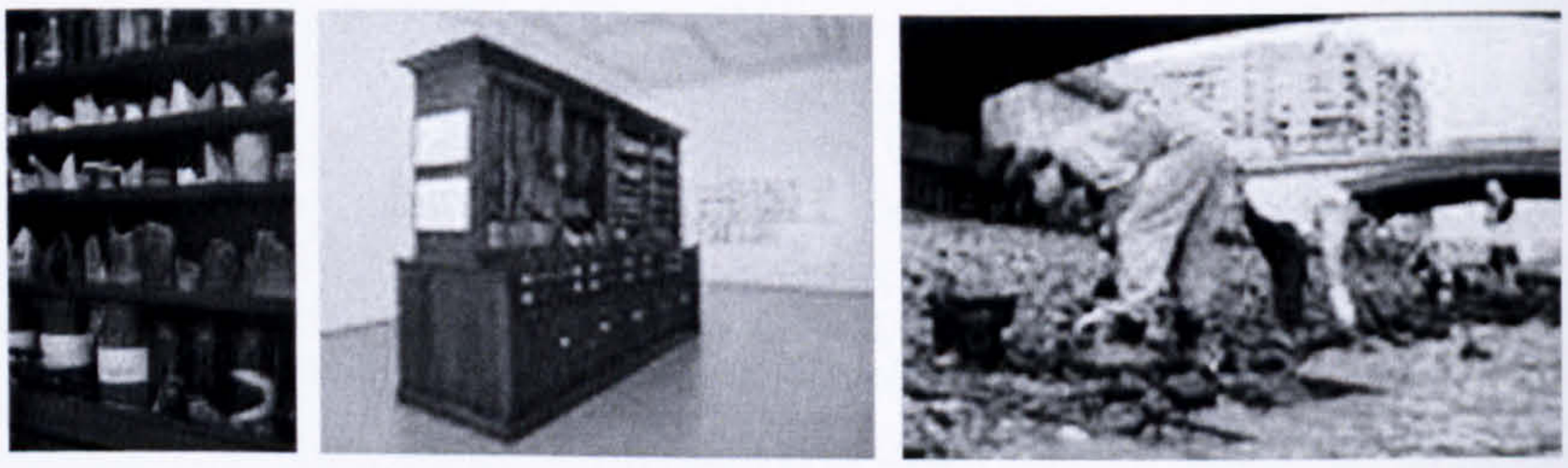


Figure 57 M. Dion, Thames Dig, Tate Modern, London, 1999

Another example of an artist/sociologist was Stephen Willats, who was concerned with the social environment of art far more than with the actual work of art. His effort provided examples of art-

work that successfully investigated (and modified) the participants' perceptions of coding structures within their environment (Willats, 1976). The result of the artwork was similar to a sociologist's work: A report was written in language appropriate to the language of sociology, involving restricted codes, audience perceptions, predictive language, and social environment parameters.

In the context of this thesis, sociological mapping seeks to explore the realm of human interactions and their social context. It aims to define the inter-subjective encounters which result from the users' relation to the work, and how this works engage with their context. What is particularly interesting in this process is that it empowers the audience. Like in performance art, it creates a community out of the users. The audience becomes a social entity and as a result it starts to become a accounted in 'the production of space'.

In the context of ethnographic interventions, body experience is considered central to this work in two ways. First, the fact that intervention deriving from art installation makes it directly linked to the questions of site-specificity, site-mapping, memory and sociality. Second, ethnography becomes a way of analysing the meta-narratives of subjectivity in the work. Ethnography becomes a form of interpretation.

5.5 Ethnographic mapping

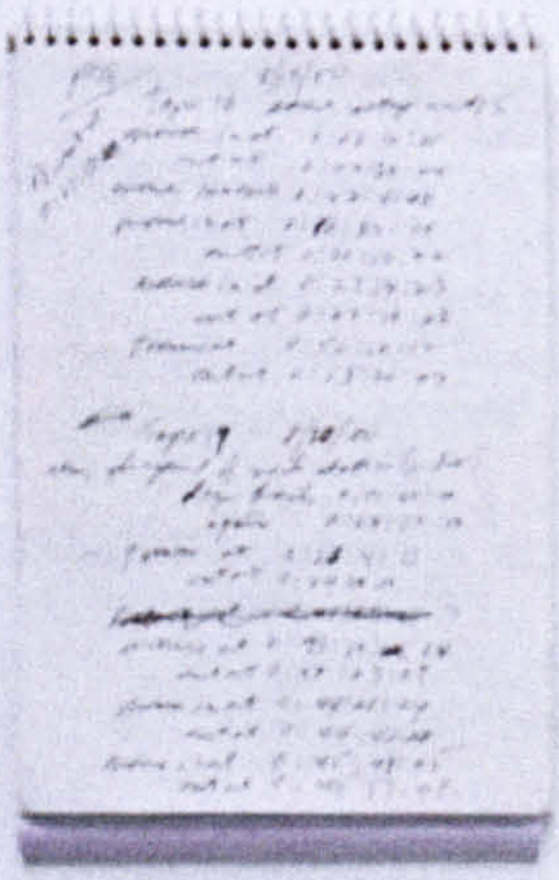
In the space of the intervention, embodied experiences involving memory, movement or even performance become accounted as possible sources for the study of subjectivity. In this context, discourse and video analysis, and more generally ethnographic methods, become particularly useful as they enable the articulation or contradictions between discursive positions. It is in this context, that I integrated this process in my work. Ethnographic mapping provide an account of the multiplicity and specificity of subjective experiences in the intervention, and hence, of the affects of the interface.

Bruce Nauman's installation *Mapping the Studio II* (2005) can be considered in the context of ethnographic mapping. *Mapping the Studio II* (2005) artwork was exhibited in the Tate Modern in London, and consisted of seven video images projected around the gallery walls. Filmed over a period of several months, the footage derived from original material shot by Nauman´s infrared video camera at seven different studio positions. The running time of *Mapping the Studio II* was 5 hours and 45 minutes from each camera location, making a total of over 41 hours (see Figure 58). In his practice, the artist followed a quasi-ethnographic way of working. His definition of mapping focused on recording, documenting, and re-presenting the different activities in the space of his studio.

Figure 58 B. Nauman, Mapping the Studio I (Fat Chance John Cage), Tate Modner, 2001
Picture shows a series of images showing clips taken from the video footage showing the flipping of images upside down.
Source: http://www.diacenter.org/exhibs/nauman/mapping/

An interesting aspect of this installation was the marginal notes that accompanied the footage. In parallel to the footage projections, the artist presented a series of logbooks recording the process of making his art piece. Those logbooks recall a notebook made by Nauman himself in a previous adaptation of *Mapping the Studio* in 2002. The notebook in *Mapping the Studio I* took the form of Microsoft Word files printed onto A4 paper and displayed on an adjacent wall outside the room

exhibiting the pertinent video installation (Manchester, 2005) (Figure 59). In a way, the notes resembled an ethnographic narration describing activities in the studio, similar to what a typical ethnographer would write in a diary. Nauman's method of working clearly reflects his role as artist and ethnographer at the same time. The artist mapped the conditions of his working space by recording all the happenings that took place in the course of few days. He then edited these happenings and re-presented the work within the Tate Modern exhibition space.



"The humble, spiral-bound, lined stenographer's books reveal Nauman's method of working. The notation of each numbered tape begins with the specific location where the camera was set up, such as 'west wall – double doors', 'semi diagonal of work station' or simply 'same setup as 15', beside the date of recording. Then the artist lists the action next to the specific frame, typically: 'dog bark 0:19:49:00', 'mouse in at 0:41:43:28' and 'exit left at 0:52:49:01'. The notations include comments such as 'full moon', 'windy' and 'rain outside' as well as 'B – phone call in office' and 'a lot of noise' indicating additional ambient sounds. Toonsis, the artist's cat, and the unindividuated 'mouse' are the principal characters featuring in Nauman's notes" (Manchester, 2005) (Figure 67)

Figure 59 B. Nauman, Mapping the Studio Notebook *(Book 1) Guggenheim, 2001*
Source: Guggenheim Collection website:

However, Nauman could be more critical in his practice. In having attempted his mapping, there could be another phase: connecting his vigilant process of mapping to an ongoing political and social praxis. What would be interesting in the case of Nauman is to see him moving beyond documentation to actually question and suggest issues related to the work's relation to context, for to move from interpretation to its politics is in large measure to go from undoing to doing. Whereas ethnographic mapping provides a certain permanence to the intervention, but it could also extend to complement site-mapping. It could become a metaphor for the intervention while also questioning the power relations implied by this very work.

It is in this context that I wish to discuss ethnographic mapping in my interventions. First of all, ethnographic mapping was gradually introduced in this research. A number of ethnographic tactics were first integrated within the protocol of the first intervention (from observations to interviewing, photographing, videorecording, and so on). Images and observations were used to study users' movements, behaviours, and interactivity. Interviewing was used to gather more detailed data about users' feelings, perceptions, and recollected experiences about the work. Video recording and the observations were used to explore sequences of movements, patterns in the interactivity and social effects. Since it was difficult to capture all these elements through sketching and observation, videotaping proved to be a better technique to record and analyze the sequence of movements and interactivity (Figures 60 and 61)

With time, it became clear that ethnographic mapping could help in identifying some patterns of behaviour and movement sequences within the space of the intervention. Also it informed the next iteration of the work. In the second intervention, ethnographic mapping consisted of four phases:

a) preparatory stage, b) data collection, c) interpretation, and d) narration and case study re-presentation. In addition to the video recordings, sixty interviews as well as on-site observations were used. By the time I was working with the third intervention, ethnographic mapping comprised five processes: conception, installation, data collection, interpretation and representation.

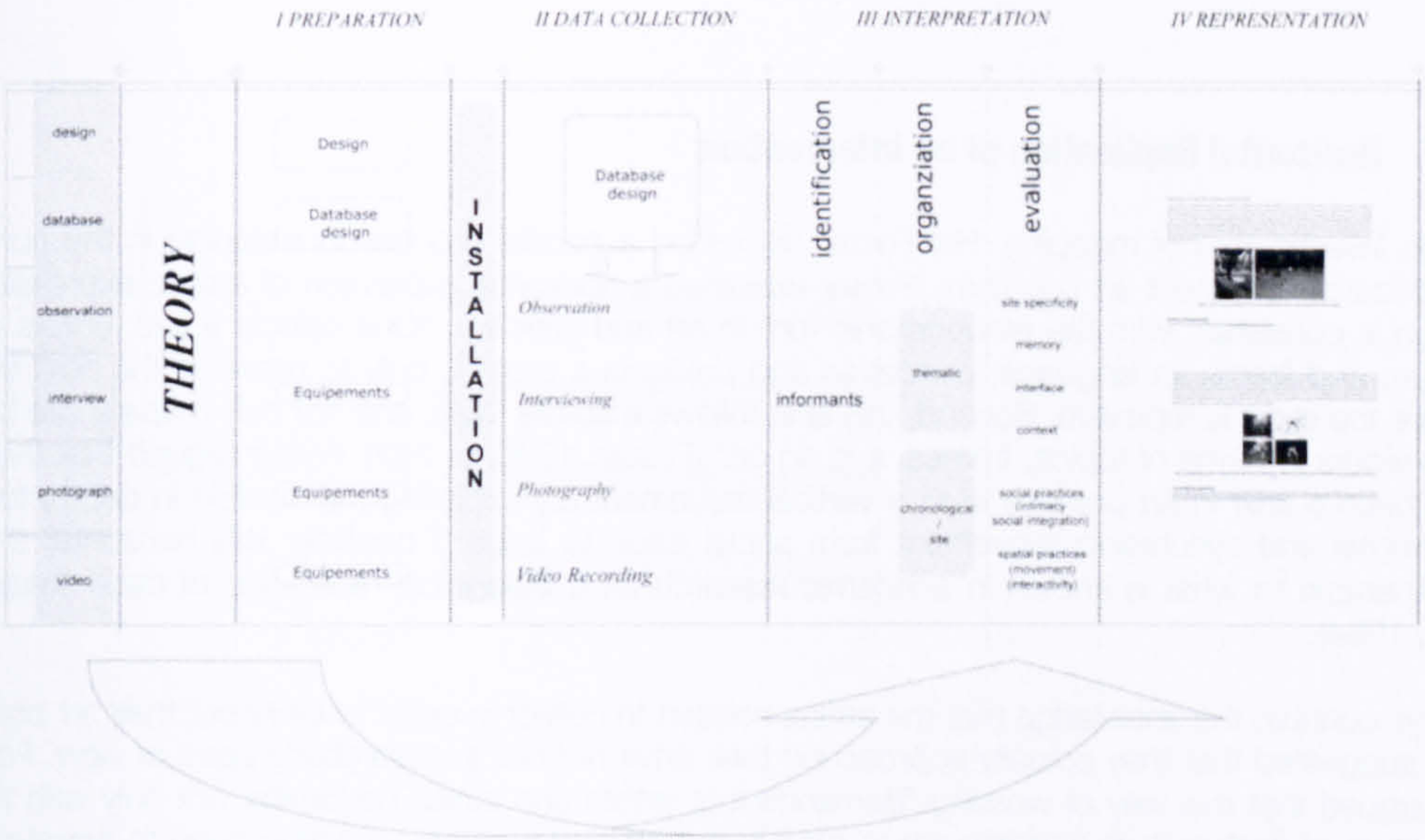


Figure 60 ethnographic mapping in the second Intervention

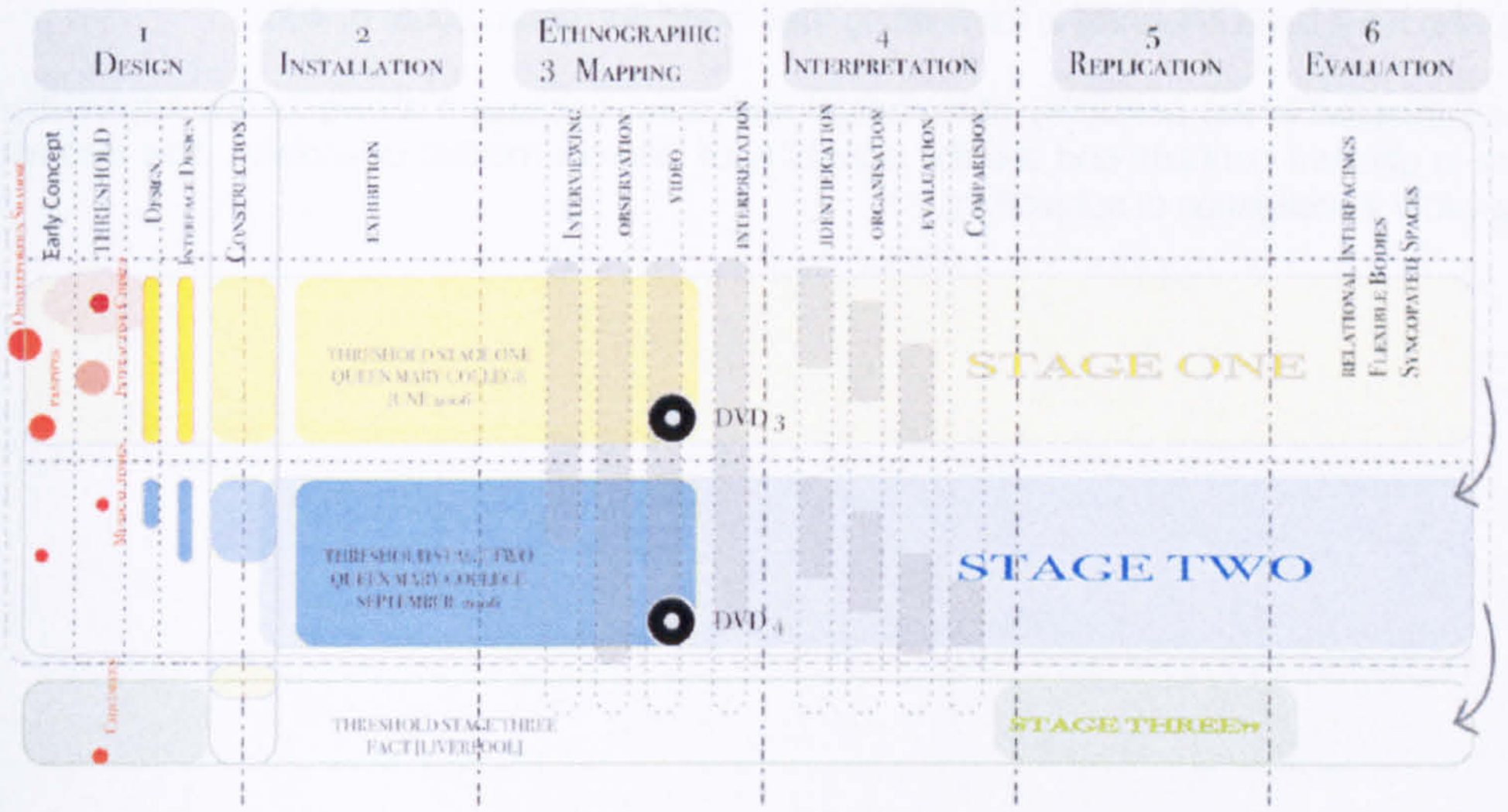


Figure 61 Threshold: Ethnographic mapping in context

Ethnographic findings indicated a correlation between the affects of relational interfacings and corporeality. Relational interfacings led to a representation of bodies as sentient, interactive and flexible. In the first intervention, soundscapes implied a certain sequence of movement within the

space of the portico. Intervention two, on the other hand, significantly changed the users' experience and sociospatial practices. People developed a pattern of movement in relation to the different settings of the installation. The last intervention pointed to a relationship between the users' interactivity with the space and the intervention based on their memory, and here site-mapping and ethnographic mapping were clearly linked: the users were moving as they navigated 'virtually' among the projected stories.

5.6 Horizontal Replication of an Intervention

In his investigation of mapping, Hal Foster discussed a parallel process to mapping in the commodification of recent art practices. Foster explained a horizontal expansion of artistic expression which is consistent with the ethnographic turn in art and criticism: "One selects a site, enters its culture and learns its language, conceives and presents a project, only to move to the next site where the cycle is repeated. Second, this shift follows a spatial logic: one not only maps a site but also works in terms of topics, frames, and so on" (Foster, 1996, p. 202). Foster argued that there has been a shift in art practice from a vertical movement (by exploring the context in depth) to a horizontal and synchronic movement from social issue to issue. I consider this horizontal shift comparable to what is known in academic research as a theoretical replication of case studies (Yin, 1994).

In this context, the knowledge that the artists needed to collect in order to carry out their art practice suggested that they actually approached their artwork from a researcher's point of view. Foster argued that this way of working "demands that artists and critics be familiar not only with the structure of each culture well enough to map it, but also with its history well enough to narrate it" (Foster, 1996, p. 202). McTighe (2005) also argued that, by the late 1980s and early 1990s, not only were artists regarded as ethnographers and sociologists but they were also described as being too influenced by theory, too literary, or too "smart" (p. 406). These artists "extensively researched the context of their work, read heavily in theory and have named the historians and theorists who have been influential in formulating their work" (McTighe, 2005, p. 406).

I am interested in the possibility of horizontal replication because it allows for the intervention to relate in different contexts and see the possibility of different models of sociality. This also allows for a wider investigation of subjectivity.

PART III: THE INTERVENTIONS

Chapter Six

6 Intervention I

Sited Moss: Invading or Fading Architecture

Mounajjed & Kim

September 2004

The Portico, University College London

London

6.1 Monument/Site/Intervention

Figure 62 illustrates the site of the intervention: the Portico. The portico is an outdoor semi-public space located in the Main Quad of the UCL campus. The Main Quad is a Grade I listed neo-classical building. It stands for monumentality and eternity, symbolizing the university's moral ideals as well as its position and political tradition. The impressive height of the ceilings, the size of the columns and the position of the portico, located on the top of gigantic flight of stairs, made it look like a stage elevated from the surrounding environment. The scale, monumentality and position of the portico have an intimidating impact to the users or visitors. It is clear that the impression all this makes on the public influences their behaviour (their reaction, movement, and sense of presence) in the space of the portico.

Prior to the intervention, the UCL Estates and Facilities constantly reminded us of the protected state of the building. The regular cleaning of all sorts of mosses and the maintenance of any symptoms of decay on the portico were also interesting to observe; all this led to the concept behind the intervention.

Figure 62 The Portico, UCL, 2004

"The site is a listed building and it is very restrictive regarding any fixings to any part of it" (Colin McClarence, personal communication, July 29, 2004)

"This installation will simply consist of placing moss on the floor (deposing moss or attaching them with acid free tape just where necessary). This will be completed by a sound installation. So no harm is done to the building itself and the moss will be cleared off at the end of the exhibition week." (Rosalie Kim, Personal communication, July 29)

"I have no major concerns about your proposal. All I can ask is that you take care when removing the moss that it doesn't enter the drainage system and cause blockages." (Colin McClarence, personal communication, July 29, 2004)

The intervention questioned the untouchable status of the UCL main building. *Sited Moss* aimed to state that building regulations would not necessarily prevent the portico floor from deterioration. The work attempted to attenuate the intimidating scale of the portico by highlighting the on-going process of decay (Kim & Mounajjed, n. d.). *Sited Moss* emphasized the vulnerability and ephemerality of architecture in this case, by highlighting the unavoidable process of decay which every building is naturally subjected to. In fact, we believe that the regulations could not necessarily prevent the floor from deteriorations. The weather conditions, the students' behaviours and activities, the furniture being moved around the floor, the numerous receptions, and the harsh brush sweeping, all these events were part of the memory of the building and suggested decay.

Figure 63: Sited Moss: Invading or Fading Architecture, UCL, London 2004

> *"Sited Moss consisted of mapping mosses and soundscapes in the space of the Portico. The 'moss map' covered an area of 23 m x 9 m, with each deteriorated texture on the floor mapped with a particular type of mosses. It also gave the first (alternative) reading of the space for the user. It took on the form of a legible map that implied the process of tracing the building's decay and memory.*
>
> *The silent heavy presence of the monument is overtaken by a sound projection. Sounds of breathing movements, and whispering were mapped the space of the portico. They referred to an 'other' location and to other events, people and sites – implying the continuous happenings which might be taking place, would take place (future) or have taken place (past) in this space"*

Also, the position of the portico as a 'threshold' (as an in-between space) between the inside (the mysterious inside space of the monument) and the outside (public space open for everybody) makes the Portico even a more interesting place because it stands in between the two strictly separated places of interior/private space (enclosure: where something might

be taking place—perhaps under the dome) versus the outside/ public space (an exposed space for the public). But thresholds of built heritage, as Augé argues, are historical/relational places caught up with complex issues of the establishment and maintenance of personal and social identity. They represent the passage of time and stimulate users' memory and perception. It would be interesting to see in this intervention how thresholds of buildings may be re-appropriated or activated through digital projections of sounds and images.

This particular intervention focused on encouraging the users to examine their 'inhabited' space by appealing to their consciousness and turning their perceptual behaviour from a passive into a more active one. In Sited Moss, the body became a key aspect of the intervention. This was a body sentient and responsive. In return, the intervention presented to the body a sensible space that is also syncopated and augmented

Sited Moss became an ephemeral intervention producing a performative context to the site. In this context, the monument/portico took on a temporary specificity and declined its role and stepped down to the level of its users: a dialectic relationship marked by close associations and familiarity. The evocation of the moss (and of the breathing voices) was a key point in replacing feelings of intimidation with the faculty of intimacy and by overlaying a new dimension to the portico space by adding an illusionary space onto the moss interpretation of the existing site: a spatial palimpsest (Kim & Mounajjed, n. d.).

6.2 The Portico as a Spatial Palimpsest

For years, continuous happenings and activities have taken place on this site, such as receptions, intimate conversations, displacement of chairs, and graffiti markings by various users. The portico generally collects souvenirs from such happenings. Smells, scratches, textures, and voices reside in the space. Moreover, the weather leaves traces on the building through natural decay. All these conditions make up the memory of the site. So, in this particular work, we decided to trace the portico's memory by re-presenting hidden aspects from this active site (Kim & Mounajjed, n. d.).

We started to look at the site as a site for past and possible events—having its own narrative and time. We focused on one moment in time, and referred to this moment throughout the work. For example, we kept the state of the furniture exactly as it was when we started working with the piece. To start, we emphasised on the chairs and proposed to keep their location as a distinctive moment in time. From this point, Sited Moss focused on this interactive 'moment' by modifying the materiality and re-tuning the acoustic qualities of the site.

The moss map and the sounds aimed to destabilise the site and to create ambiguity and imagination with the users. The 'moss' drawn on the Portico's floor triggered different thoughts (souvenir, ruins, oriental gardens, navigation maps...) and emotions (melancholy, serenity, longing, curiosity...), allowing the user's gaze to drift from past (ruins) to future (projection of their own perspectives. All re-presented by the sound installation which projects different rhythms of breathing on site. This shifting of the users' experience between the site and the map or the place and the non-place offers thereby a second layer of spatial interpretation. (Figure 64)

The portico collects souvenirs, smells, textures and voices. It is a place where more than one event has been happening, with the earlier happenings incompletely erased and still visible, and with the possibility of further happenings in the future—all of which are perceptible and sensed by the user's mental and physical experience in this architectural space. To look at the site as a spatial palimpsest meant examining the different physical and virtual layers co-existing during and before the intervention. Like a spatial palimpsest, the portico was re-appropriated by adding an illusionary space—a non-place delineated by mosses and

sound. Between the place (the portico) and the non-place (or the map). And the spatial palimpsest applies to both: "Place and non-place are rather like opposed polarities. The first is never completely erased, the second never totally completed; they are like palimpsests on which the scrambled game of identity and relations is ceaselessly rewritten" (Augé, 1995, p. 79).

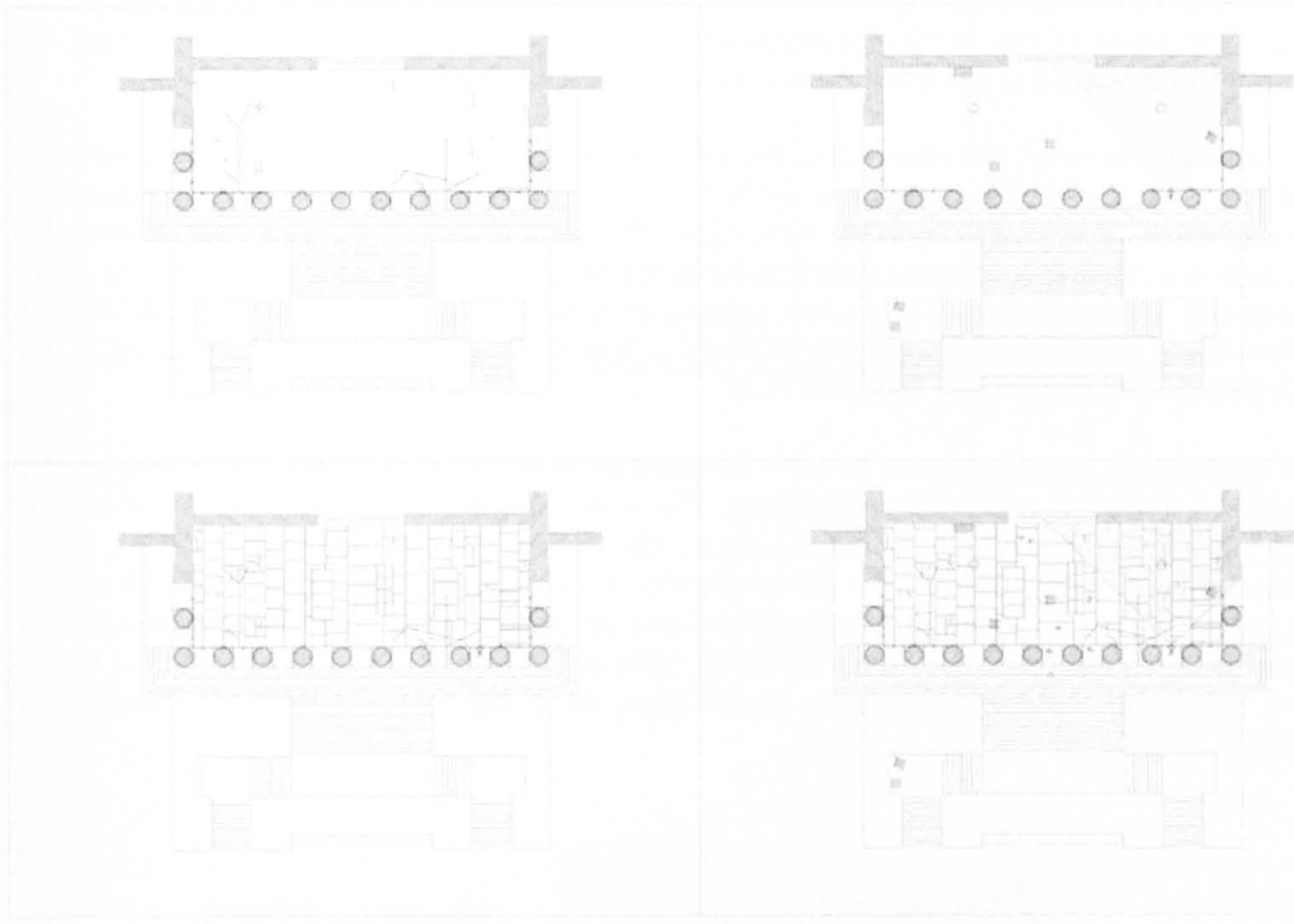


Figure 64 Mapping memory in Sited Moss

Preferring to focus on the site's narratives and memories, I used this concern with memory by focusing on spatial narratives that have deep and personal associations. And the soundscapes allowed for such associations.

Figure 80 illustrates how I mapped the different events and layers of the portico based on the memory of the site. I explored the physical qualities of the portico in a specific moment in time. Then I defined the different events from natural decay to physical joints to furniture and sound. Each represented a specific happing: the joints (decay), furniture (users practices) and water channels (weather and natural conditions).

In this intervention, soundscapes were considered as a simulation of digital spatial palimpsests for enhancing habitation with digital effacing, transparency, scribing, layering, tracing, collage etc. Here, sounds where acting as a virtual tracing on the site and they suggested happenings from elsewhere and from another time.

6.3 The Moss as Decay Detector

> "The moss plays often the role of a hyphen between a finishing state and the birth of another phase. It represents the perennial and triumph of Nature upon the man-made constructions and civilizations. Therefore, the moss cannot only be prejudiced by being related to decay,

> deterioration and invasion, when in fact, it can also be seen as an incentive for the beginning of a new cycle" (Kim, personal communication, 14 September 2004).

The moss has an ability to arouse certain thoughts or emotions. In occidental culture, it is mostly related to the concept of ruins, especially since the Eighteenth Century when Piranese described through a number of drawings and etchings the Roman Ruins invaded by Nature (especially mosses). However strong and eternal an edifice is built, it will always be exposed to decay and decline, dissolving finally into useless ruins. The ruins are in turn often associated with the English or German romantic landscapes, for that period built many fake ruins integrated in their garden compositions to suggest a certain melancholy or longing for something irrevocably lost (Kim, personal communication, 14 September 2004).

In oriental culture on the other hand, the moss reminds people of various Buddhist gardens where the tufted moss creates a visual enthrallment and rich textures soothing the personal thoughts. Its evergreen character symbolizes the permanence of the universe whereas its shape is a metaphor for the running water or the waving sea. These gardens tend to interpret and idealize nature, inviting the user to lose him/herself into the contemplation of a man-made artificial landscape referring to the Universe (Kim, personal communication, 14 September 2004; also see appendix A.7).

In both cases, the moss tends to demonstrate the perennial and triumph of nature upon the man-made constructions and civilizations. This is precisely the reason why the moss cannot be prejudiced by being related only to decay, deterioration and invasion, when in fact, it can also be seen as an incentive for the beginning of a new cycle (moss preparing the site for superior plants to come and propagate) or even, as observed throughout History in different countries, as a protection or a construction material. The moss is the joint between a finishing state and the birth of another phase (Kim, personal communication, 14 September 2004).

Figure 65 A panorama showing the space of the installation

The moss emerged naturally as the main material to work with, not only for its ambiguous biological identity (a bryophyte in-between the fungi and algae, closer to the sponge than to the plant), but mainly for its ability to perceive the cracks and gaps within a given surface in order to settle and develop: the moss as a void detector or a void mate-realiser. The moss has an ability to perceive the cracks and gaps within a given surface in order to settle and

develop. It is like a decay detector. And the splinters on the floor constitute the ideal place for the moss to grow. By slowly colonizing the space in that manner, the moss actively participates to the decomposition of the Portico, which in turn, favours the propagation of moss (Kim, personal communication, 14 September 2004). (Figure 65)

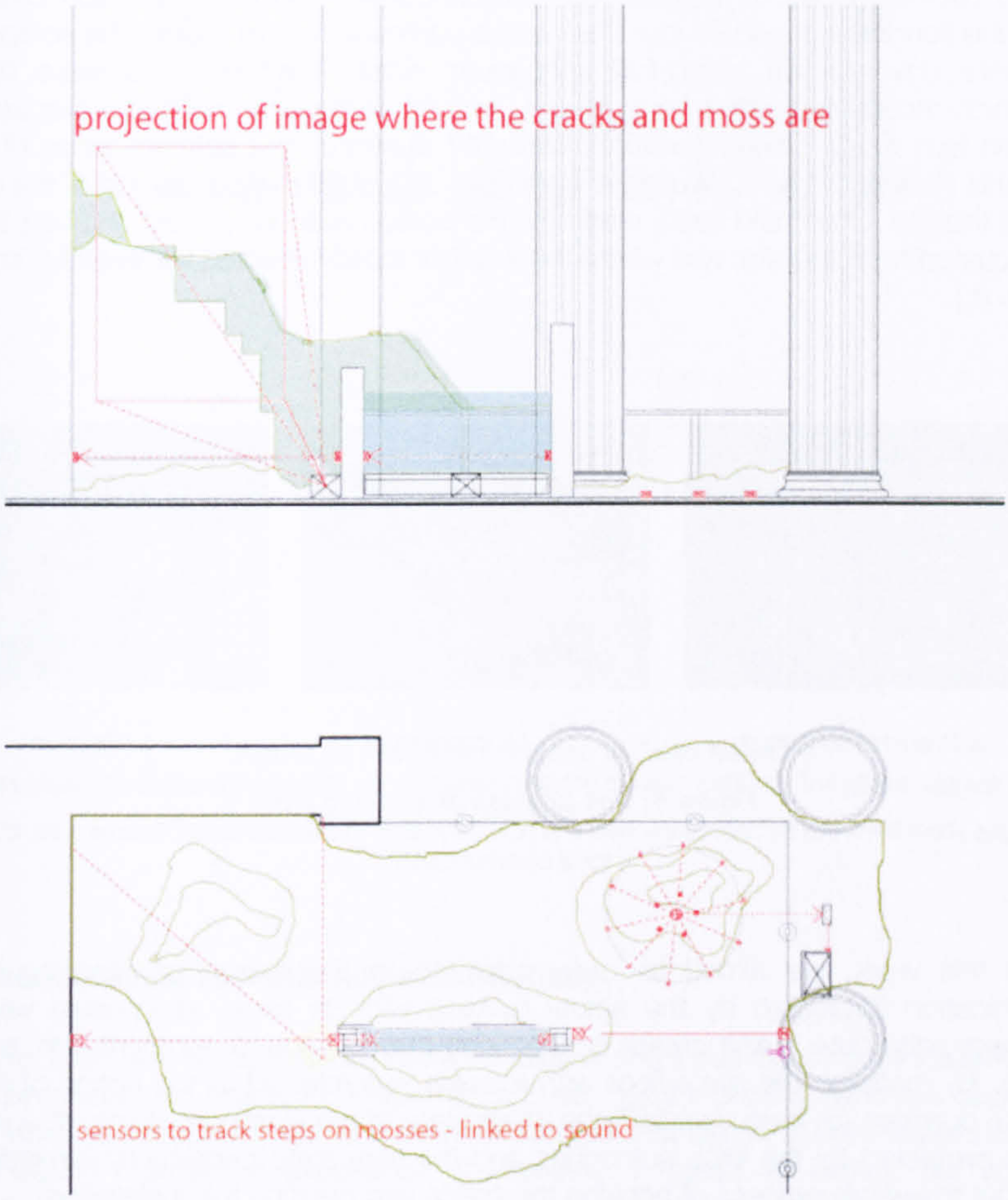


Figure 66 Early sketches and proposal for Sited Moss

Water evaporation: Heater/spindle + Water/tank/pipe
Moist: Humidifier
Dispersion of moist: Fans
Lighting: Light Projector
Sound Installation: 2 Audio recorders, for sound recording/editing and playing + 2 speakers
Input/Output: Sensors, to connect the humidifier/recorder to people's movement or to external weather condition

In principle, the intervention aimed to create a flexible space whose condition would be modified according to users' movements and weather conditions, the soundscapes responded to users' movements and the mosses biologically respond the users' movement too. Early concepts of the intervention focused on creating a flexible moss wall and floor. Kim and I also wanted to incorporate other factors to the interface to create humidity and more sensibilities in the space (see appendix A.2). The final piece however only focused

'physically' on the floor of the portico, and focused on a more subtle account where sounds and mosses would be naturally incorporated in the space (see Figure 66).

We used different types of mosses with various colours and textures. Each deteriorated spot on the floor was physically identified with a particular type of moss. The scrapes in the stone were covered with dried-frail sphagnum moss. The punctures were filled with bun/cushion moss, also called *Leucobryum*. And the water channels were mapped with a rich green fern moss called *Thuidium*. Figure 67 illustrates the different types of mosses used in this installation. As a result, the work gave an instantaneous reading of the decaying history of the site. One could easily read how the portico was being used and how rainwater was evacuated from the site, and where the weather mostly affected the space (Kim & Moujjed, n. d.).

a. Dried-frail sphagnum b. *Leucobryum* c. *Thuidium*

Figure 67 The process of mapping moss
The images show the types of mosses involved and how they relate to different decay. Source: Kim, 2004, personal communication

Through this work, we aimed to draw attention to the notion of ruins by replacing fear/intimidation (projected by the actual building with its scale, sharpness) with memory/intimacy, dislocate it and create connections through sound augmentation and moss mapping. By mapping the site's floor with mosses, we referred to the notion of ruins and wished to question (or even reverse?) the intact state of the existing building, (the very state jealously protected by the UCL authorities and the very state persistently reminded to us throughout the whole process of booking the space and creating this installation).

We also believed that the romantic/memorial aspect of the moss has psychologically influential on the viewer, not only for the historical associations noted above but also because of the materiality, living nature, scale and organic shape of the moss itself. We considered the notion of the mosses invading the space and taking over the monument, fading its corners and transforming its shape. In other words, we wanted to test if the mosses (and the sounds of course) would "bring the building alive" and would be able to make the site more sensible to the users.

The mosses had effects on the portico users. As noted in appendices A, people and moss "interact" unconsciously through evaporation/breathing, moist/sweating. The breathing and sweating of users was returned by moist and growth of the mosses. Together these inner qualities of the moss, the effects of the sounds created an ambiguous perception of the portico, by initiating a mind wandering between the different layers of the spatial interpretation. Also soundscapes intend to question the immutable and rigid state of the portico.

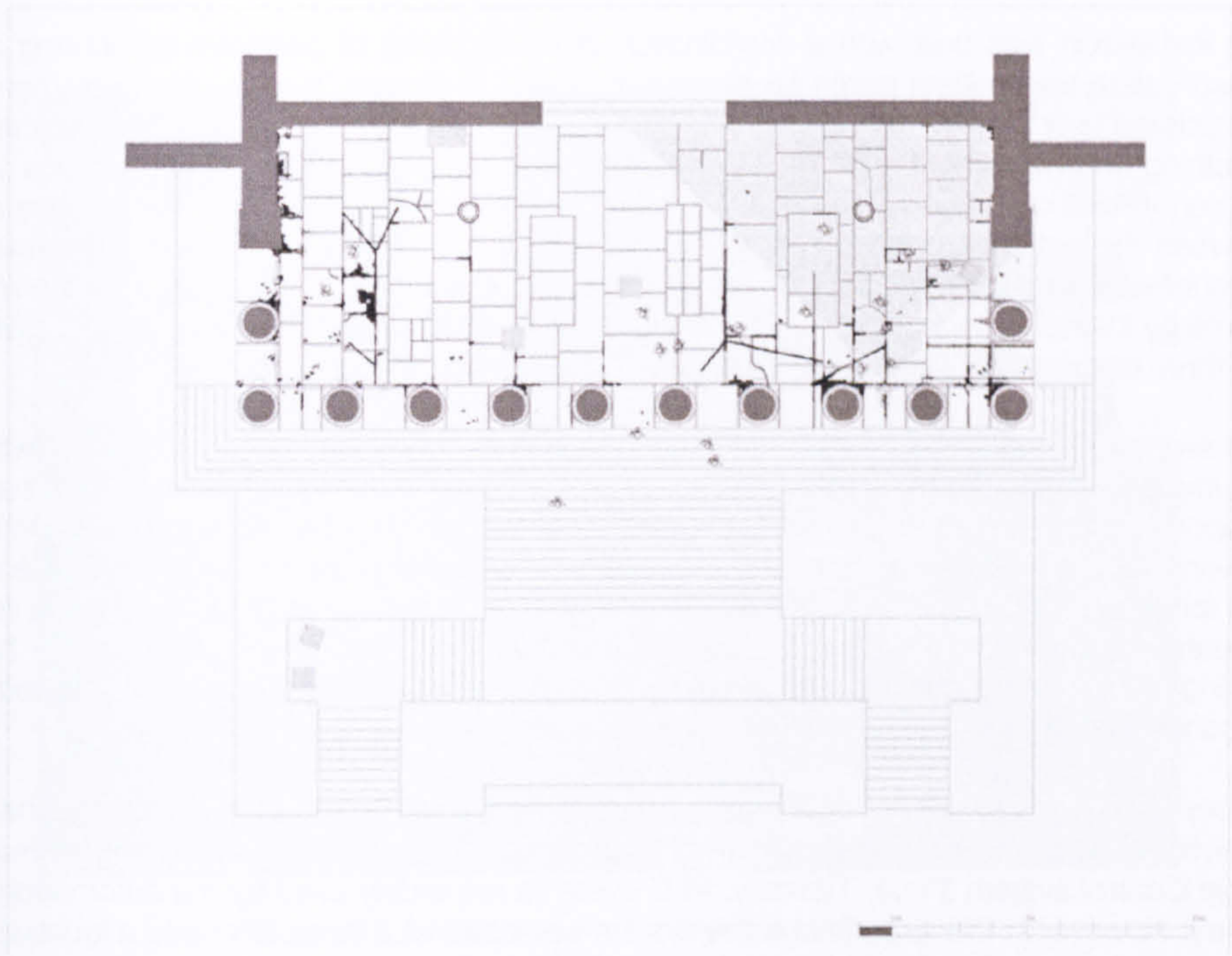


Figure 68 Plan of installation in Sited Moss
The images show the space of the portico with the chairs and the mosses installed. The chairs suggest a previous or potential user.

6.4 Soundscapes: Towards Acoustic Intimacy

When compared with sight, sound is more immersive and it can significantly influence on the users experiences and practices. Pallasmaa argues: "[s]ight isolates, whereas sound incorporates; vision is directional, sound is omni-directional. The sense of sight implies exteriority, whereas sound creates an experience of interiority. I regard an object, but sound approaches me; the eye reaches, but the ear receives" (Pallasmaa, 1996, p. 34). Not only this, the pitch, duration and nature of sounds have an effect on to sensation, imagination and the users' feelings. (Appendix A.6 illustrates some research I have done on sound while working on Sited Moss.)

Soundscapes came to complete the tactile, visual and olfactory perception of the mosses, and to give information about what cannot be seen on site. Soundscapes naturally incorporate within them many references to location. Hence, it is closely integrated in the spatial qualities and site-specificity of any architectural place.

Prior to the intervention, we observed that visitors were unconscious or unaware of the acoustic aspect of the space. Even though those events never ceased to happen, people tend to forget how much it affects their experiences. Sited Moss aimed to 'acoustically' represent some events—which may have existed on site yet were unconsciously denied by its users—which were important to re-establish an alternative/expanded experience. The projections emphasized the imperceptibility of possible events on site (i.e. breathing voices/processes, movements, mosses growth). We assumed that these acoustics remained most of the time in the unconscious background of the experience. We projected the voices of breathing and movements—previously recorded on a different location: a recording studio in Damascus.

The installation was built with a combination of components of pervasive computing and sensory data transmitting particular senses of locality. A sensory system was implemented to track the user's movement on site and to activate an audio recorder playing the voices of breathing and movements. An intuitive interface was designed to work in accordance with the sensibilities of the body. The discreet implementation of sensors (under some moss and between the entrance columns) was essential for the naturalness of the work. The role of sensors was purely communicative, with no intention to draw the public away from the main theme by their pure technology. Instead, the sensors would facilitate the mediation between the three elements of the installation (the body, the site and the intervention).

The sensory field covered part of the Portico but sounds flowed in waves through the whole site implying acoustic zoning or differentiated spatial acoustic intensities. Sounds also had a temporal quality; a rhythm getting quicker or slower and revealing some sort of a pattern— allowing for a successive shifting of the user's mind between a virtual (mental) space and a real (physical) space. The temporal and spatial qualities of the sound gradually grew to form a spatial stratum over the portico, suggesting events, displacements, movements or happenings to the users' memory and perception. As a result, the sound installation allowed for re-connection or 'acoustic intimacy' between the users and the site.

Voices were recorded with irregular intervals because we wanted to allow the users time for reflection. The projection and cessation of sounds was driven by a simplified Programmable Logic Control system (PLC). Typically, PLC systems are widely used by the automation industry. However in this experiment, the system was used as a basis to create a locative interface between the body of the user and the architectural context. In Sited Moss, the PLC system was programmed to provide some kind of semi-transparent interface that could spark spontaneous connections or interactions between the site and the visiting users. This technology was used to (a) detect visitors' movements, (b) process detection signals, and (c) project pre-recorded sounds on site (sounds of human breathing pre-recorded in a separate location) (see appendix A.4).

This interface consisted of four main components: (1) A PIR sensor to detect user's movement on site, (2) A Receiver for digital signals, (3) A master channel generator: to process data, and (4) An audio player/recorder for projecting pre-recorded or live sounds on site.

The sounds suggested events that the users could not see. The rhythm of breathing, the rhythm of walking, and the rhythm of growing mosses created an ambiguity about the time and the nature of the current experience: Is the soundscapes coming "from the growing moss, the users, or the building? Does it suggest the process of a spatial intrusion or the process of a building's decomposition? Is it happening now or is it a memory?" (Kim & Mounajjed, n. d., ¶ 4). Such questions built up in the user's mind. They created their own narratives linking the actual portico with what they were hearing then or with their personal memory. The sound finds echoes within the user's personal core either by association, or by deduction, and thereby generates his/her own narrative thread linking ultimately the actual site with the user through what he/she currently hears.

Following the pilot interventions, I started to examine the implications of sounds on users' experience. I was interested in the relation between sound characteristics and users reactions. I also became interested in the process of orientation and how people identify with the spatial dimensions through sound. In Body & Matter for instance, when the user enters the last space of the dark labyrinth, a steady rhythm of dripping water on a metallic bucket coming from the last dark room. Based on sound echoes, depth and, participants were able to recognize the spatial dimensions of the room. Although the space was dark, they could tell it was a vast space. Participants also said that they felt a relief to hear the sounds, because they were assured that after the claustrophobic labyrinth, there will be a more open and large space. Also, the stable repetitiveness (sound rhythms) of pattern added another sense of security because it explained that nothing interrupted the sound. However, in this pilot intervention, participants imagined the space to have bigger dimensions than it actually is (see Appendix A.6).

Figure 69 System diagram of soundscapes dislocation

In Sited Moss, voices of breathing, laughing as well as sounds of movement (steps) were projected on site. Unlike Body & Matter, the sounds here were naturalistic and dislocated. The projections referred to events and spaces placed in another location. The projections were irregular, interrupted by sensors and depended on users movements. The spatial pattern was changing promptly; the sound of breathing changed from slow to quick and overlapped the sound of steps. This change in pattern was part of the stimuli by constantly redrawing the attention and awareness of the user to the source of the sound. These different rhythms create ambiguity regarding the time and the nature of the current experience.

The sound allowed for the site to be syncopated, reconstructed, and these constructions of space appealed to the user's personal core (either by association, either by deduction). As De'Oliveira argues, each sound must be evaluated for its own particularities and itself constitutes evidence, so that it becomes as real as the event it portrays (De'Oliveira, 2003). User's response to sound (as a stimuli) depends on the clues that this sound reflects; all noises, voices make sounds indicative of an activity in question (the sound of breathing, walking people or dropping water). The task then would be to locate and/or define the source of this particular sound.

Similarly, the breathing/whispering sounds found echoes within the visitor's personal core inviting her to generate her own narrative thread linking ultimately the actual site with the person through what she heard. The waving intonations of the sound shifted the visitor's gaze between his/her projected potential space and the actual space (as though the voices of breathing took the visitor away from the actual scene and invite him/her to overlay his own imaginative or memorial scenery on the site). Hence, an individual illusionary space is overlaid onto the existing and moss-mapped spaces. And, users were invited to generate their own narrative thread linking ultimately the actual site with the user through what he/she was currently hearing.

In a way, Sited Moss aimed to awaken users to the current state of a familiar site, a site so familiar that they used to ignore it, turning their backs to it when looking outwards. I was particularly interested in the effects of sounds on users movement. This will be discussed further as I discuss my findings below.

6.5 Sentient Bodies

Sited Moss aimed to generate connections between the threshold of a monumental building and its users. The artwork emerged in response to monumentality to introduce 'interactivity, conviviality and relationality'. In this context, the spatial re-appropriation of the portico was actually based on the body sensibilities. As Lefebvre says the restoration of the body was a point of departure for the re-appropriation of space (Lefebvre, 1991) (Mounajjed, Peng & Walker, 2006).

During the exhibition of Site Moss, I observed that moss and sound had effects on the users and the space. And I wanted to explore what these effects were. So I started to look for ways to measure and study these responses. I also wanted to understand how they affect/were affected by architecture. It was important to think of an appropriate research strategy which is flexible and ethnographic. Sited Moss allowed me to think about new research tools to describe and analyze corporeality in this type of environment.

At the start of our project, the study was thought to be mainly interpretive and the research strategy was not fully conceived. The data collected were still straightforward "audit trails" and the protocol was not conceived in a ready form. It was only later that the two concepts of intervention protocol and ethnographic mapping matured. Even so, a number of ethnographic tactics were used in Sited Moss. Indeed, I mapped, interpreted, and re-presented the first intervention. I mainly relied on my interpretation on recordings, images and personal observations. For instance, I used my notes collected on-site during the installation. I also referred to users comments and discussions as data.

When we asked the users about their experience in Sited Moss, some indicated that the intervention changed their perception of the space in some way, whereas the installation remained unnoticed by others. We believe the reason for this is that the mosses and the sounds were originally natural spatial elements from this site; they were thought to be an existing aspect of it.

Despite some confusion around the presence of the mosses and the origin of the breathing sounds, users' comments generally show satisfaction and contempt with the space of the portico after taking awareness of the installation. This is clear through the verbal response of some visitors ("very nice", "nice" etc.). Users seemed to not mind staying in the portico even during the preparation period. This is perhaps due to the lack of artificiality in the work; also it is because the nature of the mosses and the voices projected on site. Both mosses and voices of breathing find echoes in the users' core and invite them for reflection and recollection of previous experiences.

Interviewing was used during the intervention to gather some data about users' feelings, perceptions, and recollected experiences about the space. We were interested to know about the impact of the installation on their spatial experiences. Did they change their behaviour? Did they feel that the space of the portico became more, or less, intimate with the installation? Some of the comments we gathered from users included:

> *"Nice! I didn't realize the mosses at the beginning until you asked me to mind the moss!"*
>
> *"It looks really natural."*

"I got confused because I wasn't sure whether it was always like this or not."

"Very nice"

"Oh, this cleaning staff — they are so lazy!"

"I really love it and I think it is absolutely beautiful; the seed of a nice project."

Figure 70 Users in Sited Moss
The images show the users and their different spatial practices in the space of the Portico.

We noticed three types of reactions from users: the people who immediately saw the mosses, the people who were confused ("*Was it always like this?*"), and the people who did not notice the mosses until we warned them to "mind the moss!" But most importantly, a number of users started to enjoy and pay attention to the site. They made associations with previous or possible future experiences and this imaginative projection proved to be a key aspect of this experience. A discussion with the conference participants was also useful to inform the study because it was focused on the methodology, concept, and techniques behind the creation of the work. The feedback emphasized the nature of the work and the relationship between the different elements of the intervention (the mosses, the soundscapes, the users, and the architectural space).

As I argued above, one of the aims of the installation was to turn the perceptual behaviour of the user from a passive one (performatory and executive movements) into an active attitude (exploratory and investigative movements: towards pickup of stimulus information by adjusting and orientating their sensory and motor organs) (Gibson, 1966). J. Gibson argues: "*perceptual systems are ways of seeking and extracting information about the environment from the flowing array of ambient energy*". By appealing to the users' consciousness, the installation aimed to offer the public an awakening to the current state of a familiar site, a site so familiar in fact that they had come to ignore it, turning their back to look outwards. In other words, we wanted to turn the perceptual behaviour of users from passive perception (unconsciously driven) into an active perception, in which the viewer consciously explores aspects of the space (i.e.: voices, materiality etc).

Before the intervention, we noticed that people tended to occupy the space in different ways. As shown in Figure 71, sometimes the portico's periphery became a shelter or a pavilion, where controlling and monitoring the surrounding activities was possible without inconvenience. The individual activities such as eating, reading, resting, enjoying the sun, and so on, were completed by the contemplation of the nearby environment. However, when these activities were made in couples, the users often looked for a particular spot, an intimate place for private discussion. In groups, the usually users sat on the floor and inhabited the centre of the portico, slightly leaning towards the borders in order to catch the sunbeams.

Figure 71 Portico users
The images show the users and their different spatial practices in the space of the portico.

It was interesting to see how the work was effective in influencing the behaviour of the users and their movement on site. When Sited Moss was set up in the portico, ethnographic findings showed that the behaviour and movement of people was slightly modified. Users gathered close to the source of sound, in the zone which produced a different sort of acoustics (by curiosity or interest). When they knew that the breathing sounds were not real, they tried to explore the echoes on different locations of the site. (The sound was flowing through the portico and coming in waves on site, sometimes it gave the impression that it was concentrated in zones). After this, users would go back to their original behaviour. During the installation, we observed that the installation subtly modified the quality of spatial experience in the portico. I already explained mapping memory in the site. Figure 72 illustrates the process of mapping sociospatial practices in Sited Moss. It shows patterns of behaviour.

Users not only started to enjoy and pay attention to the site but also started to make associations with previous or possible future experiences, imaginative projection proved to be a key aspect of this experience; (i.e. the association with previous visits to the site: "was it always like this?" or linking it to other urban sites from the discussion written above) and this memorial and imaginative projection does not refer to the real space but exists alongside it; the distinction between the actual/public space on one hand and private/illusory realm of the user, on the other, seem to be difficult to define; the user on the one hand surveys and evaluates the installation, and on the other, follows those associations, recollections which arise in him. There exist a double action work—the experiencing of the illusion and *simultaneously* the introspection on it.

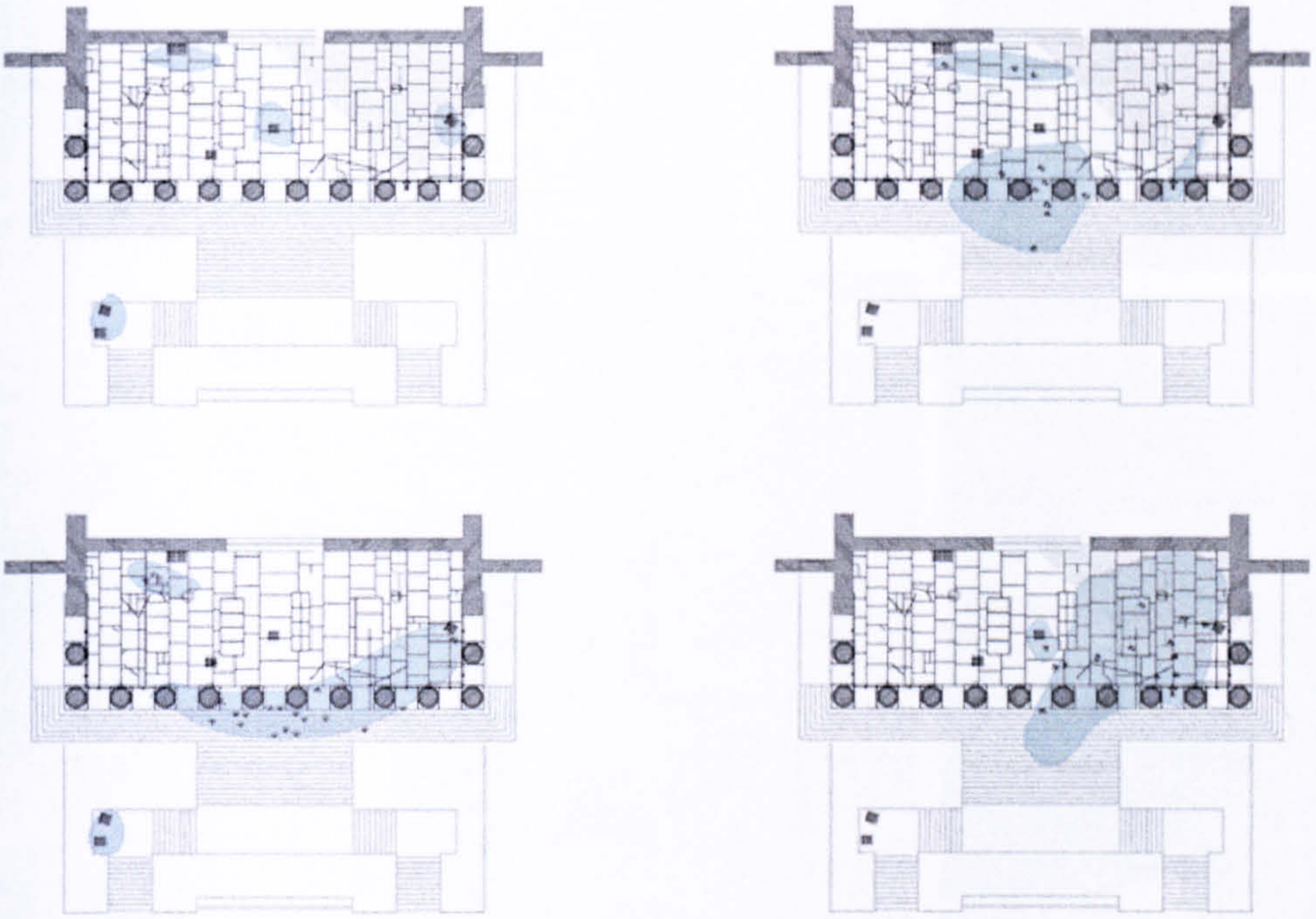
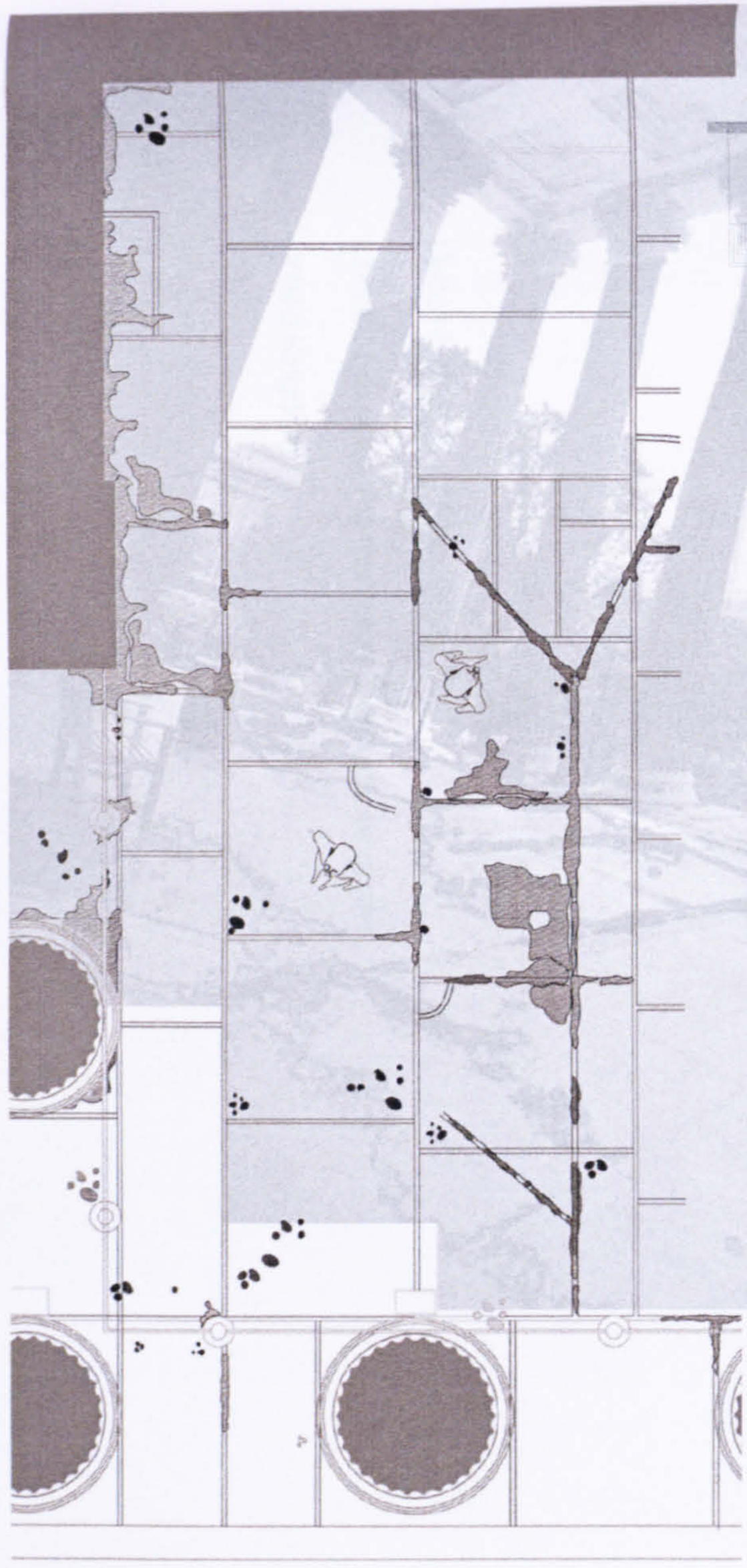


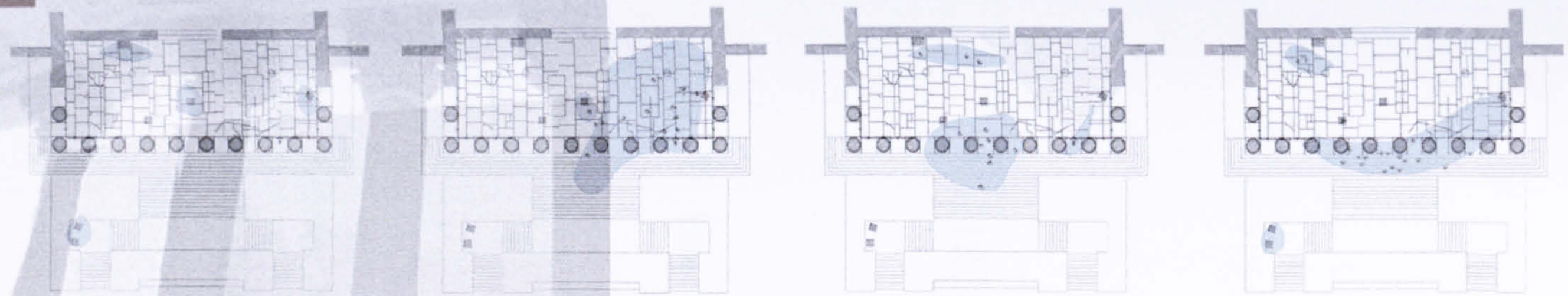
Figure 72 Mapping sociospatial practices in Sited Moss
The images illustrate a mapping process of the users' movements on site. Below left: showing a mapping of the whole space in one moment in time during the intervention. Below right: showing a plan of the western side of the portico with the mosses and participants exploring the space of the Portico. Top: sequence of mapping users' movement on site, the images are arranged from top left corner (anticlockwise); the blue marks represent the areas of users' movement or location: 1) a few users sitting in different spots; 2) conference attendees entering the portico; 3) users exploring the soundscapes in the eastern corner; 4) users walking and looking at the mosses, talking to each other or leaving.

Based on my basic evaluation, I noted that Sited Moss echoed, contested and extended the users sensibilities in the portico. Sited Moss was very focused on the body of the users. It conversed with body sensibilities on various levels. For instance, the users breathing and sweating was invisibly related to the moss (through moist and growth), and to sounds through perception and memory. On the other hand, Moss had small but visible effects on the movement of people. Findings showed that users gathered close to the source of sound with curiosity and interest, particularly in the zone where different sorts of soundscapes were produced. When they knew that the breathing sounds were not real, they tried to explore the echoes on different locations of the site. Then, users would go back to their original behaviour.



1m. 2m. INSTALLATION PLAN

MAPPING USERS MOVEMENT AND SPATIAL PRACTICES IN SITED MOSS



Sited Moss: Invading or Fading Architecture?

memory / acoustic intimacy

[DIS]LOCATING SPECIFICITY

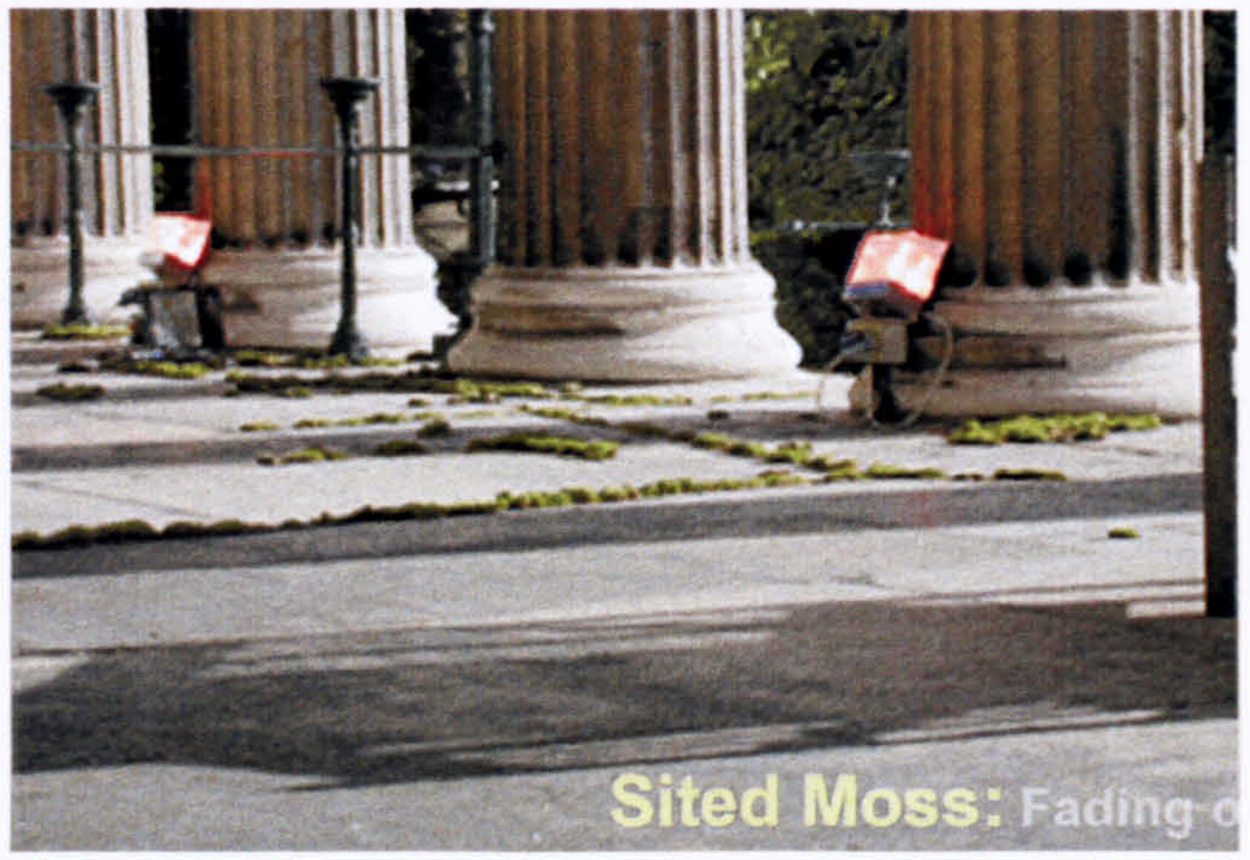
London 2004

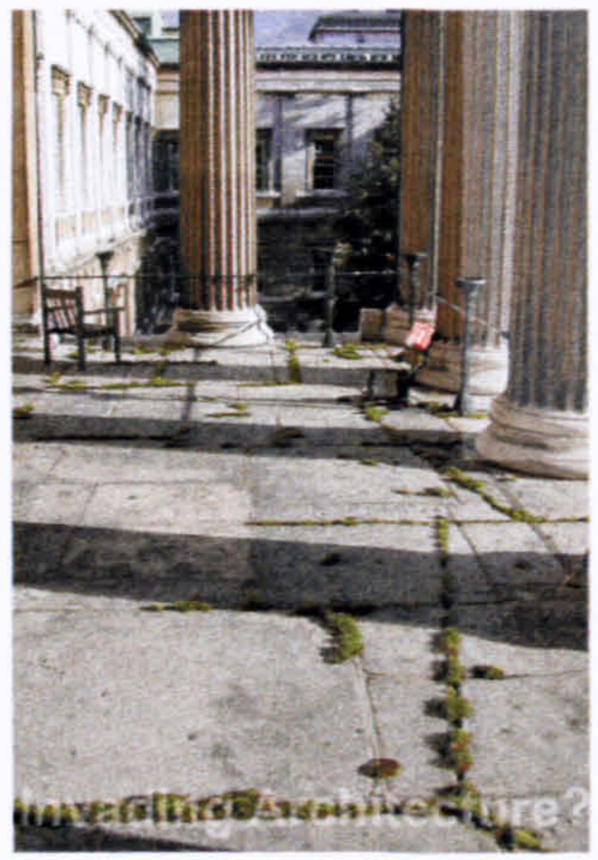
Sited Moss consisted of mapping mosses and soundscapes on the space of the Portico, located in the main building at UCL. The work aimed to question site specificity and the concept of decay. The Portico generally collects memories, Smells, scratches, textures, and voices. Sited Moss traced some of these memories and aimed to re-present hidden aspects from this active site.

Mosses emerged naturally as the main material to work with for its ability to perceive the cracks and gaps in order to settle and develop: the moss as a decay detector. The moss map covered the whole floor of the portico. And each deteriorated spot on the floor was mapped with a particular type of moss.

Sounds of breathing, movement and whispering were also projected in the space of the portico. The rhythm of breathing, the rhythm of walking and the rhythm of growing mosses created an ambiguity on the time and the nature of the current experience: 'Is the soundscape coming from the growing moss, the users or the building? Does it suggest the process of a spatial intrusion or the process of a building's decomposition? Is it happening now or is it a memory?'

By using mosses and breathing sounds on site, the work referred to the notion of ruins and aimed to question the untouchable status of this monumental building. When experienced, Sited Moss offered an instantaneous reading of the memory of the space; it helped to awaken the users to the current state of a familiar site... so familiar in fact that they used to ignore it.





Chapter Seven

7 Intervention II: A Reference Project

Under Scan: Relational Architecture #11

By Rafael Lozano-Hemmer

December 2005 – March 2006

Lincoln, Leicester, Northampton, Derby, Nottingham

United Kingdom

7.1 Under Scan: Background & Significance

"Relational Buildings are real buildings pretending to be something other than themselves, masquerading as what they might become, asking participants to question, interact and experiment with the false construct." Rafael-Lozano Hemmer.

Rafael Lozano-Hemmer is a media artist with a great interest in architecture. His series of interventions entitled: "Relational Architecture" provided an innovative use of virtuality and the interface in an architectural context. And his work was particularly interesting in the way it mobilizes technology in the service of social imagination. Examples of Lozano-Hemmer's work include 'The Able Skin' (1997), a media structure and a virtual reality installation in which participants travelled around the Able Skin covering Palladio's Villa Rotonda. The participant's motion controlled the point of view in the projected environments on the wall and the floor. Another example could be seen in a tele-absence interface used by Lozano-Hemmer (1997) in his 'Re: Positioning Fear' installation in Graz, Austria. In this work he used tracking systems to focus on the shadows of passers-by and to generate sounds; a real-time Internet Relay Chat (IRC) discussion about the transformation of the concept of 'fear' was projected inside the shadows (Lozano-Hemmer.com, n. d.)

The human body is important in Hemmer's work. Most of his work remained strongly dedicated to body movements, shadows and sensibilities. One example on this is his idea of intuitive interfaces, which uses technology in a way inherent to body sensibilities. his work also put forward a body in action which is involved in re-appropriating, re-presenting and dematerialising architecture. His relational interventions became a way to suspend the boundaries between the public/private space and to question power relations in public space. For these reasons, Lozano-Hemmer became an important reference for my research. Many concepts and terms emerged as I was reviewing his work, not only on the level of virtuality and the interface but also in terms of strategy. His recent intervention: Under Scan has acted as a paragon case to my work. Studying his work refined my research methodology. And his understanding of relational buildings was valuable to my study of relational interfacings.

Under Scan: Relational Architecture #11 was the eleventh in the "Relational Architecture" series that Rafael Lozano-Hemmer has designed for cities in Europe, Asia and America over the past ten years. Under Scan was a large-scale interactive video installation. It was exhibited in different cities including Derby, Leicester, Lincoln, Northampton and Nottingham. The work was based on a sophisticated shadow play in which highly complex and powerful projectors cast video into people's shadows in the public space. The piece created a platform for people to engage in relationships with each other through the representation of video-portraiture. Video portraits were projected onto the floor. Local people and artists had previously filmed a thousand video-portraits for this purpose[26]. As shown in Figure 73, these portraits were deliberately projected onto the path of the passers. Portraits "took over" users' shadows and the portrait subjects "looked out" at the public (Mounajjed, 2007a).

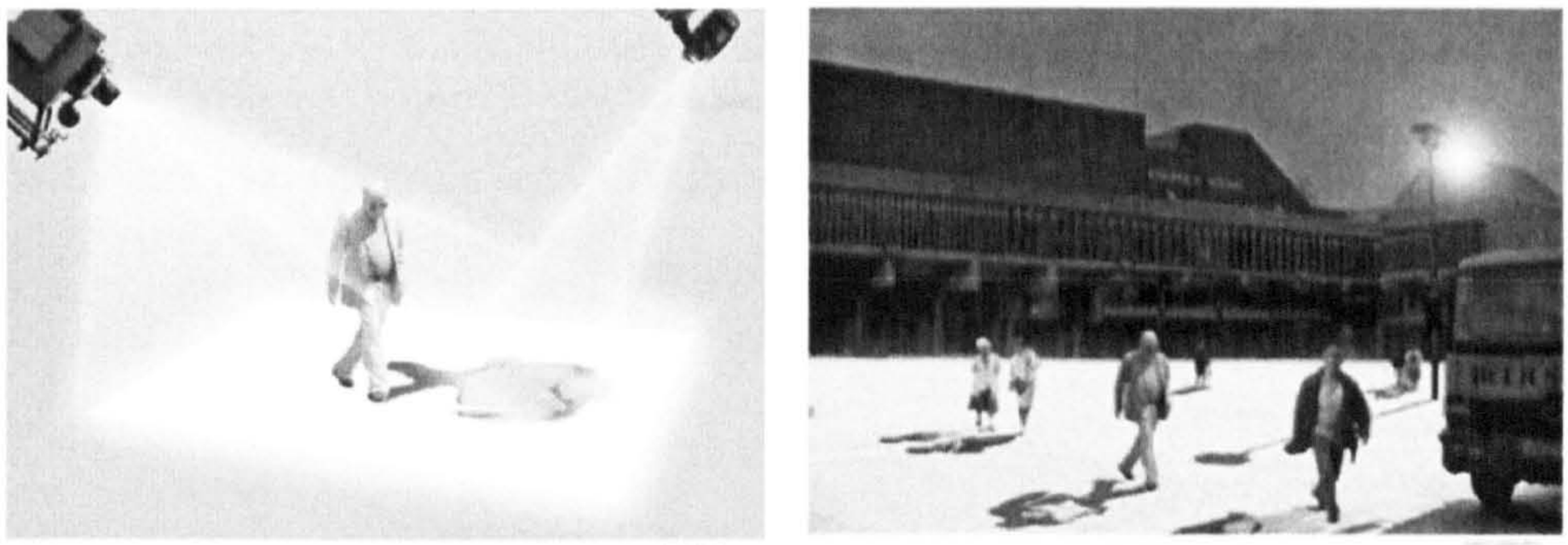


Figure 73 Early conceptual sketches for the project
An artist rendering of a 3D representation of the project in context: Lincoln in Under Scan, Lincoln, 2005. It shows video portraits projected on the ground, inviting users to interact (R. Lozano-Hemmer, personal communication, January 4, 2007; image used with permission).

Rafael Lozano Hemmer had established a general agenda for his art practice. He followed a strategy to document and map his artworks. Most of his interventions incorporate a level of site-mapping by overlapping, trans-locating and writing-over sites. Under Scan, for instance, used a virtual map of portraits and implied a model of sociality, memory and institutional critique. Moreover, his notion of the interface as shadow addressed the body of the audience and issues on collective memory.

In his practice, the artist was already working with a protocol-like strategy, in the sense of a diplomatic plan. His team involved technicians and artists. And he developed a system to incorporate his research within his art practice, which marks a crucial intersection of discourses and practices and sites, which define the intervention within a definite social/architectural formation. He used a complex configuration of methods and interface analysis. The artist was clearly interested in the outcomes of his interventions to improve his practice. And he followed something similar to what I defined as ethnographic mapping. During the intervention, the artist was on site, observing, interviewing, and recording the participants' views and behaviours. His attitude resembled an ethnographer: he carried his camera, talked to participants, and observed the work. The replication of his artworks was a natural part of his practice. And his art pieces toured various cities and were replicated in different context with different audiences.

My personal interpretation of Under Scan involved looking at the different aspects of the work including implied mapping processes. I studied the intervention's reference to memory, sociospatial practices (interactivity, movement, and social integration) and the effects of video-portraiture and the interlude. And so site-mapping became an important aspect of my discussion, helping me to analyze the piece. However, my direct involvement in this particular intervention was focused on ethnographic mapping.

Ethnographic mapping involved recording, documenting, and representing the events. Sixty interviews were undertaken with the artist, technicians, and the general public. Interviews varied in depth and length (from 3 to 30 minutes, whereas the interview with the artist lasted for 50 minutes). I debriefed participants on their experiences. I wanted to know how they responded to, felt about, and interacted with Under Scan. More specifically, I was keen to know what they thought of the different virtual settings (i.e., video portraits or interlude) that were projected during the intervention.

7.2 Video Portraiture

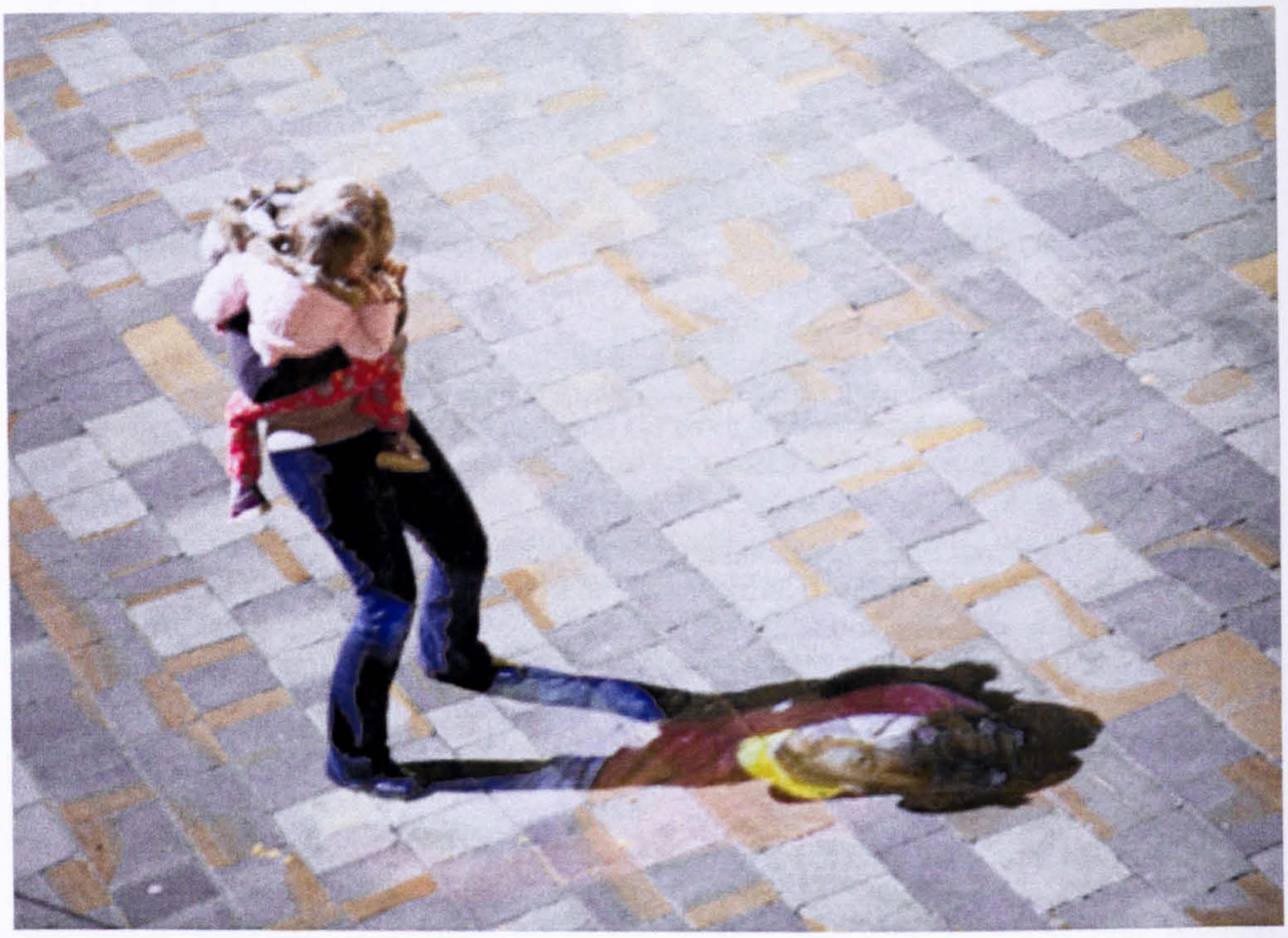


Figure 74 Interaction with the portrait
A woman and her daughter interacting with one of the portraits, the man in the video is looking at the user and waiting to move. Source: www.lozano-hemmer.com

>> As you walk into the piece a powerful projector would cast your shadow on the ground and you would encounter the image of a person lying inside your shadow.

>> As soon as you fully uncover the person with your shadow the portrait "comes alive" and begins moving until he or she are looking straight at you. At this point the portraits makes hand gestures, send you kisses, take off their clothes, show you written statements, invite you to dance, take a photo of you, communicate by sign language, nod for you to go away.

>> For as long as you are looking at the portrait it will remain engaged, as if suspended, repeating actions at different speeds and making eye contact.

>> As you walk away the portrait would likewise lose interest in you and go back to sleep and, after a while of not being activated, would fade away and disappear. (Hemmer & Hill (Eds), 2007, pp. 9-10)

Hemmer chose to work with self-representation of video-portraitures to allow for new experiences of public space. His aim was to question the isolation (or solitude) of the passers-by in public space. And so the piece involved projecting portraits, which would invite interactivity and where each participant engages in a mini narrative. In this context, video-portraiture became a direct way of 'acting' out identity. Like a phantasmagorias or ghost-like presences, it would react to people in an intimate way (Mounajjed, 2007a). All of this to say: that the portraiture is a way of folding identity; it is a way of folding presence back into that alienating environment. Here, the passer-by became complicit with the whole artificiality of the construct and were invited to make his or her own choice of self-representation.

Space in Under Scan served as memory triggers for the audience to imagine what remains invisible (i.e. surveillance, identity, locality). Like Sited Moss, the intention here was to look beyond the meaning embedded in buildings/spaces that certain sites represent, and focus on the underlying meta-narratives implied through architectural representation.

Body-portraits were varied. And each participant had a different experience; some characters were frightening; one was feeding something in her mouth, a guy was rowing. Another one trying to get out. A fourth character was shouting. And so on. Most people interacted and played with the different portraits by mimicking them and checking the video subject's response. Most people got involved with multiple portraits and stayed between 15 to 20 minutes (Despite the cold weather). Some participants stayed even longer.

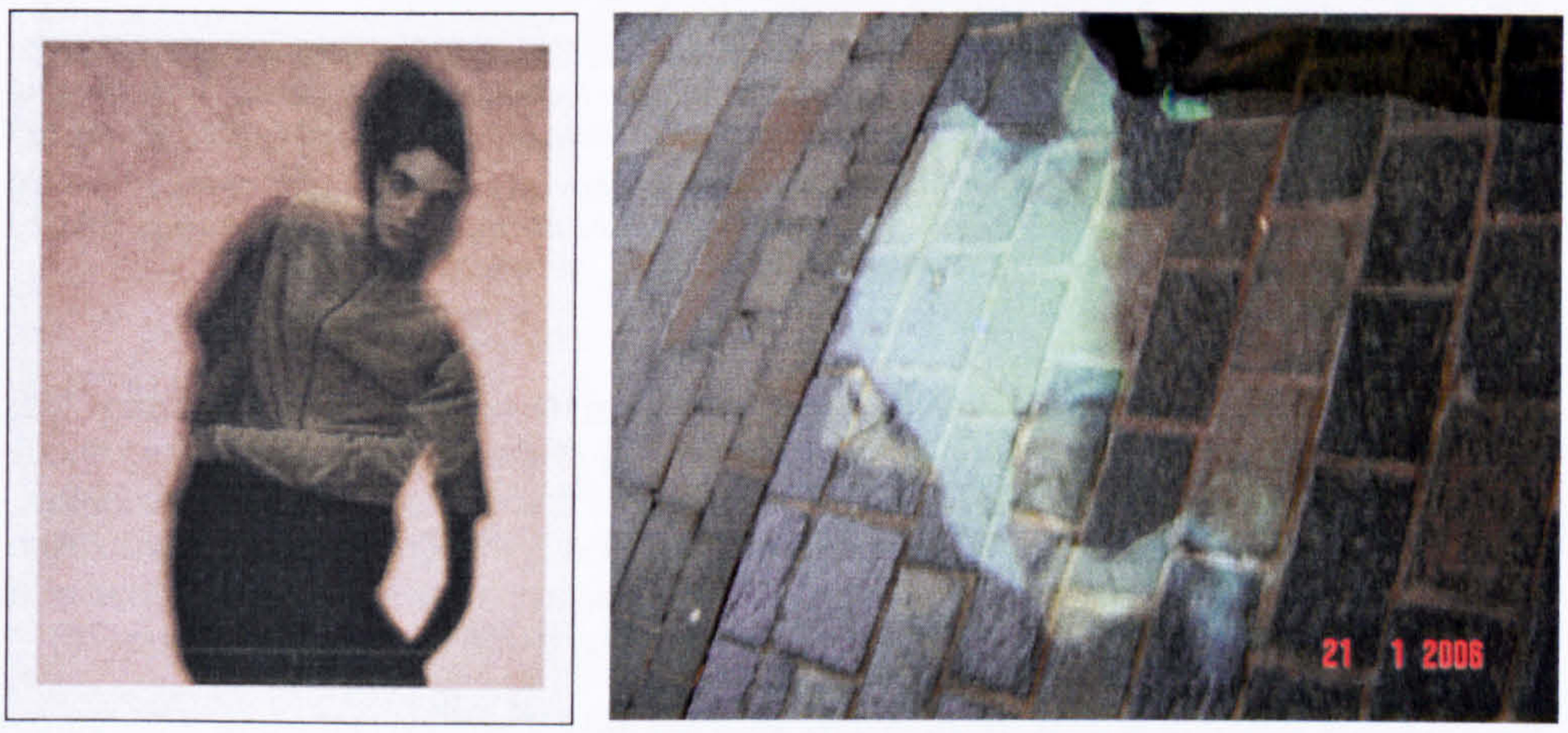


Figure 75 Video-Portraits in Under Scan

"There was a man rubbing his back, He looked like he was dancing on the floor, and weaving; it was a bit of a Michael Jackson thing"

"I haven't picked that one, I picked the one over there that did the tongue out at you when you are there they lied down but I haven't realised about the others. I didn't know that as you stand in front of them and cover with your shadow, then they kind of do things and then you should go" (Mounajjed, 2007b).

"When you are playing with them then you would automatically move your head closer. I was behaving stupidly because I wanted to stand on them. I don't know why but when you see them it just brings out this feeling inside that you want to jump on them. I don't know why" (Mounajjed, 2007b).

Under Scan did not involve sound projections. The portraits were mute. One reason was to avoid cacophony. In Under Scan, playback would have been a problem because what would work is for the sound to originate at the projection itself and technologically this was not easy to solve. This disconnects between the presence and the voice coming from elsewhere would be disturbing (Mounajjed, 2007a). Another reason for not using sound was that if portraits talked this would require a conversation: "it is reasonable to expect them to listen and understand you" (Mounajjed, 2007a).)

The fact that the portraits were mute allowed for a certain distance, highlighting the ghost-like qualities of the project. However, the messages that the portraits were sending to users allowed them to bridge this distance (Mounajjed, 2007a) (see Figure 75). There was a sense of desire to communicate; some of the portraits were doing the sign language. Another character was pulling out little cards and writing on them to attract attention. Other portraits were speaking to the users very slowly so that they could read their lips. So, this did not hinder or stop conversation. Each of the portrait subjects was trying to do something to stimulate the public (talking, dancing, rowing etc). In response, people were trying to communicate with the subjects of the video portraits.

Some people thought they might see themselves—that their images would be projected among the portraits. 'I definitely haven't seen any one that we know yet. It might be a bit scary to see someone you know in the portraits. I think it can be disconcerting' one man said. They expected a camera to film them and project the images in real time. This encounter between the body and its same other was only possible with people who participated in the production.

> *"How long do people spend here looking for themselves? I am hunting to find me. It is taking ages. ... I would like to see myself in the floor. I have been filmed for this, and I have been waiting for being projected on the floor—thinking that I will be the lucky one." (Mounajjed, 2007b)*

Children were amongst the most engaged participants. Despite the fact that many kids found their shadows to be smaller than the actual size of the portraits, they would shout, jump and stamp on portraits. They asked their parents to stand with them to get the interaction. According to the artist, the reason for this fascination is that children have fewer reservations in a social context; adults were taught to maintain a physical and psychological space around people while children do not have that need to the same extent. (Figure 76)

Throughout Lozano-Hemmer's work, the body of the passer-by was constantly encouraged to breach against the limitations of its biological physicality with biotic components. And the division of nature/culture was replaced with a field of virtual intensities. Hemmer precedent works often introduced the virtual dimension in this context. His previous work asked its audience to perform and participate in the virtual re-appropriation and dematerialisation of architecture and urban spaces. His pieces would only be considered successful if the intervention could actively modify the point of dynamic equilibrium between the public's actions and the building reactions, and vice versa (Mounajjed et al., 2006b). This often led to new actions in public space.

During my 'ethnographic mapping' process, I could identify a certain pattern of movement or behaviour as users engaged with Under Scan. First, I observed that the way people moved in the space of the installation was different from the normal movement in public space. More specifically, there was a sequence of movement in response to the portraits in particular: when he/she perceives the piece, the passer-by in Under Scan would start looking; then shuffling; stopping; staring; standing on the portrait; mimicking the portrait's movements, talking to others and looking at it—at this point he/she was clearly engaged and became part of the installation (Mounajjed et al., 2007c).

Figure 76 A girl interacting with a portrait in Under Scan

> *"I like to jump on their heads; I go around and jump on all their heads!"*
>
> *"It is nice. I am watching the spirits! I like the spirits. I think they should do some Christmassy ones... How do they do these movements? ... How do they make humans on there ... Do they go to bed and then they come on in the morning?" (Mounajjed, 2007b)*
>
> *"That one scared me. But I am not scared now ... but it is strange! You look at them and, in one way, they look like they are real people and then they disappear or they move or something and then they kind of pop up again. They look like they are real, and they see you doing that. It just feels like they are seeing me when they wake up and they suddenly start moving. They are real people! But they are not actually there but it is like they are. It is strange!" (Mounajjed, 2007b)*

7.2.1 Surveillance versus Performativity

Under Scan challenged the politics of 'de-naturing' or 'homogenization', which are characteristics of contemporary culture. According to Hemmer, these politics have set up a 'disconnect' between people and their environment. In such context, architecture starts to represent some sort of a corporate, global, trans-national, homogeneous ideal. And public space has become in crisis, and this crisis comes from different urban phenomena, the most important being 'globalisation'. Under Scan aimed to highlight this phenomena by questioning the very idea of homogenization through surveillance technology. The idea is also to invert the very notion of surveillance.

Under Scan made use of surveillance technologies as a feedback to record and map the meta-narratives by interfering through thousands of video portraits in public space. The mapping happens with each encounter between a virtual and a real body (portrait vs. passer by). This powerful use of surveillance, where the body is turned from a data point on the camera into an encounter, not only questions the homogenisation of public space but also symbolises and inverts 'the homogenization of the body' in public space – where the virtual takes place on the other side of the mirror and instead invades the very intimate corporeal space.

Hemmer exposed and deconstructed the power asymmetry that has been exerted through surveillance technologies. By doing Under Scan, Hemmer wanted to ask: "What would happen if all surveillance cameras became projectors? What if instead of taking an image away from us, and assume we are suspicious, tracking systems offered us images, and they created a reality? How can we construct exceptions to trends of globalizing urban homogenisation?" (Mounajjed, 2007a). In a country like Britain, this question becomes particularly relevant, especially when we know that Britain is at the forefront of surveillance to a degree that now it became normalized and widely accepted (Mounajjed, 2007a).

Through this work, Hemmer focused on the predatory nature of visual technology. Under Scan reversed the order of surveillance and made use of eye contact as a way to establish an endless mirror between representation and the public. This was inspired by the *mise en abime* described by Michel Foucault in *The Order of Things,* which dismantles the presumed objectivity of the viewer. Whereas surveillance uses observation to objectify the body of passer by, Under Scan used the same system to project back intimate rapport and subjective experiences within public space.

In order to provide the necessary transparency of this inversion process, the artist chose to present the effects of surveillance by screening the interaction on an exhibited small screen in the space of Under Scan (Figure 77). At all times people could see the tracking system interface to understand how the project worked, this was publicly shown in a small monitor next to the explanation of the piece. The projection and re-presentation of surveillance was motivating to the users, as it reflected their behaviour on site. One could see passers by standing in groups or individually and observing their interactions through the screen. I even referred to it to analyse users reactions and sociospatial distribution in the work.

Figure 77 The surveillance camera as data source
Under Scan, Nottingham, March 10, 2006. Three sequence images were photographed from a monitor for the display of surveillance system. The artist shows these real images captured from the cameras surveillance of the site. Those were real-time images taken from above by a surveillance camera and projected onto an exhibited screen. The bright spots on the pavement reflecting the video portraits in action; the different silhouettes also reflect people gathering around the portraits or scattered in the space. This forms data from the video feed and then showing it in 3D. To position the portraits accurately we need to know the three dimensional location of the actual projectors

7.2.2 The 'Other' Body

Figure 78 A woman interacting with and mimicking the portrait in Under Scan

> *"I was copying one myself. They do seem to be asking you to do something, don't they? Most of them are trying to get you involved. The movement that they do is quite funny really because I don't know what they were asked to do when they were being filmed. I mean a lot of them seem to be sort of asking for things. Somebody down there was taking photographs. Nobody was trying to frighten you!" (Mounajjed, 2007b)*

The shadow forms a very intimate and integrated aspect of the body. The technology used allows for virtual components to redefine not only the relationship between body and public space, but also the very intimate space of the body itself. And Hemmer's intervention through virtual portraiture in this intimate side of the public body challenges the division between public and private. In this sense, Under Scan challenges the concept of *lebensraum* (in the sense of confined and defined territoriality of the body) because the portraits are over-

laying the person in the video portrait and that is already charged politically, socially and sexually. "If I am too close to you, you will be uncomfortable because you want your "living space": people go out of their way to maintain that *lebensraum*" (Mounajjed, 2007a).

By doing this piece, Hemmer allowed for political crossings, if I use Haraway terminologies. The horizontal mapping of 'an other' body in the intimate space of the user's body allows for a suspension of spatial boundaries between what is known as a whole defined body and a cyber body. This suspension of boundaries helped to incorporate the cyber components of digital age in the space of the body. Under Scan contests the anonymity of the users by mapping and overlaying another body on the shadow.

7.2.3 Social Affects

The discussion n Figure 79 took place in a group while interacting with one of the portraits. Like those, most passers by gathered in groups to discuss and play with the portraits. As a result, public space became "friendlier", "livelier", more "intimate" and "inviting". The installation reanimated public space and allowed interactivity and representation as part of the spatial experience of passers-by. Particularly in a site like Lincoln, this installation helped to bridge a "dead area" next to the entrance.

Under Scan provided a model of sociality through art. Like Bourriaud argued in his relational aesthetics, the work provided a antagonism towards its context, by rethinking the social and communal effect that it could have on the passers-by. Architecture is understood more widely as comprising the architecture of social relations, of surveillance, of fleeting exceptions...

> "Contrary to many artists working in public space I am not trying to understand or criticise the underlying political, aesthetic or historical structures of a specific building, but rather I am seeking to explore the temporary micro-politics of relationships that emerge in an environment that dissimulates being something other than itself. That is why most of my pieces tour. I always look forward to seeing how the same platform will behave in a new architectural context." (Mounajjed, 2007a)

Under Scan brought to light a new public playful activity and a practice that lies in-between gaming and performance. This brings us to a new kind of social interface demonstrating clearly that the museum portal has met its match in the cultural sphere (Druckrey, 2003). As one participant argued: "[n]owadays, people use images to communicate through video conferencing and emails etc. Rafael Lozano-Hemmer questioned how we interact with each other through the media. Instead of meeting up with people, we are meeting with images of people, they act, they move and they talk like real things. It is like a parody of meeting a real person in a public square". (Mounajjed, 2007b)

Interactions ranged from contemplation to full complicity. And this generally depended on a participant's age and on projection setting. Older people took a contemplative role (an observer role)—watching other people interacting—while younger adults and kids were more playful, engaged and curious about the piece. But even having a contemplative behaviour is also enjoyable for some participants: "I think it is really interesting to see how people perform when they see the shadows or how they move or how they interact with the shadows" (Mounajjed, 2007b). Some users regarded Under Scan as a conversational piece– bringing people together from different ethnic groups, ages and background, and giving them something to talk about and play with (Mounajjed, 2007b)

Figure 79 Under Scan in Lincoln, December, 2005
Source: www.lozano-hemmer.com

P1: These are fantastic. But there was this girl in the portrait; she wouldn't play with us anymore; she just went back to sleep again!

P3: This one is our favourite. He is quite cute!

P2: He switched off and went back to sleep again for a little while, but we only played with him a bit… Oh, here he is back again!

P1: She is really looking at us!

P3: That is a man. He is cute…

P1: No, it is a woman. I don't know what is going on, it is a girl!

P3: But I think it is a pretty boy…" (Mounajjed, 2007b)

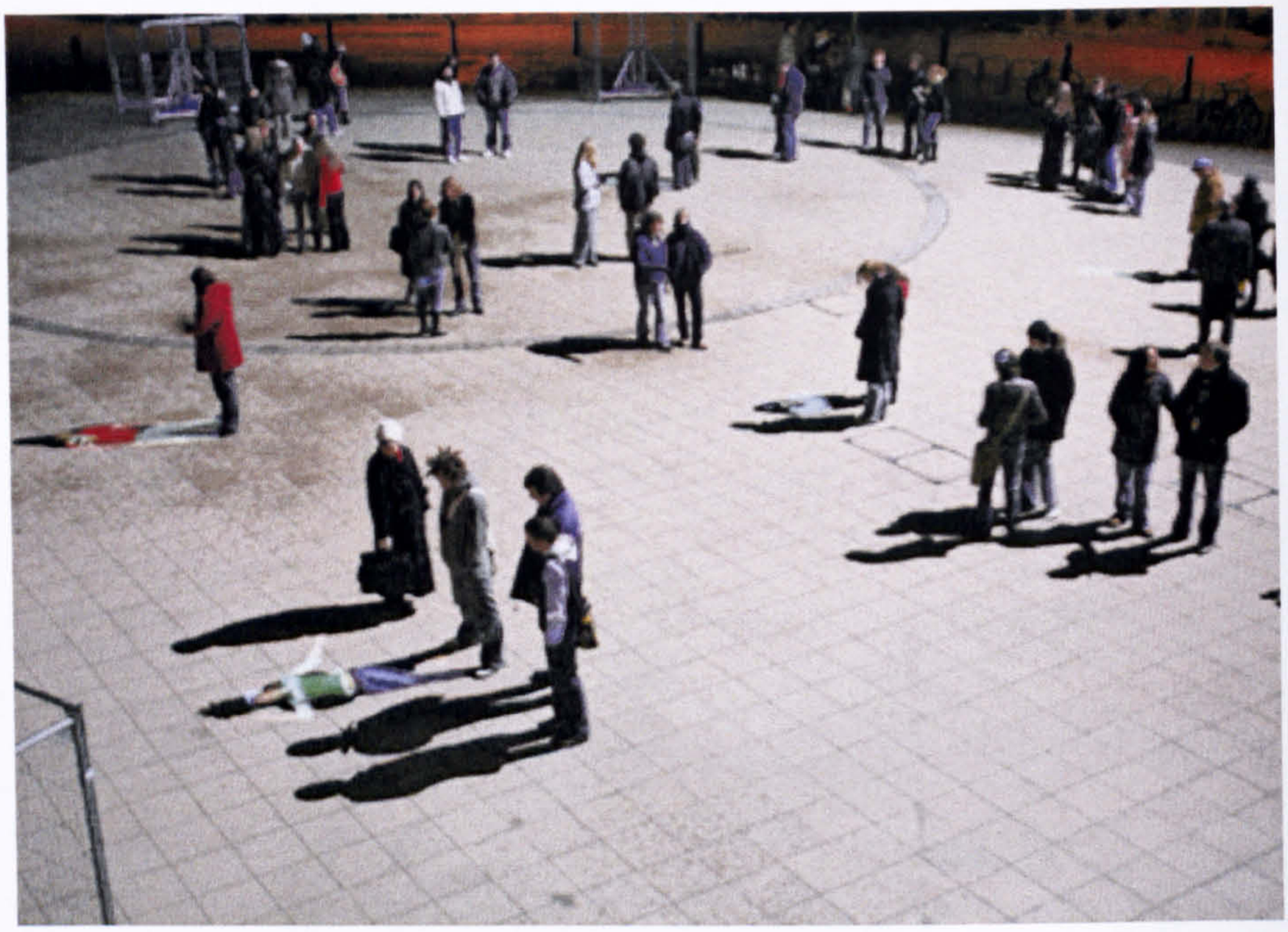


Figure 80 Users standing in groups: socializing and interacting with the piece

> *"Usually in concrete spaces like this one, you usually wander through. Normally you wouldn't walk through an area in Lincoln and do things that you do with your body generally. You wouldn't do that this time at night in a Saturday evening in Lincoln. Would you?"*
>
> *"I think it might have social dimensions because it is changing some aspects of the social engagement in public space. People would not be here if it wasn't for this. So it needs something else not just the space. It needs something to bring people to the space; to get kids out in the space. I don't know what this is doing but people are still coming. Certainly tonight it is working!" (Mounajjed, 2007b)*

7.3 The Interlude

In order to restart and redistribute the portraits, the system periodically needed to stop the projections for a short time. This switching period was called 'the interlude'. During the interlude, the video portraiture was turned off; the light projectors that created the intense shadows were shut down and a moving grid of lights appeared on the ground. Figures 81, 82 and 83 illustrate the interlude setting, which was projected every 7.5 minutes. Initially, the projection of the portraits was intended to be the dominant part of the interaction. Yet surprisingly, the interlude proved to be enjoyable and highly popular with the users. In an interview with Lozano-Hemmer, the artist related this to the fact that the interlude provided a breather or "a moment when participants could suspend their disbelief or their act of faith" (Mounajjed, 2007a).

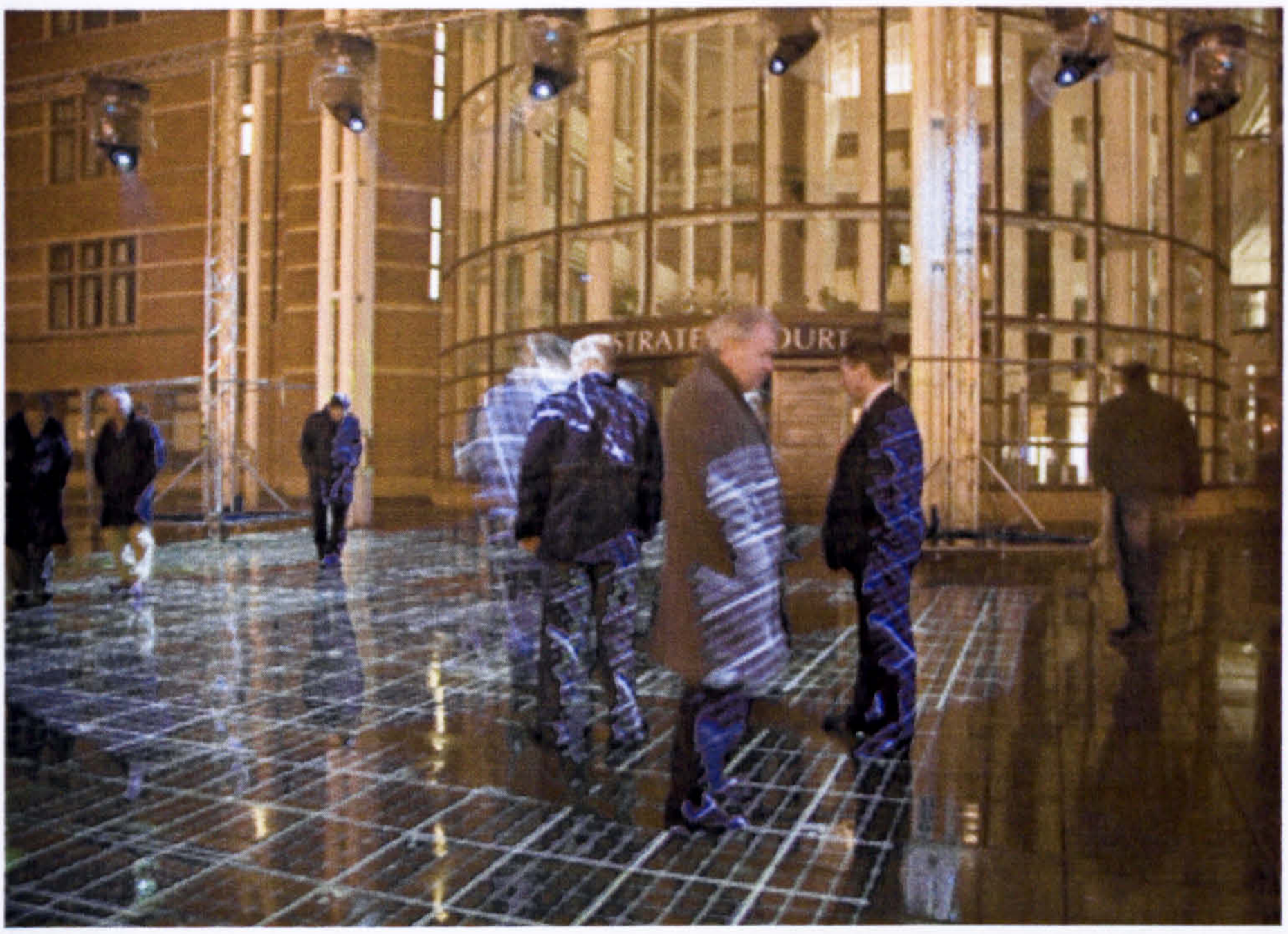


Figure 81 Participants experiencing the Interlude, Nottingham, March 10, 2006.
Source: www.lozano-hemmer.com

> *>> Every seven minutes the entire project stops and resets, with the tracking mechanism revealed in a brief "interlude" lighting sequence, which would project all of the calibration grids used by the computerized surveillance system. (Lozano-Hemmer & Hill (Eds), 2007) (Appendix D.1. DVD 1)*

The interlude provided an unusual experience for passers by – sometimes even more than the video portraits. Participants' behaviour changed suddenly from a calm/contemplative attitude to a more active and instinctive behaviour. Users would run with the moving projections and the space suddenly came to life. Kids and youngsters gave different names to the interlude like 'scanning' or 'grid' or 'chess board'.

The fact that people liked the interlude more was an interesting and surprising result. The interlude was a technical effect. To know that a video projection of a computer screen can have all that effect was a very interesting finding, as one of the audience suggested: *"it is frightening that most people like the interlude better! Just put shining patterns of colours and things just like in traditional video projections style. Or projection of moving image on the floor with lots of patterns then people would like that. This installation is trying to say something more than that!"*

In fact, it is this performative character of the piece which is central to the piece, users felt like acting on a stage or standing in a theatre. So the moment of the interlude became equivalent to the moment of 'noticing of the knots'. Something similar to a Brechtian moment, as the artist explains, "where the simulations stop and people are asked to confront the mechanism for the deceit—the periodic "interlude sequence" in the case of Under Scan" (Mounajjed, 2007a). This adds theatricality to the pieces because already people have a sophisticated vocabulary of what can be done with a shadow.

Figure 82 Interactions with the Interlude

"I like it when it all sorts of goes off and they have the lights where; the way that makes you feel, because it is very strange feeling... because that is like an activity; there is an impact, or an event, or something, and people go: 'Ooh!' That is interesting!

As soon as that light went out you get the whole effect! ... You see it comes to life... They had all the squares. That felt really wicked because they were moving but you were not and it makes you sense that you should move but you are not actually moving." (Mounajjed, 2007b)

...

"Oh... This is the scanning it is scanning! ...I like the way it moved around! Well, it is confusing; I try to run with the lines but it is too quick!" (Mounajjed, 2007b)

"...And it is dead freaky, you know, when the squares start and it makes you dead dizzy when the squares comes and then if you follow the squares, it is like you just go round and round and this is strange. I like it so much, I wish I could be here all the time because this is really, really cool, and I wish to have it everywhere and things like that" (Mounajjed, 2007b)

"I like when it all gets dark and all the chess board comes around and moves!' Nonetheless, feedbacks reported that the interlude provided a more intimate and immersive experience for the users than the video portraiture setting." (Mounajjed, 2007b)

Figure 83 The Interlude in Under Scan.
Source: www.lozano-hemmer.com

> *"... All these grids become your reference of movement, so even if you are standing still you feel like swimming in the space and these grids dance around you. You feel like you are moving through the darkness. I don't know what he is trying to achieve with that but it is a very interesting approach". (Mounajjed, 2007b)*

> *"I like the interlude bit; it is like the best bit, it is a really cool! I did find this bit when you suddenly go: 'Ooh!' This is interesting! And when it is like that and it is all around you, you do feel immersed. But with the little pockets [portraits] you don't. "(Mounajjed, 2007b)*

Under Scan had a temporality of its own. The interface was set up to switch to the interlude every 7.5 minutes. And the interlude became a reference of the temporality of Under Scan. Passers by developed a certain 'sense of time' in relation to the installation's time framework. And few of them started thinking about time relatively linking it to the interlude. For instance, when they were asked how they would estimate the time they spent, some participants answered: "well, it reset twice since we arrived' or 'is it on a timer?" (Mounajjed, 2007b). This relativity in relation to time, I believe, demonstrates the immersive (or complicit) engagement of the users in the space of the work.

7.4 Under Scan Interfacings

"The interface is central to interactive art because it is the platform for participation. I don't like to think of the interface as a window between two worlds—the view of it as inputs and outputs between the virtual and the real—but rather as a place where disparate realities co-exist and often relate." (Mounajjed, 2007a)

Although made use of high technologies, the interface in Under Scan was not only considered in relation to know-how. Rather it explored the concept of interface beyond technology to become an aspect of embodiment. One of the most innovative ideas that emerged in Hemmer's work is the use of shadow as interface. A shadow is very intuitive device—one that is expressive, self-evident and that has a vast vocabulary of interaction. This is due, in part, to the personal experience that everyone has with his or her shadow and also to the sophisticated shadow puppet traditions that are found in most cultures. In this context, technology was designed and developed only as means to reach out for the users sensibilities and to allow for political crossings and a level of action, performance and participation.

The notion of 'shadow as interface' was originally inspired by Victor Stoichita's book, *A Short History of the Shadow*. In this book Stoichita outlines different relationships to shadows in art; the shadow as a metaphor for being (Plato); the birth of representation and painting (by Butades daughter, according to the ancient Greeks); the mysterious expression of the self (Shadowgrammes) and, most importantly, the expression of a hidden monstrosity or otherness. The concept was very sensible and the way it was translated technically was based on "an intuitive or self-evident interfaces that just disappear and don't need too much explanation, like a shadow." (Lozano-Hemmer & Hill (Eds.), 2007).

Four key technologies were used to realise this notion of shadow as interface: (1) A Computer Vision Tracking System, (2) Digital Lights, (3) Custom Made Media Servers and (4) 12kw HMI Projector (see Appendix B.4). Video-portraits were stored in 14 custom-made media servers that controlled each video sequence. A camera-based tracking system told the main computer where people were walking and predicted the place where they would travel to in the immediate future. The system would then point 14 robotically controlled projectors toward the future locations that would intercept the trajectory of pedestrians, and a sequence of video was projected for them. As a result, 14 different portraits were simultaneously projected over that area—allowing at least 14 individuals to interact at the same time (Lozano-Hemmer 2005b; Lozano-Hemmer & Hill 2007).

Through this technology the artist looked beyond the purpose of the interface. Using robotics, real-time computer graphics, film projections, positional sound, internet links, cell phone interfaces, video and ultrasonic sensors, LED screens, and other devices, his interventions aim to reconnect the public sphere with an increasingly alienating urban condition (Adriaansens & Brower, 2002; Lozano-Hemmer, 2005a). In this sense, the interface became a relational platform for participation or relationships between body and environment. Actually, most of Lozano-Hemmer's interventions are largely participant-centred, computer augmented, while the real motivation behind them is the modification of existing behaviour: the artist creates a situation where the building, the urban context and the participants relate in unconventional 'alien' ways.

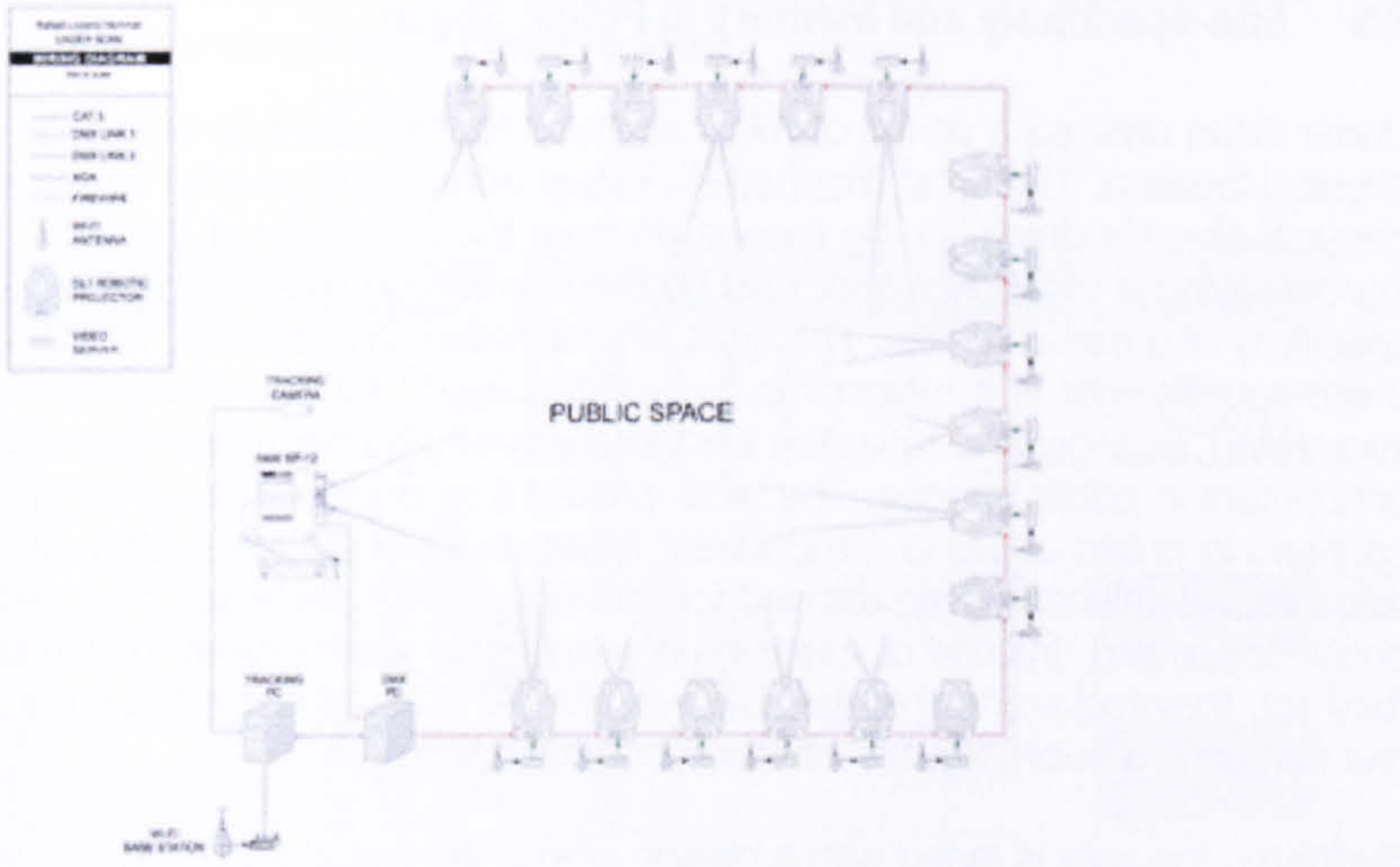


Figure 84 Plan of Under Scan installation
Source: www.lozano-hemmer.com

The artist had used shadows as an interface in four previous large-scale public art installations, starting with 'Re:Positioning Fear'. This approach inspired later artworks such as 'Body Movies', 'Two Origins', and 'Frequency and Volume' where shadows became antenna that allowed participants to tune in audio and video signals from the radio spectrum (Lozano-hemmer & Hill (Eds), 2007) (see Figure 85).

Re:positioning Fear | Body Movies | Two Origins | Frequency and Volume

Figure 85 The shadow as interface
Source: www.lozano.hemmer.com

The closest project to Under Scan, in terms of interface concept, is Body Movies, as they both deal with embodying portraiture. However, in Body Movies, the portraits were extracted from photographs of crowds taken on the streets, while in Under Scan, there was concerted effort to involve the community to participate in the video recordings, seeking their complicity. There is another key difference between the two projects. Whereas the portrait in Body Movies was a huge static "field" that is matched and animated by the shadows of individuals, in a game of memory that Hemmer calls 'reverse-puppetry', in Under Scan the portraits were not passive canvas, they were animated and had agency: they were the ones that take over the shadow and looked out at the public. Furthermore, the scale of Under Scan video portraiture is intimate and life-sized, creating a far more uncanny effect. Again, the intention was to attain what Brecht called a "noticing of the knots": that moment of complicity between representation and reality (Lozano-Hemmer & Hill (Eds), 2007, pp. 13-14)

7.5 Site-specificity and Memory in Public Space

Under Scan created a series of mini-narratives for the users to associate with beyond the physical location. The artist mapped his virtual portraits (of another site/body) on the actual physical site. By doing so, he moved on from the specificity of the each site by suggesting/overlaying a virtual non-site. And so the intervention was not really emphasising on the specificity of a particular site. The artist himself noted, in a previous interview, that this is not a site-specific, nor is it mnemonic piece (Mounajjed, 2007a). However, the piece may be interpreted as a general reflection on the anonymity, ephemerality and immateriality of the encounters in public spaces. The work offered a re-presentation of the memory of the encounters in public space or 'rencontres' if we use Lefebvre terminology. As one of the participants put it: Under Scan allowed for an intimate moment which is not always available in public space and "Instead of meeting up with people we are meeting with images of people: they act, they move and they talk like real people, so maybe it is like a parody of meeting a real person in a public square". (Mounajjed, 2007b).

Suddenly, the user is faced with a person who is looking, doing things, or pointing at him or her. As a result, the user felt really "involved" and there is a certain complicity with the image. It is demanding something from the user. This moment of involvement in the sense of 'complicity', rather than engagement or immersion, was a word that was often expressed by participants.

> "It is quite an intimate sort of experience. These persons, whatever they are giving you, it is not conditioned by anything material you just have a little bit of them. It has no beginning and no end. It is a representation of the ephemeral process in the memory" (Mounajjed, 2007b)

Under Scan symbolically made use of video portraiture to provide an interpretation of the nature of our existence; through video representation of different human characters in public space, Rafael Lozano Hemmer succeeded in representing aspects of human life. He contributed to collective memory by accumulating mini narratives as a series of archival effects.

7.6 Under Scan: A Paragon to Assimilate

The discussion presented in this chapter is a result of my study and documentation of Under Scan during its exhibition in the UK in 2005/06. My study in this case focused on the condition of spatial practices in public space, particularly when video images were projected onto a site, and how it qualifies and classifies aspects of peoples' experiences and practices in the space of *Under Scan*—as these were expressed by the users of the intervention. Under Scan forms a model intervention because it is an example on the use technology and interfacings to allow for users' action and a model of sociality in architecture. This model of sociality questions the context and the commodification of art as a process, action or idea. Under Scan was also a principal stage in my methodology development.

Despite my small contribution, this work allowed me to understand the need for an intervention protocol and the different possibilities of mapping processes. Even though I have not designed and produced the piece the artist provided an example of practice where a certain level of research, design, mapping and documentation are naturally integrated in his practice. In this work, I tested my ethnographic mapping process (Figure 86).

Ethnographic mapping helped me identify some patterns of behaviour and movement sequences within the space of the intervention. It also helped me evaluate and recommend specific points for future interventions. Video footage and personal observation were useful in identifying patterns of behaviour and interactivity between the users. Some data about movements were also recorded from the images that were being captured from the surveil-

lance cameras on site and projected on an exhibited screen. (Appendix B presents most of the material gathered and analysed during this process)

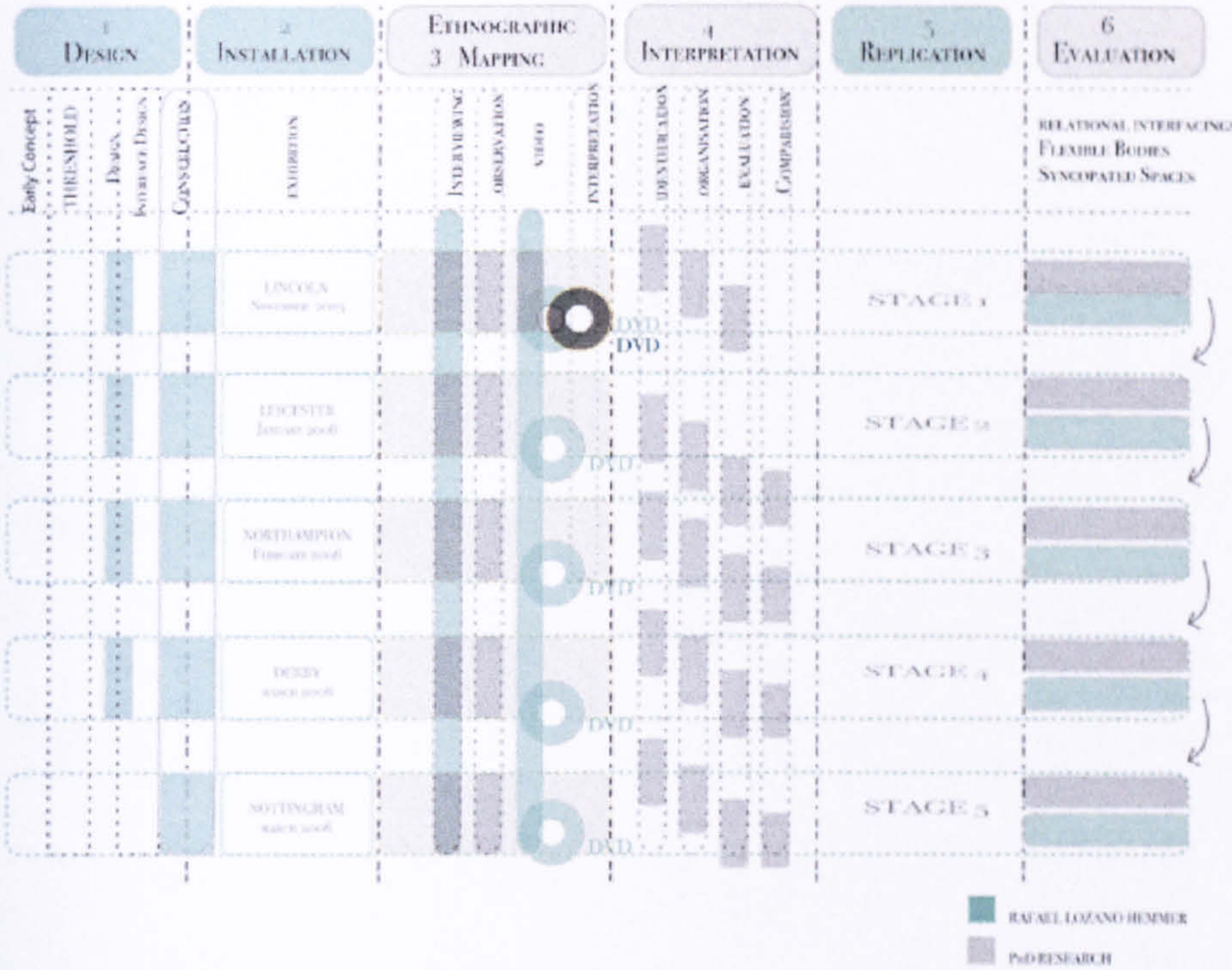


Figure 86 Ethnographic mapping in the context of Under Scan

Under Scan was the second of three interventions. It has been particularly useful in the context of this study as it showed real-life virtual interventions in public spaces. It allowed me to talk to users in-depth and to explore the piece over few months. The strategy was hence more polished. After Under Scan, the intervention protocol became a discursive schema as it involved the selection, organization, and evaluation of mapping practices displayed in certain sites. Moreover, ethnographic mapping and the documentation provided a certain permanence to this temporary event in the form of catalogue or testimony for further research. It was useful to inform the following intervention: *Threshold.*

Chapter Eight

8 Intervention III

Threshold

Mounajjed, Peng, Walker, Bryan-Kinns, Sheridan

June 2006 / September 2006

The Foyer, Queen Mary College, University of London

London

8.1 Site: Threshold

Since my first intervention in Sited Moss, the notion of 'threshold' emerged. A threshold is a particularly interesting and composite space: rich, transitory and located between the inside (with its stories and privacies) and the outside/public space (in this case, the city with its disclosure and exposure). Moreover, the notion of threshold is also associated with sensation when defined as the minimal stimulus/energy evoking and producing sensation. In this context, I started to investigate possible analogies between a passive user and the threshold of a listed building.

The threshold of a building often comes unnoticed in the architectural experience of users in the space of the city. We sit around buildings, cross porticos, traverse gateways and door steps, walk next to facades yet how many times do we stop and question those ambiguous edges or boundaries? When it comes to traditional buildings, those spaces become strongly significant because of their social, cultural and political connotations and their role in sustaining the sense of community, identity and public values. The thresholds of a heritage site for instance stimulate different associations and sensations for the visiting users (monuments incite feelings of intimidation while ruins are more intimate and stimulate nostalgia and sympathy).

The foyer of the main building in Queen Mary University of London (QMUL) is a threshold space. Before the intervention, I believe the foyer had started to lose its spatial meaning for users and became a passage to other locations. I observed users as they walked by; they seemed to have lost the sense of place in the foyer. In this context, the installation of *Threshold* emerged as a site of action and interactivity to re-engage the users with a space they paid little attention to. The idea was to re-define a relational analogy within the foyer through memory, intimacy and sociability. (Figure 87)

Figure 87 Intervention Site: The Foyer in Queen Mary College

8.2 Obstreperous Shadows [a bid proposal]

Following Under Scan, many issues started to emerge in relation to studying the public body. My experience of studying Under Scan showed me that not only the interface becomes a spatial and

conceptual dimension of "relational architecture," it also solves many issues around the relation between virtual and physical location. Hemmer's intuitive interface was very useful to animate spaces and to create interesting actions from the users. Under Scan implied a new representation of the body as extended, social, interactive and active within public space. From this point, I carried on with my third intervention.

The first proposal for Threshold continued to investigate the idea of 'interface as shadow'. The installation would augment participants' footprints and footstep', and would allow for improvised stage performance. The idea would combine the idea of shadows and threshold and would stimulate a funny interaction on the threshold of an architectural building by mapping the site with "Obstreperous Shadows". (Figure 88)

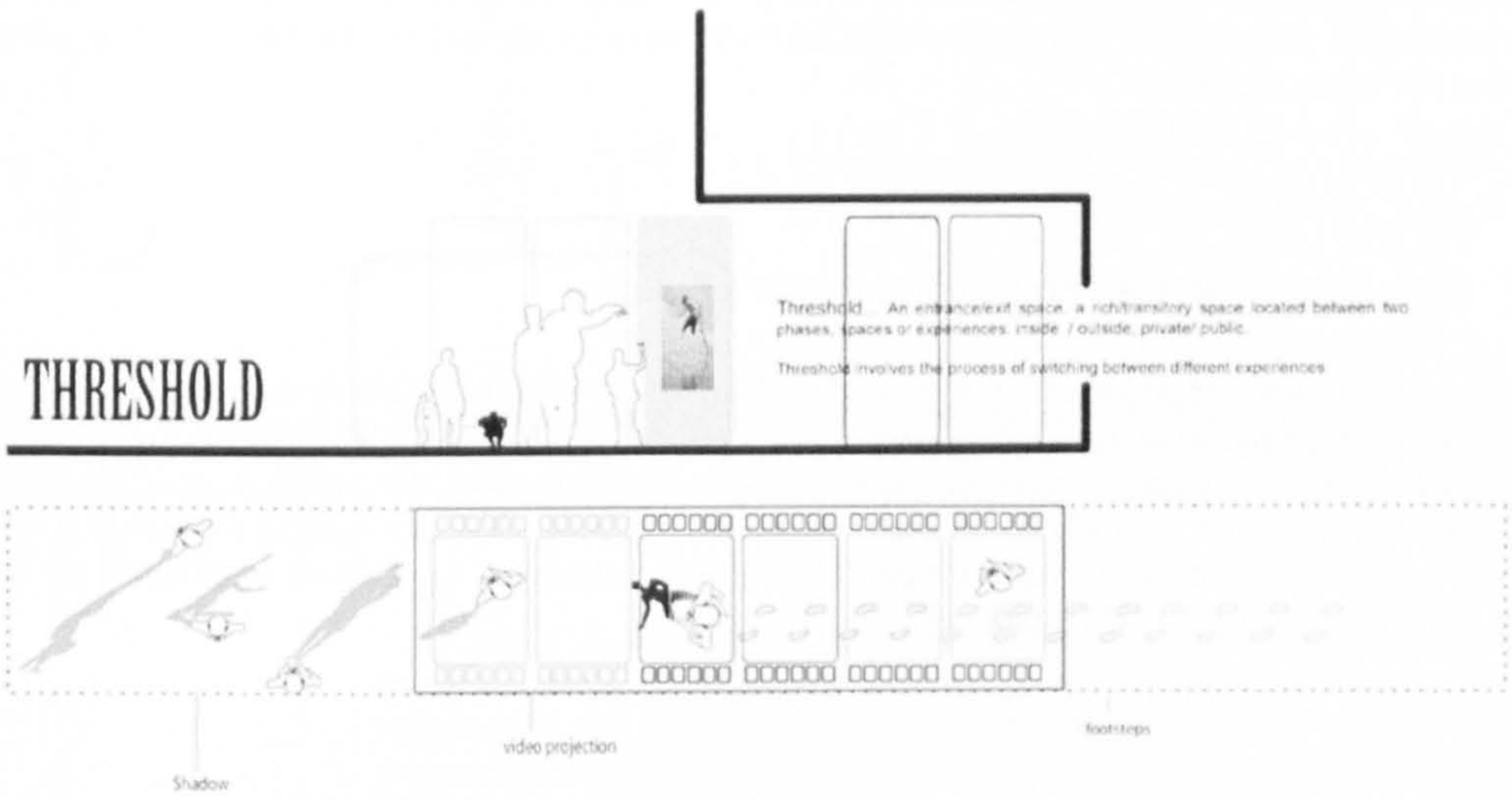


Figure 88 A Proposal for the Obstreperous Shadow

> *>>Imagine walking in a hallway with a bright lighting. Your shadow is cast on a wall to your left and all seems normal - the shadow moves as you do. Suddenly, the shadow seems to take on a life of its own, perhaps staggering and falling down drunk or racing ahead, turning back and thumbing its nose at you. You no longer control the shadow. In actual fact you are not casting a shadow at all; a synthetic shadow is created using Video Augmented Environment technology. A camera captures your motion, feeding it to a computer, which calculates your shadow profile and outputs it to a data projector, which completes the effect.*
>
> *As they move in and out of Threshold, participants would interact to switch between the various layers of reality reflecting a range of everyday life experiences such as arriving/departing, controlling/releasing, normality/abnormality, kinetic/static, origins/echoes, ... etc.*
>
> *When a member of the audience returns to collect their shadows, this shadow freezes and the user comes back and needs to perform a particular movement in order to release and collect his/her shadow (i.e. Nietzsche, Peter Pan) (A bid for Leonardo.Net initiated by John Mateer, Nadia Mounajjed, Chengzhi Peng and Stephen Walker. 21 June 2005).*

The Obstreperous shadows was conceived to make use of a novel synthesis A mechanism tracking participants' movements on site would be linked to the projections of video and audio foot-

ages, generating a changing overlay of digital and physical layers on site. This system would consist of the following components: (1) a synthetic shadow created by using Video Augmented Environment technology; (2) a camera to capture users motion, feeding it back into a computer, which calculates the shadows profile and outputs it to a data projector, which completes the effect; (3) a digital sound installation that would augment participants' footprints and footstep' and finally An improvised stage performance (John Mateer, Personal Communication, 2005). In this context, the relationship between experience, memory and virtual traces was raised. The intervention would focus on other traces/tracings such as footprints (both physical and acoustic). In this context, the piece was seen as an invisible theatre, and a performance approach was considered to keep the audience engaged within the space of the intervention.

However, after a closer investigation, this collaborative bid proved to be difficult to realize within the confinement of assigned funding, skills and timeframe. And I moved on to think of another idea for my intervention while respecting the conceptual framework proposed by this bid. The final piece focused on 'musical chimes'.

8.3 Wind Chimes on the Threshold of Queen's Building

The final intervention emphasised on the concept of memory and threshold through soundscapes. The concept unfolded with the idea of spatial syncopation by virtually shifting away from the site's actual narratives. The intention was to move from the usual physical dimension to another virtual space, by relating it acoustically to its own history for instance. The aim was to introduce a new content to the space through inaccessible fragmentary narratives. I chose to emphasise on the site's history through recorded story readings.

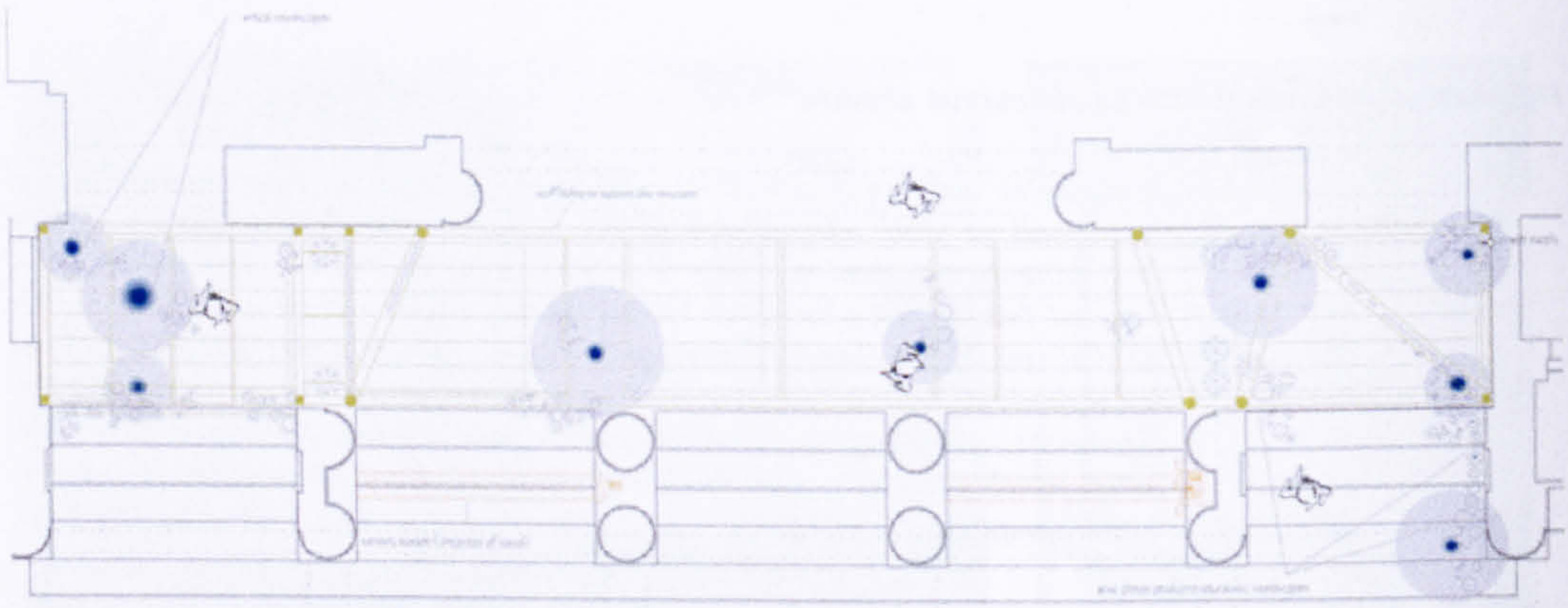


Figure 89 Early conceptual drawings about Threshold in the foyer
The drawing illustrates the acoustic zones as experienced by the users as they cross the space of the foyer.

The concept of the intervention emerged within music and performance. I started to think of an instrument-like piece, which would allow for users interactivity, performativity and action. I focused on the design of percussion instruments, and more specifically "wind chimes" as a possible process because most people are familiar with chimes, and they can instinctively interact with them. (Figure 89)

Threshold consisted of two elements: (1) a physical structure consisting of wind chimes, and (2) an interface projecting soundscapes. Since the building is listed, we were not allowed to attach the piece to the walls or ceiling. And so a structure was built to support the piece. As shown in Figure

890, Threshold was placed in the left corner of the foyer and was visible from the entrance. An auditory interface was designed and special sensors were imbedded in the piece and wirelessly connected to servers and system computers located in storage room close by.

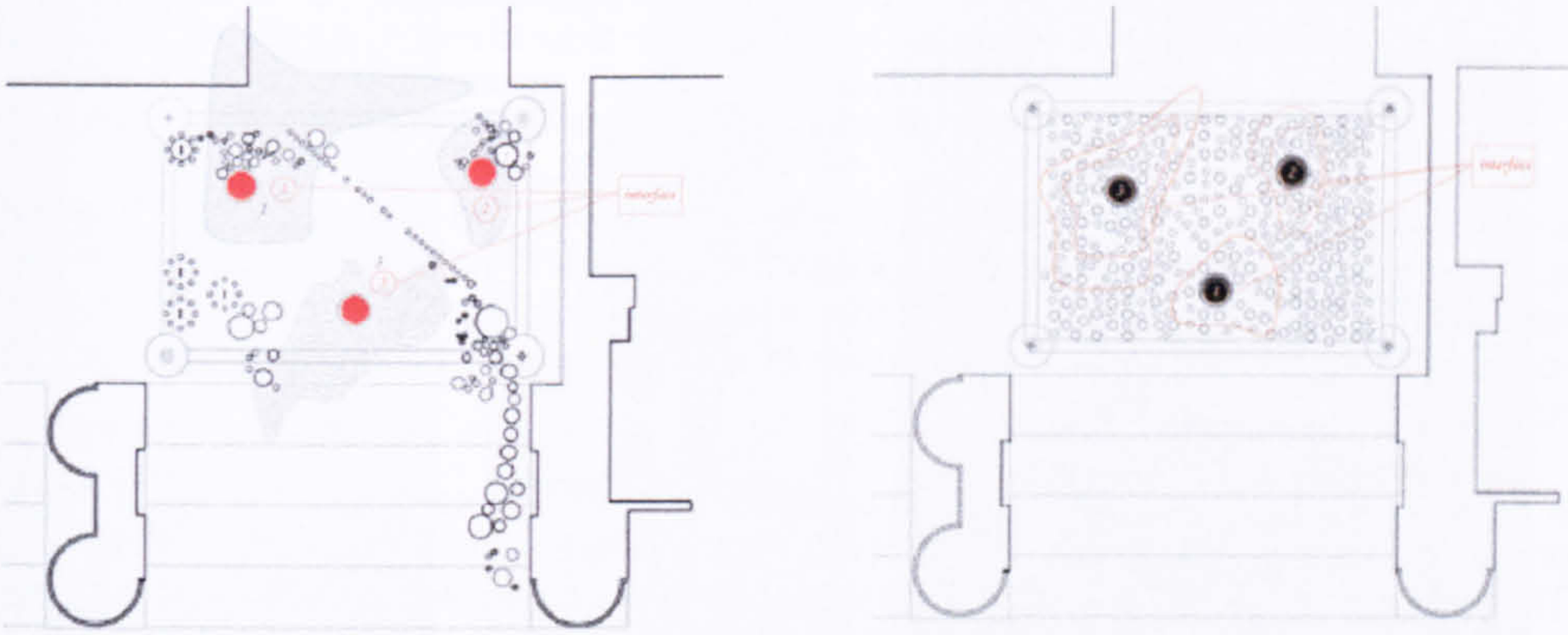


Figure 90 Diagram showing the interactive chimes on plan
Left: the chimes are spread in different materials and colours Right: the final plan drawing includes 250 copper tubes with same diameter but different lengths were installed. The three interactive chimes are shown in red/black to project mini narratives about the space. And the interface technology is placed in the storage room, wirelessly connected to the piece.

> *"Are you a musician? Was this designed according to musical rhythms? It might be interesting to develop the piece in this direction in the future. Did you collaborate with a musician to create different patterns of rhythms?" (Quote from an audience member at the Threshold intervention in London, June 2006)*

> *"The piece seems randomly assembled or arbitrary. I suggest setting the tubes in order to get a crescendo effect or something like that. This way users can start to actually create their own patterns" (Quote from an student at the Threshold intervention in London, 12 September 2006)*

The piece was made of 250 hollow copper pipes (15–22 mm in diameter) with varying lengths (27–52 cm) providing different tones, all coming together to form a large instrument. All chimes were suspended vertically from the supporting structure, inviting people to perform and produce their own tunes. So when a user touched the chimes, they would stroke each other and produce a harmonic (or enharmonic) spectrum (Mounajjed et. al., 2007a). Additionally we wanted the piece to allow for ambient soundscapes.

8.4 Memory, Imagination & Spatial Narratives

> "... a voice so remote that it will be the voice we all hear when we listen as far back as memory reaches, on the very limits of memory, beyond memory perhaps, in the field of the immemorial. All we communicate to others is an *orientation* towards what is secret without ever being able to tell the secret objectively. What is secret never has total objectivity. In this respect, we orient oneirism but we do not accomplish it." (Bachelard as cited in Leach (ed.) 1997, p. 92)

In the context of Bachelard's theory, there is an ontological dimension to the built environment. Bachelard emphasises the daydream because it is in the world of the daydream where memory

and imagination remain associated', for daydreaming is more powerful than thought, and through its poetic dimension can recover the essence of the 'other site' that has been lost (Leach (ed.), 1997).

> "If we want to go beyond history, or even while remaining in history, detach from our own history the always too contingent history of the persons who have encumbered it, we realize that the calendars of our lives can only be established in its imagery. In order to analyse our being in the hierarchy of an ontology ... it would be necessary to *desocialize* our important memories, and attain to the plane of the daydream that we used to have in the places identified with our solitude." (Leach, p 89)

Threshold aimed to represent the foyer as a repository of memory and as a container of fluid experience, where memory, movement and imagination act together. And so the intervention focused on the users' poetic readings of space and their interactivity with the building. In this context, the idea behind Threshold was to evoke memories of a collective past through the historical background of Queen's Building.

Three recorded stories highlighted readings about the origins of Queen's Building and a description of the precedent building called the 'People's Palace' which is historically relevant to the building. The first track projected a reading from Walter Besant's best-seller novel All Sorts of Conditions of Men: An Impossible Story (1882). The relevance of the novel to Queen Mary lies in the novel's description of the "Palace of Delight," which we believe is very similar to the design of the People's Palace (the original building of Queen Mary College). More than a century ago, the People's Palace was standing on the same site (where the installation was set up) before it was destroyed in 1892 (Moss & Saville, 1985). The following quote was taken from Besant's imaginative description of the palace of delight; it was read and projected in Threshold through one of the interactive chimes:

> *"Angela would plant her palace in this region, the most fitting place, because the most dreary; because here there exits nothing, absolutely nothing, for the imagination to feed upon. It is, in fact, thought this is not generally known, the purgatory prepared for those who have given themselves up too much to the enjoyment of roses and rapture while living at the West End. How beautiful are all the designs of Nature! Could there be, anywhere in the worlds, a more fitting place for such a purgatory than such a city? Besides, once one understands the thing, one is further enabled to explain why these grim and sombre streets remain without improvement. To beautify them would seem, in the eyes of pious and religious people, almost a flying in the face of Providence...."*
> *((Extract from projections, selected and edited by Nadia Mounajjed from original text: Besant, 1882)*

The second recorded audio clip contained a May 14, 1887 speech from the Prince of Wales at the opening ceremony of the Queen's Hall. The third chime projected another fragment about the story of the Queen's building. This was taken from a letter sent from Barnett Hyman to the Charity Commissioners in 1932. Barnett was critical of the college and the Drapers' Company, and his letter was of importance that it was actually published on 28 May 1932 in the local press:

> *"I think, sir, I am voicing the sentiments of the poor denizens of east London when I say that to restore the Queen's hall to its former place in the affections of the Charity Commissioners. The expansion of the East London College is of less consequence to the people of East London than the restoration of the Queen's Hall." (Extract from projections, selected and edited by Nadia Mounajjed from original text: Moss & Saville 1985)*

Figure 91 Users Interacting with Threshold, London, September 2006

The third recorded audio clips contained, for instance, a speech from the Prince of Wales at the opening ceremony of the Queen's Hall; the event goes back to 14 May 1887:

> *"Nothing, we know too well, can really turn the East-end into a garden, can take away the dismal monotony of its streets, or can destroy the squalid type of life which the vast majority of the inhabitants are doomed to live... it is also true that a little brightness, a little enjoyment, and such chances of learning as are to be given by the people's palace count for far more in the case of these people than they would in the case of people more richly furnished with good things." ((Extract from projections, selected and edited by Nadia Mounajjed from original text: Moss & Saville 1985)*

Those soundscapes have been organised in a disconnected pattern to leave space for imagination and to avoid description, for description according to Bachelard can only give facts, and may not allow for intimacy. The values of memory in this case, and of intimacy, are laid in a way to encourage imagination. In the space of Threshold, the user ceases to read the foyer as space: he/she sees his own interpretation of the map-site. He is already far off, listening to the recollections of the building through these audios. And so faced with these periods of engagement, the user starts to ask questions: "Was the palace big?", "Was there gardens?" etc. And so in Threshold, memory becomes a fragmentary map overlaying the site. Memory here is subjective, body-based, experiential or sensual.

8.5 The Body of the User… in Action

Figure 92 Analyzing interactivity
Images taken from the footage and showing Threshold's second installation in the Foyer in QMUL on September 12, 2006. The images present the piece while being experienced by conference participants. Along with other sequences, this example was used in analyzing and mapping users experience in the Threshold space. Source: Scene: *Experience 2 in* Appendix D (DVD 4)

>>Raises her hand to touch the interactive chime.

>>Listens to the sound.

>>Touches the wind chimes.

>>Plays with wind chimes again.

>>Waits and looks at the others.

>>Moves towards the other interactive chimes.

>>Moves towards the third chime.

>>Stands and focuses on the sounds.

>>Trying to listen to the stories

>>Goes back to the first chime, etc…

The above images illustrate sequences from video footage recorded in Threshold. It shows one of the subjects of the installation touching the chimes to stimulate the projections; the images follow the users movement to see the succession of her actions in the space of the intervention. The user would move in between the three chimes and try to assemble the fragments of narratives projected through the chimes. Another user (the man at the back)was playing with the chimes only to produce his own musical synchronization with little interest in the projected stories.

The intervention becomes truly meaningful when we see actions from the users. And there are creative and 'active' users who would start dancing, playing with their heads and explore the piece or the soundscapes. With their body movement, they would bend, play and move in unusual manner. Figure 93 illustrates a dancer 'performing' in Threshold. And this leads me to the relation between performativity and intervention as it shows how the intervention acts politically and invites the users to take 'actions' within the space of the work.

Of course the fact that Threshold was installed during a performance conference *(PSI: Performing Rights)* was interesting. *PSI #12* conference participants were keener and more attentive to exploring the piece than other visitors. And the dancer is probably used to experience space with her body. But what is new is the shift from the idea of performance to action. In fact, what we see in figure 93 is a user in action – a subject, who performs an 'act'', "which produces a certain kind of identity." and here I return to confirm Grosz's division between action and performance as based on the notion of the 'other'. The dancer did not perform but acted in the space in the intervention. She did not require an audience in the way that a performance does.

Figure 93 A Dancer performing in the space of Threshold
Source: See *Scene 2* in Appendix D (DVD 3).

In many ways the intervention questions the objectification of the body in architecture. In the above pictures, the formal approach of an objectified, defined and measured body leaves way to a flexible and subjective user, which acts a certain form of identity. And my way of observing and analysing this user was by using video and discourse analysis. And here, I followed a similar but simplified approach to Heath and Hindmarsh (2002), who examined video footage to study patterns of behaviour and the integration of the users within gallery spaces.

By analysing the video footage, I inferred information on the duration, quality and nature of users' actions/interactions. First, I can confirm that the average duration spent for interaction with the

piece is estimated around 2—5 minutes. However, this duration has increased radically when the user was performing an action (The dancers for example stayed for approximately 20 minutes). I emphasised on movement and performance as a measure in architecture. I started to assess the level of engagement with the piece through the way people moved and interacted with the chimes. My belief is that taking movement, perception and performativity as a lens into architecture opens it up to a wide variety of practices where a purposeful exchange between "users" and "sites" occurs.

My analysis of the users movement and performativity was based on an ethnographic mapping process. The unfolding of the mapping process formed an indexical trace of the social reality of the intervention. I documented and analyzed these actions through video, observation and interviewing, and thereby defined the "structure" of the relationships in threshold. The mapping has been particularly useful as a reference for replication of Threshold in the second stage of the project. (Figure 94)

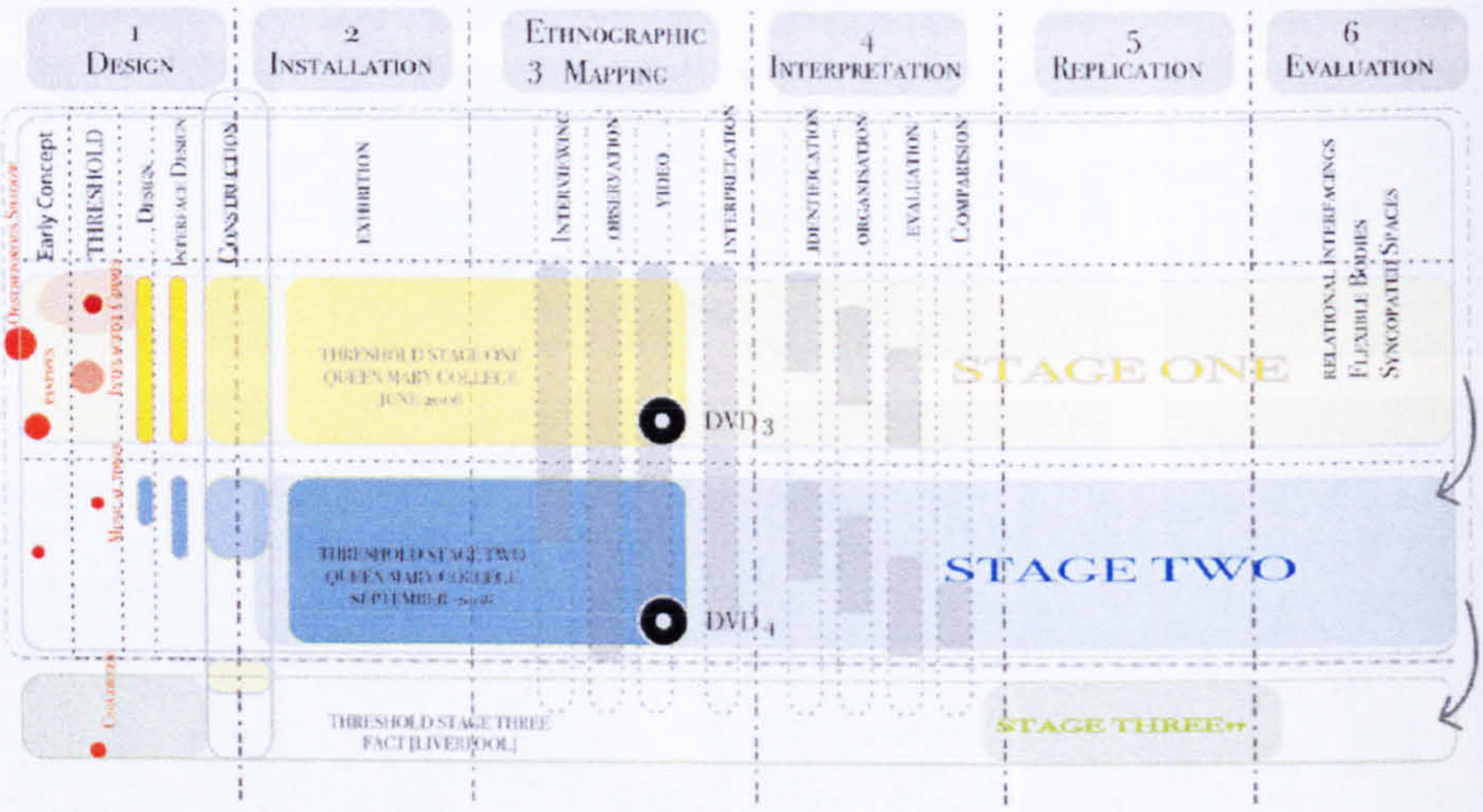


Figure 94 Ethnographic mapping in the context of Threshold

Throughout my mapping process, different patterns of behaviour were identified: from the passive to the interactive, active and creative. Whereas, I gave an example of the active and creative users above, it was particularly difficult to understand why some users had little interest in touching the piece. Some clarifications emerged from talking to users. The fuzziness and clash between the sounds of chimes and the audio hindered users experience. Some users could not fully understand the relationship between the different clips, the "plot" of the audio projections and the relation between the different stories. Regardless of the technical effects, the ambiguity was intentional behind this work. I wanted users to experience a level of ambiguity and to extend their own imaginative space on the physical space. (Again, in reference to Bachelard's association between imagination and memory.)

The users comments are significant but performativity is a complex issue. And the interviews are not sufficient to reach a clear argument on how to put up a 'body in action' in architecture. As a matter of fact, in a culture which forbids touching artworks, the question of interactivity becomes intricate. Some of the people did not touch Threshold because they thought that it is an 'art' piece, which they assumed that they should not touch, however this final category is the smallest.

> *"I think this is a beautiful piece, it is expressive. Maybe people think that it shouldn't be touched... You know. We are all overcome by museum culture where people are not allowed to touch the piece! This is crazy... At the beginning, when I came here, I had this impression too. This is a very sensitive issue and it really affects the interactivity with this piece you know!" (Quote from an audience member at the Threshold intervention in London, 9 June 2006)*

In this respect, the space of the intervention suggests a reassessment of this culture and of an architectural discourses that supports the objectification of body. The criteria for this assessment is not just aesthetic, but political and even ethical; it is based on the actions, sociality and participation. Hence, Threshold becoming less of an object and more like a process or an 'action'. And the user is seen a conscious subject in action in the positive sense. It is a body inserted into a social space and strongly drawn in spatial and social practices.

Threshold aimed to explore the realm of human interactions and their social context. But sociality is raised here as a question of context, a sociality which derives from the tension between an existing system of relations and the intervention. It aims to define the inter-subjective encounters which result from the users' relation to the work, and how this work engages with their context. In the course of this process, a wide variety of subjects and fragments were uncovered. Hence, a social profile was built up through the intervention. What is particularly interesting in this process is that it empowers the audience. Like in performance art, it creates a community out of the users. The audience becomes a social entity and as a result it starts to become accounted in 'the production of space'. (Figure 95)

Figure 95 Interacting with Threshold
The installed Threshold being experience by a user in the entrance space of the Foyer at the Queen Mary University, London – September 2006. See scene: *Experience 2 in* Appendix D (DVD 4)

8.6 Threshold Interfacings

Two ideas returned clearly in this intervention: First, the idea of intuitiveness (or sensible interface), as people could easily produce sounds and stimulate the projections by simply touching the chimes. Second, site-mapping and the articulation between a virtual (non-site) and the physical site. Threshold was sensitive to movement. We carefully fine-tuned the motion sensors to ensure that sounds were triggered with the slightest touch. So when people touched or played with the chimes, they stimulated the interactive chimes to project the audio projections. In order to understand the stories and their connections, the users had to sustain their imagination but also their interactions with the piece. They were constantly moving between the imaginary non-site and the real site.

Figure 96 illustrates the dynamics between the site and non-site in Threshold and the conceptual relationship between two layers or "intensities" or experience. The first involves the real space with the physical instrumental piece. The second layer augments the physical site by suggesting links through memory & narratives. The notion of interface here was to provide a switching between tow different realities: whereas the real soundscapes resulted from the direct conscious interaction of the users with the piece (touching the chimes triggers different rhythmic effects), the naturalistic soundscapes were triggered by the Tmotes, and conversed with the unconscious subject.

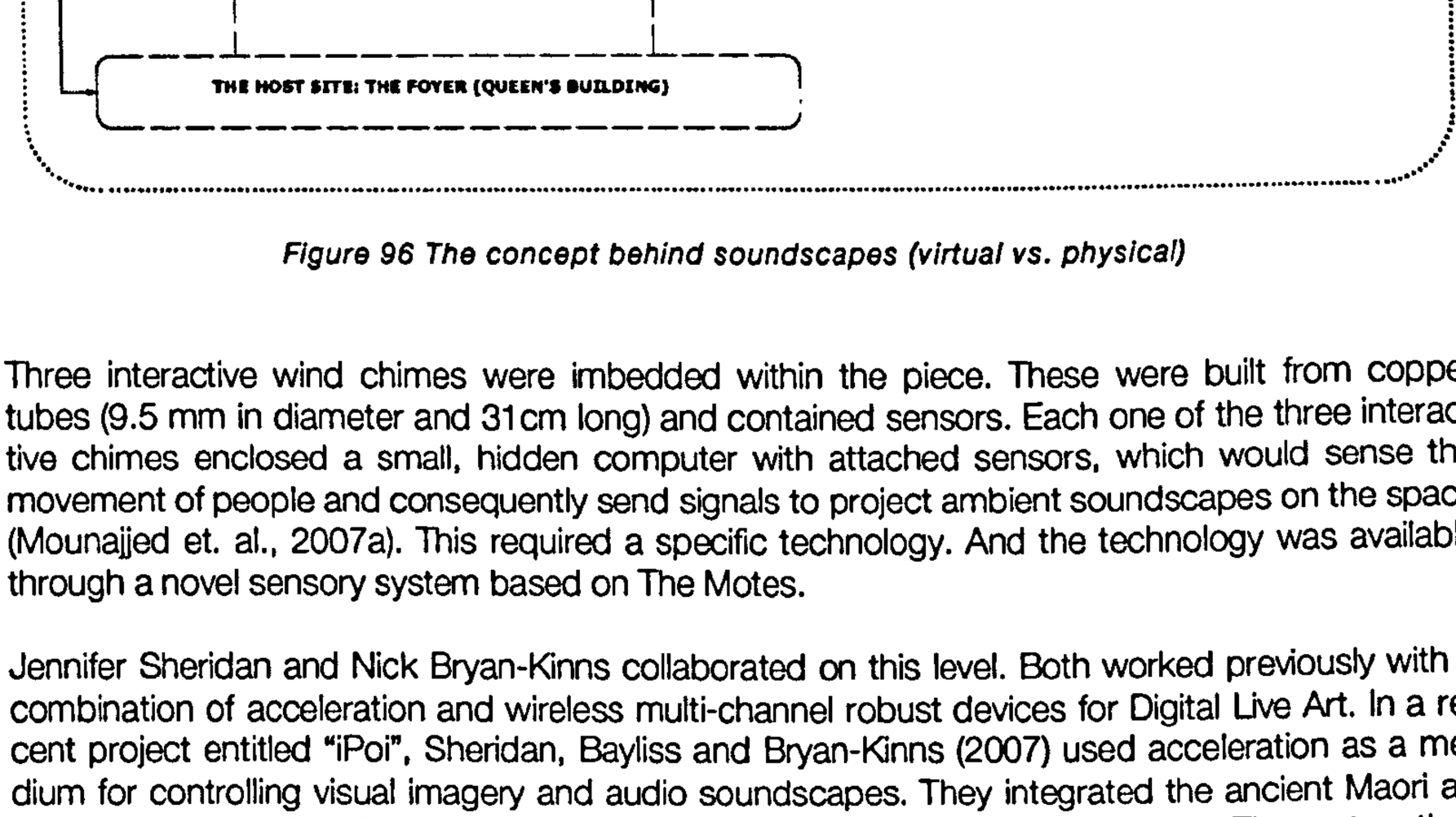


Figure 96 The concept behind soundscapes (virtual vs. physical)

Three interactive wind chimes were imbedded within the piece. These were built from copper tubes (9.5 mm in diameter and 31cm long) and contained sensors. Each one of the three interactive chimes enclosed a small, hidden computer with attached sensors, which would sense the movement of people and consequently send signals to project ambient soundscapes on the space (Mounajjed et. al., 2007a). This required a specific technology. And the technology was available through a novel sensory system based on The Motes.

Jennifer Sheridan and Nick Bryan-Kinns collaborated on this level. Both worked previously with a combination of acceleration and wireless multi-channel robust devices for Digital Live Art. In a recent project entitled "iPoi", Sheridan, Bayliss and Bryan-Kinns (2007) used acceleration as a medium for controlling visual imagery and audio soundscapes. They integrated the ancient Maori art of poi to create a DIY (Do It Yourself) performance of highly mobile digital live art. The system they worked with consists of a tMote Invent; "the Mote attached to a long string and swung around the body. Data from the swinging poi is transmitted to a base Mote attached to a PC. The acceleration data is then transmitted to MaxMSP which we use to create visual imagery and audio soundscapes." (Sheridan et al., 2007, p. 52) In Threshold, we reinterpreted this type of technology to adapt aspects from the previous system to our instrumental installation. The idea of chimes was then developed into an instrument like installation, sensitive to movement and acceleration. The tMotes was placed within the individual interactive chimes to create audio soundscapes. Figure 97 illustrates the interactive chime in different aspects.

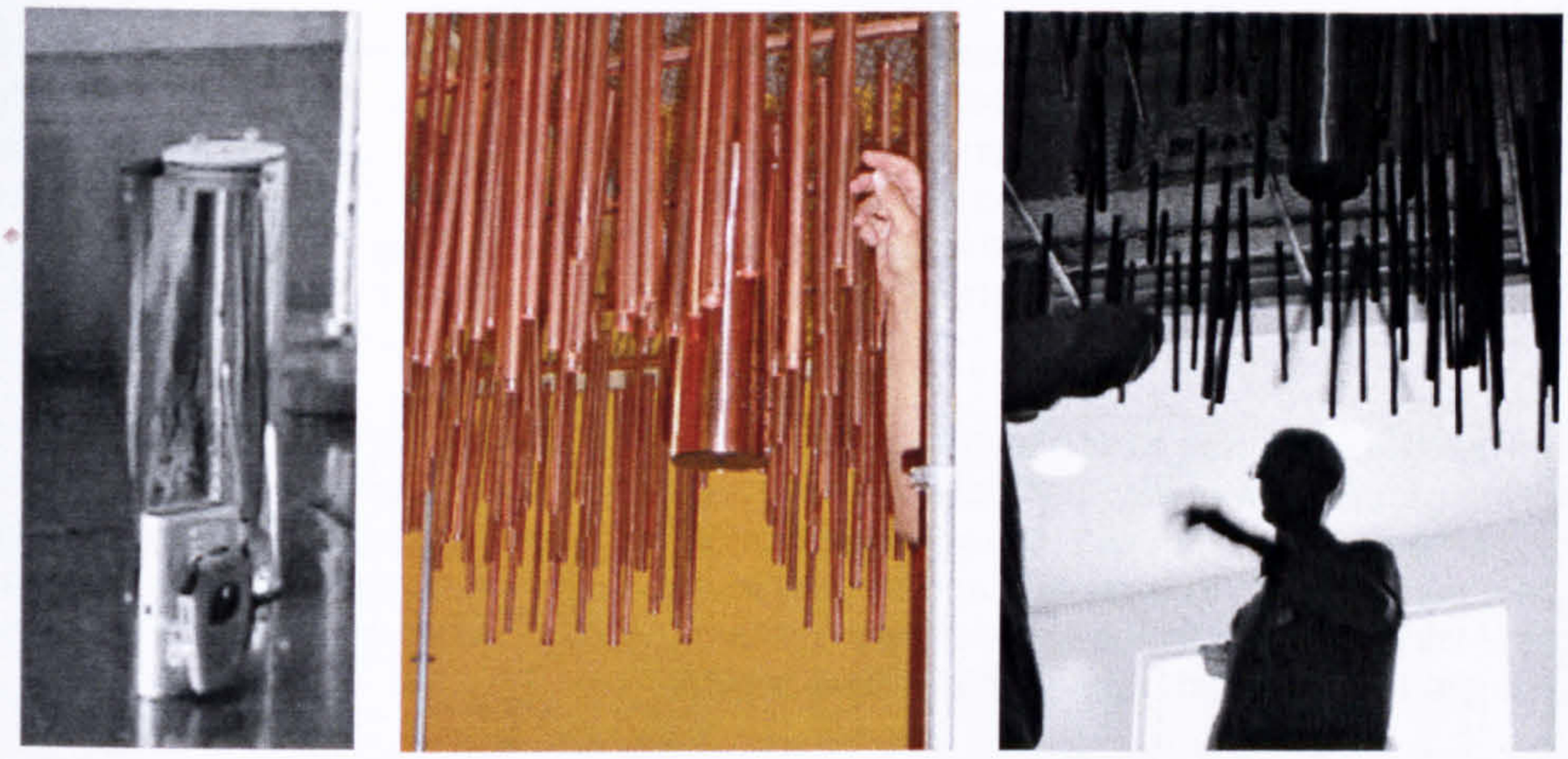


Figure 97 The interactive Chimes
Left: the interactive chimes are wider than the normal chimes in order to contain the sensory unit (Tmote + Radio). Right: the chimes being experienced by users.

Figure 98 demonstrates the relationship between the sensors and the computers. The architecture illustrated in Figure 98 was mainly designed and installed by Jennifer Sheridan and Nick Bryan-Kinns. As shown in Figure 98(a), it consisted of Tmote Invent artefacts installed in three of the chimes. These were programmed using TinyOS to send tilt information wirelessly to a central laptop located in a room next to the installation.

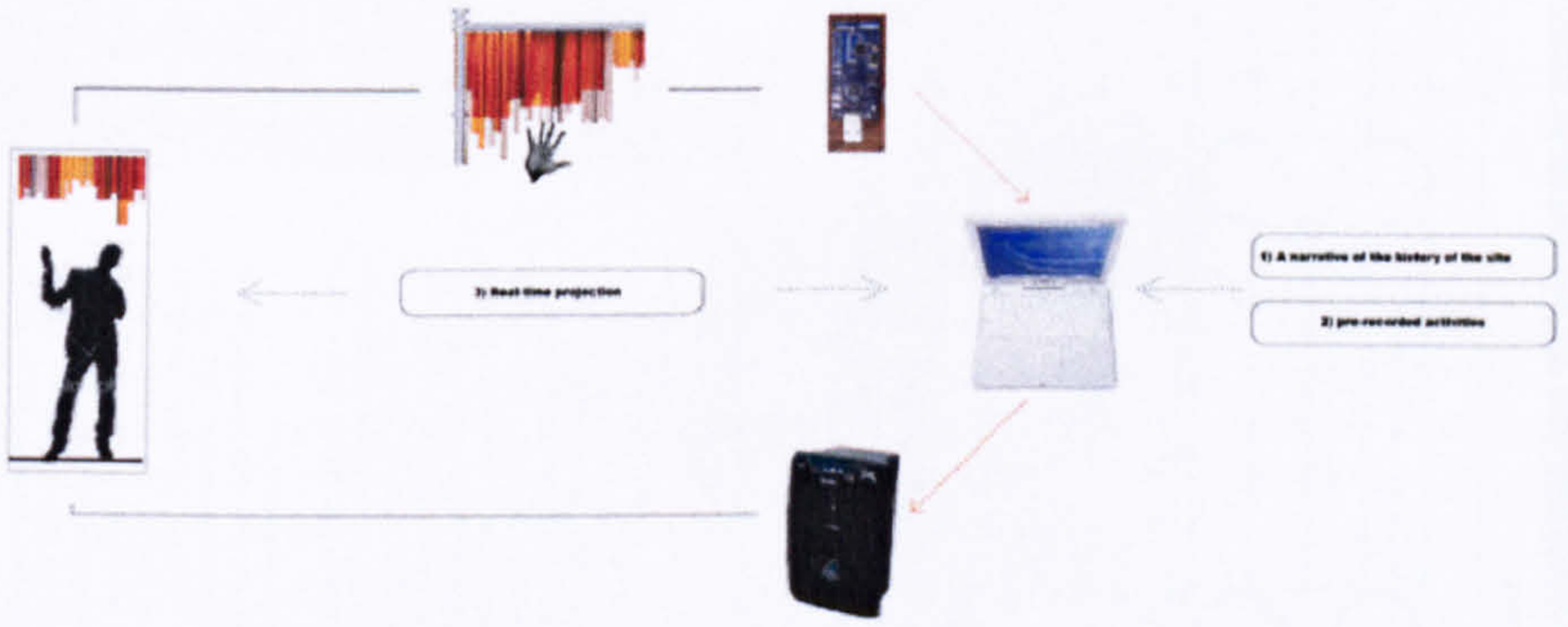


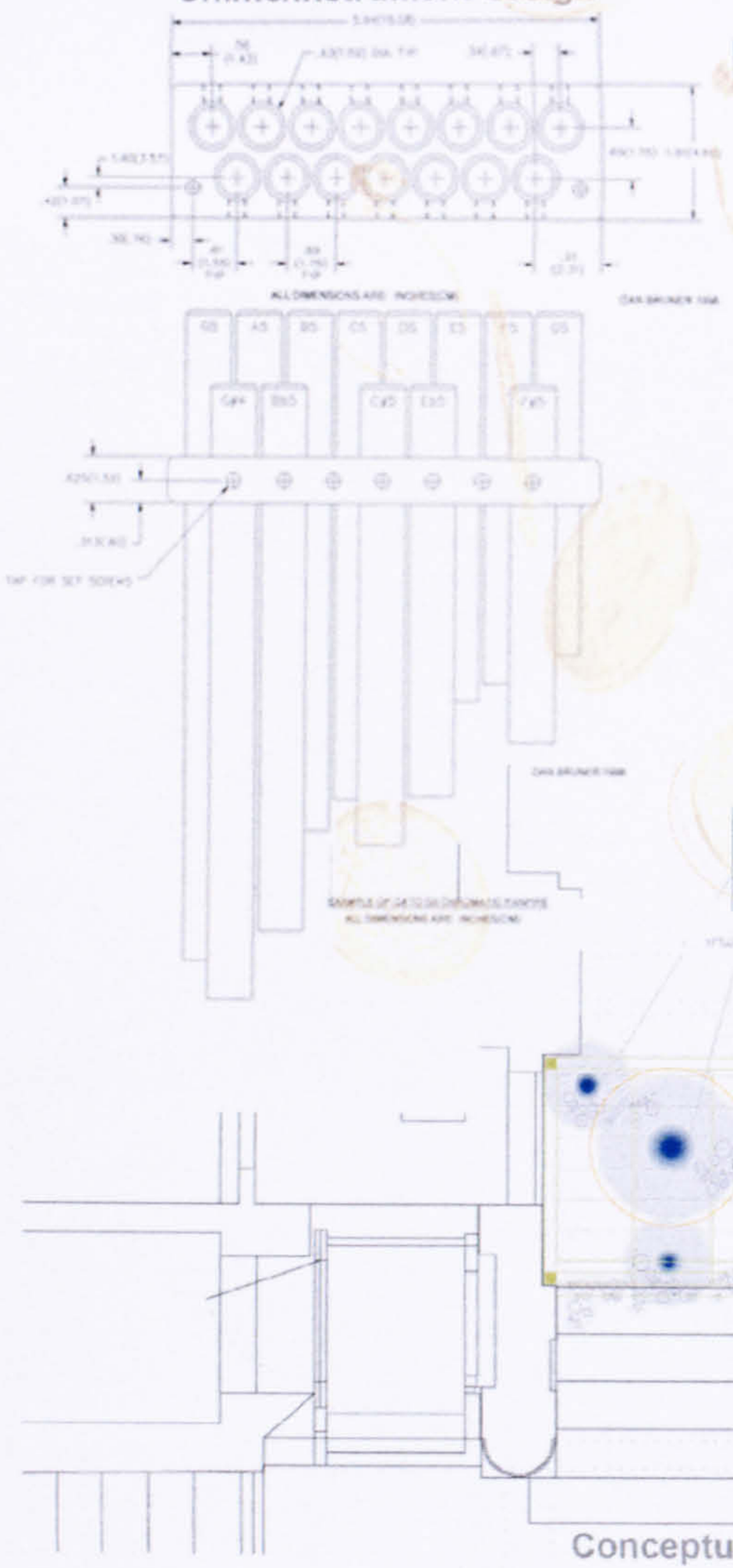
Figure 98 Technology used in Threshold

When the motion of a person (or a breeze) was detected in a Tmote, the laptop triggered the playback of an associated audio track; when there was no interaction or wind, the associated playback was paused. Audio was wirelessly transmitted to these sensor chimes via three separate audio channels from the laptop PC. We used Max/MSP to control the sound without any noticeable lag in interaction. Figure 98(b) illustrates the actual laptop PC (left of image) and multichannel audio setup (right of image) used to drive the soundscape from the adjacent room (Mounajjed et al., 2007a).

In fact, Threshold intended to evoke conference participants' experience of a 'threshold' space, questioning people's (everyday) perception of reality in general, particularly 'conferencing activity' as an ephemeral event offering a unique experience: In conferences, people often gather round a topic on a particular site to exchange and discuss ideas. After this, the participants may not meet up again—very rarely would the same experience be repeated. Even if they do meet up again, it will be situated in a different architectural/cultural context.

Threshold put forward a new notion of the interface, which extends beyond the technical aspects to become closely related to the site to the body of the user. After experiencing Threshold, most users reported that the intervention was engaging and that it had changed the foyer space. In fact, Threshold interfacings aimed to produce a specific model of sociability and to reach an aesthetic of the inter-human, of the encounter. And so in response to Bourriaud's question on relational aesthetic: "Does Threshold permit its users to enter into dialogue? And how do they exist in the space of the intervention?" I believe that Threshold, to a certain extent, succeeded in setting up "relationships" that emphasize the role of dialogue and negotiation in the space of the intervention. And this was done without totally collapsing these relationships in the work's content. To this end, Threshold interfacings suggested a continuity or 'interfacing' between body and space. It developed into an intimate component and a friendly self. And the boundary gave place to a strong fusion between the natural and electronic, between anatomic and spatial forms.

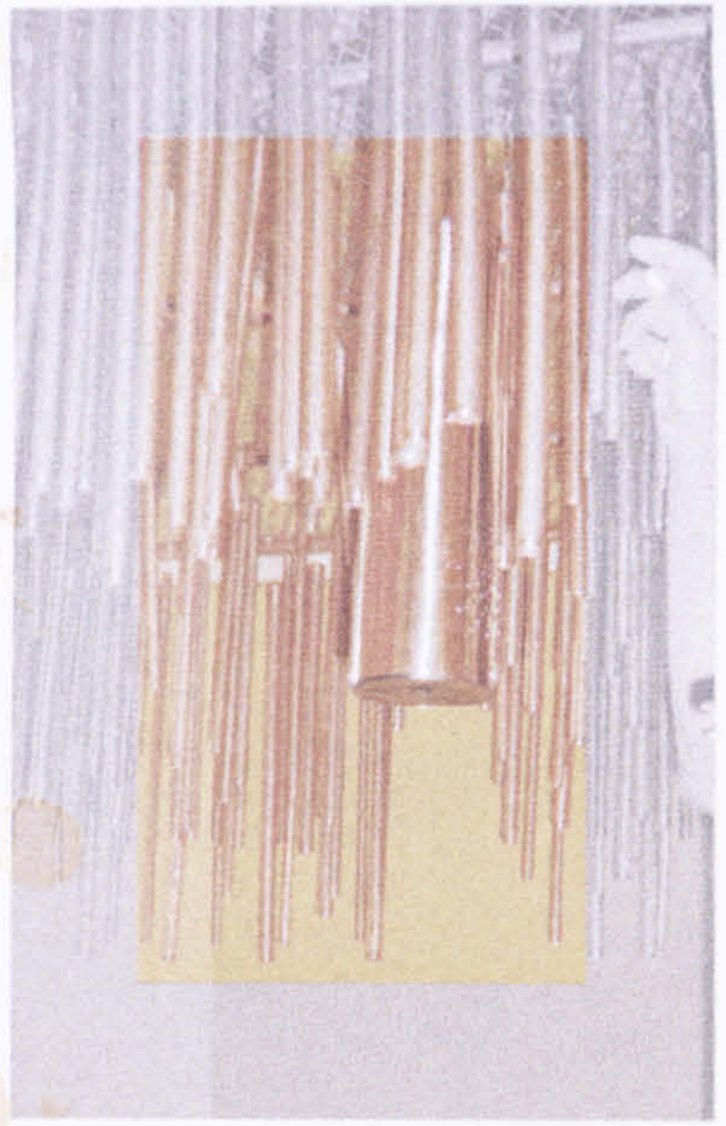
Chime/instrument design

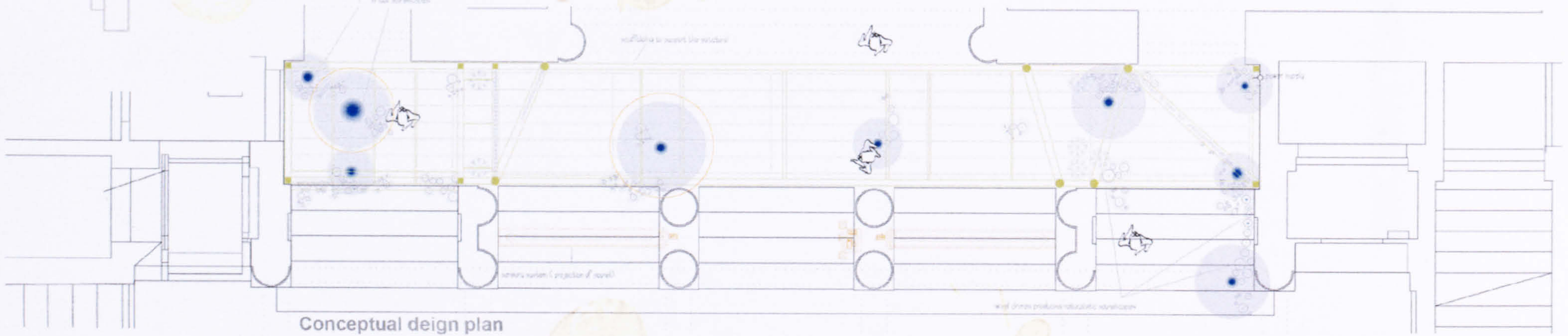


THRESHOLD
QMUL, LONDON 2006

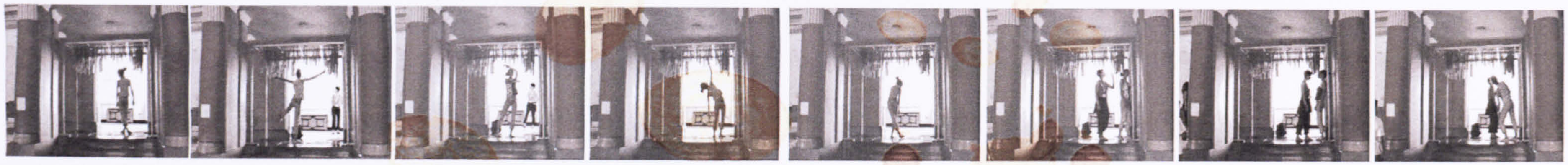
An instrument-like site-specific installation, Threshold is conceived from the concept of architectural threshold, which is a particularly interesting space: rich, transitory and located between the inside (with its stories and privacies) and the outside/public space (in this case, the city with its disclosure and exposure). The notion of threshold is also associated with sensation when defined as the minimal stimulus/energy evoking and producing sensation. Similarly, Threshold aimed to stimulate the sensibilities of users, by suggesting stories and narratives from and about the location and the memory of the site.

Threshold was made of 250 hollow copper pipes (0.15–0.22 mm in diameter) with varying lengths (27–52 cm) providing different tones. A few interactive chimes were embedded in the piece. These enclosed sensors, which would sense the movement of people and consequently send signals to project ambient site-specific soundscapes on the space. The work resembled an instrument and created interesting exchanges with users.





Conceptual deign plan



Performance on the *Threshold*

PART IV: CONCLUSIONS

Chapter Nine

9 Discussion & Conclusion

9.1 The Interventions and the Body Analogy

When I started working on Sited Moss, I was exploring a new perspective on the relation between body and building, which would be relevant to the contemporary condition—particularly when digital media is suggesting new cultural, social and spatial dynamics. Both Sited Moss and Threshold were installed within listed classical buildings. The columns raise again issues in relation to the classical anthropomorphic tradition—introduced long ago by Vitruvius. In Sited Moss, our critique of the monumentality of the building may also be interpreted as a critique for a modality of anthropomorphism which is no longer valid because today it is only understood through conventional interpretation: of an anthropomorphism based on pictorial emulation and figurative representation.

The idea of the architectural monument as embodiment, as incorporating reference to the human body for proportional and figurative authority was, we are led to believe, abandoned with the collapse of the classical tradition and the birth of a modern, technologically dependent architecture, society and culture (Vesely, 2002; Vidler, 1990). Instead, what architecture is referring to today is subjectivity of the user, instead it allows for intimacy, the humanist formal model of body as object is replaced with a the subjectivity and performativity of a user in action.

At the start of this project, the intention behind Sited Moss was simple but clear. The portico is a classical building. The architecture needs to be re-appropriated, even if temporarily, to stimulate intimacy, relationality and conviviality between the site and its users. The combination of mosses and soundscapes allowed for mnemonic associations and acoustic intimacy. This virtual re-construction of space looked for relational analogy between body and building. Lozano-Hemmer's work, which came next in Under Scan, confirmed that such 'relational' approach is possible. The representation of the body in Under Scan was striking. Not only did it emphasise an aspects of embodiment, which is very characteristic of the contemporary condition, but it also surprised its visitors with a new virtual/ambiguous representation of the body as flexible, creative. (This representation recalls the Sarah Chaplin's argument of bodies "lingering on the threshold".) Rafael Lozano-Hemmer noted that his intention was to look at the body in architecture as a process of becoming, a process of movement. For him, virtual interfaces often act like monitors that force us to forget the body. (And this is particularly true in Virtual Reality because one wears the helmet and is consequently distanced and isolated from the environment.) Rafael Lozano-Hemmer tried to re-embody the experience of representation, the concept of shadows and the glance (or the eye con-

tact) was the main drive behind the relation between body and portraits, and hence body and environment (Mounajjed, 2007a). Before embarking on the third intervention (Threshold) it was becoming clear that by intervening in an architectural site, virtuality has an impact on bodily analogy in architecture.

The interventions helped me examine in real-context the bodily response to relational interfacings. With the three interventions, there was a clear focus on body sensibilities, movement and interactivity. In Under Scan, we see the body activated, bending and lying over its own shadow. In Threshold, on the other hand, the body is in action, flexible, extended, exploring the architecture through tactility, movement and sensibilities. The three interventions were constructed as a meditation and they suggested temporary transformations of the physical and social landscape. Sometimes this transformation led to rethinking the nature and functionality of the architectural space itself.

9.1.1 The New Cosmomorphism

Anthropomorphism, when it was still relevant, was not only looking for figurative representation, but represented the 'Order', and this order denoted a relational connection between body and the world, and by implication between body and architecture. With time, the tradition has been emptied of its metaphysical (and cosmomorphic) dimension. It lost its legacy in representing the 'order' in the original sense of the term.

In the old days, one could not discuss anthropomorphism without considering cosmomorphism. The classical 'relational' concepts examined the realm of human experience in relation to a wider context: the cosmos. With modernism and pot-modernism, emerged a body extending in space. This gradually unfolded with a cross breeding and interfacing between body and building. With time, virtual networks (surveillance, internet, communication systems) formed a platform for new types of embodiment. And the ubiquitous computing and the recent expansion of digital production and media culture all lead to new architectonics of embodiment. Hence, in an extension to the cosmomorphic tradition, architecture started to point outwards again to the greater order. But this time, what used to be cosmos is now a flow of information and communication system related to the world: body and architecture are related once more through interfacings (e.g. Sterlac).

Figure 99 illustrates the development of body representation from the Vitruvian body, to the extended body of Schlemmer, and all the way to the amplified body or cyborg of Sterlac.

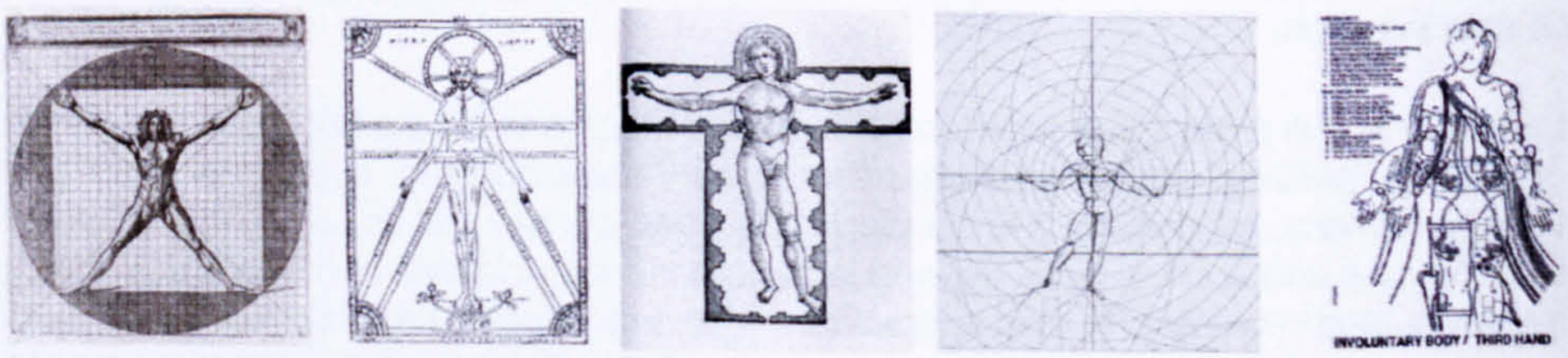


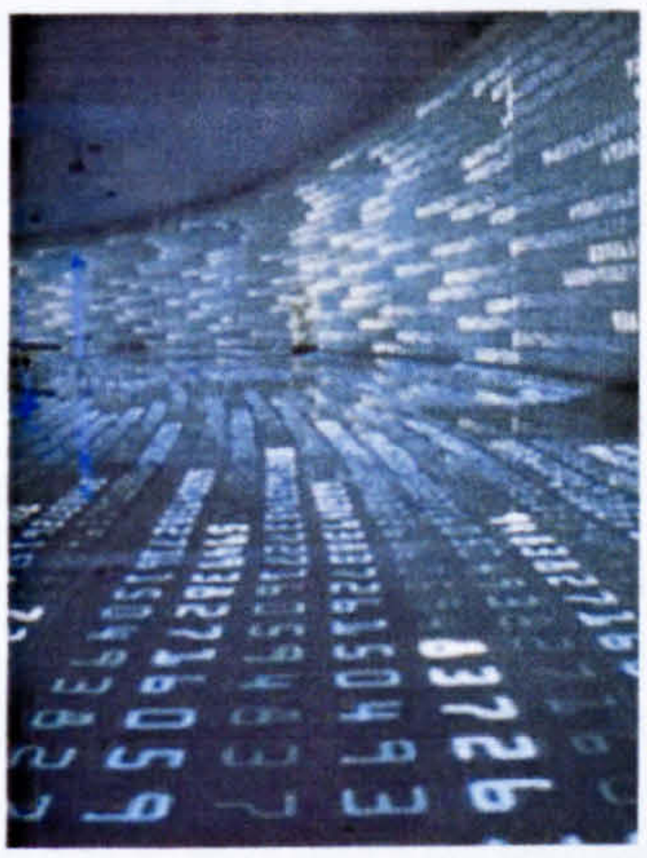
Figure 99 The body and the microcosmic doctrine
Examples from the historical development of bodily analogy in architecture, Architecture as part of the architecture of embodiment, today architecture also involve communication systems and networks, is becoming networks not cosmos.

This new concept of cosmomorphism confirms Adrian Forty's discussion of the Order. This Order is defined as the process by which experience has been filtered, transformed and fed back to us through in cyber culture (Forty, 2000, p. 248). And so relational interfacings and the expansion of virtuality open the door for new analogies or transprojections between

body and building. Figure 100 presents an example of this trans-projection, brought about by opposing two parallel representations of body and space.

The right hand image illustrates the representation of the body in Under Scan. This is a particularly interesting one. The image barely shows the user's physical body. What we actually see is the projection of image on the shadow of this body. The mapping of a second body in the intimate space of the body (that of shadow) suggests a transgression or at least a suspension of spatial boundaries in what is known as a whole defined body. First as I noted earlier, Under Scan contests the anonymity of the public body by mapping and overlaying another body on top. But also the stratification of multiple bodies overplayed on top of each other is part of a new sensibility. The user's body is asked to perform and interact amidst a 'hybrid' spatial structure where the material meets the immaterial and the physical merges with the illusory.

This approach is not only limited to the affects of interfacings on the body of the user but is also extended towards a general approach to interfacings in architecture. The image on the left illustrates "Blurring Architecture" by Toyo Ito. And the intention behind the two images is to compare the multiplicitous body with the space of Ito. Both images emphasize the suspension of boundaries imbedded in the very idea of interface. And the flexible, extended and 'sensible' body is paralleled with syncopated space, adaptable and susceptible to constant modification.



Blurring architecture, Toyo Ito. An example on syncopated augmented spaces
Source:
http://www.noemalab.org/sections/specials/tetcm/2002-03/toyo_ito/main.html

The representation of the body in Under Scan as example of the multiplicitous augmented body
Source: Under Scan book, 2007,

Figure 100 Comparison between Multiplicitous body and multiplicitous space

9.1.2 The Body as Measure

From his earliest steps, man has invented means of measurement whose names are foot, inch, cubit, ampan, fathom, etc. With these tools (of measurement) he has built houses. Buildings were constructed by means of these human measures. From the body in the circle to the body as a system of perception emerging with enlightenment, underlying a conflict between the subjective reality of perception and the objective dimension of harmony and on aesthetic principles whether beauty (aesthetics should be built) is related to harmony or to sensitivity of the subject.

Figure 101 illustrates two representations of embodiment by Le Corbusier (left) and Lozano-Hemmer (right). Both bodies appear with the same position relating and extending in space. Not only do the two bodies look the same but they also represent the notion of body as measure. Nevertheless they take radically different approaches. In Le Corbusier's case, the body is a tool for commensurability; Le Modulor' became a measure of prefabrication allowing for efficiency and proportion in house production (Le Corbusier, 1961; Imre, 1999). On the other hand, with Lozano-Hemmer, the body is also seen as a measure, but this time, it is body of user put in action. And what matters here the most are the sensibilities, movement and interactivity of the body as they become the measure of relationality in architecture.

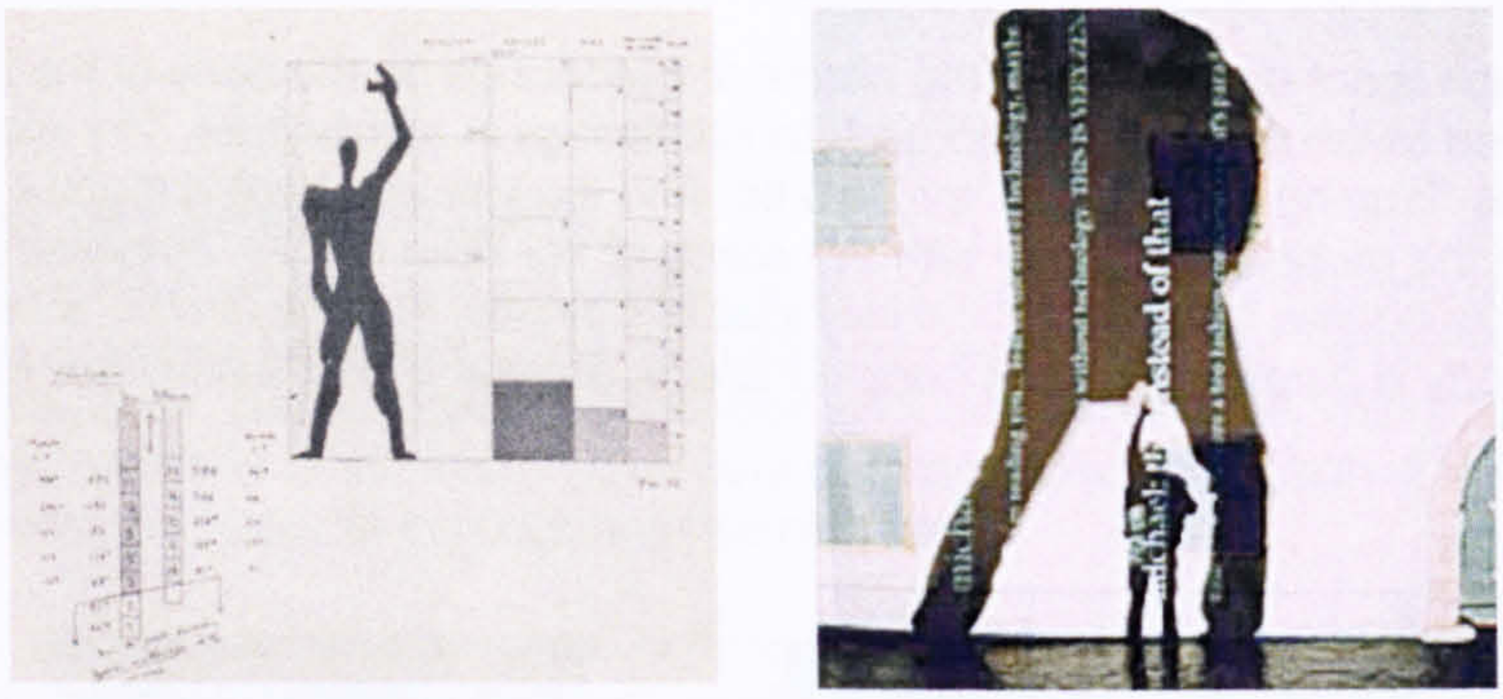
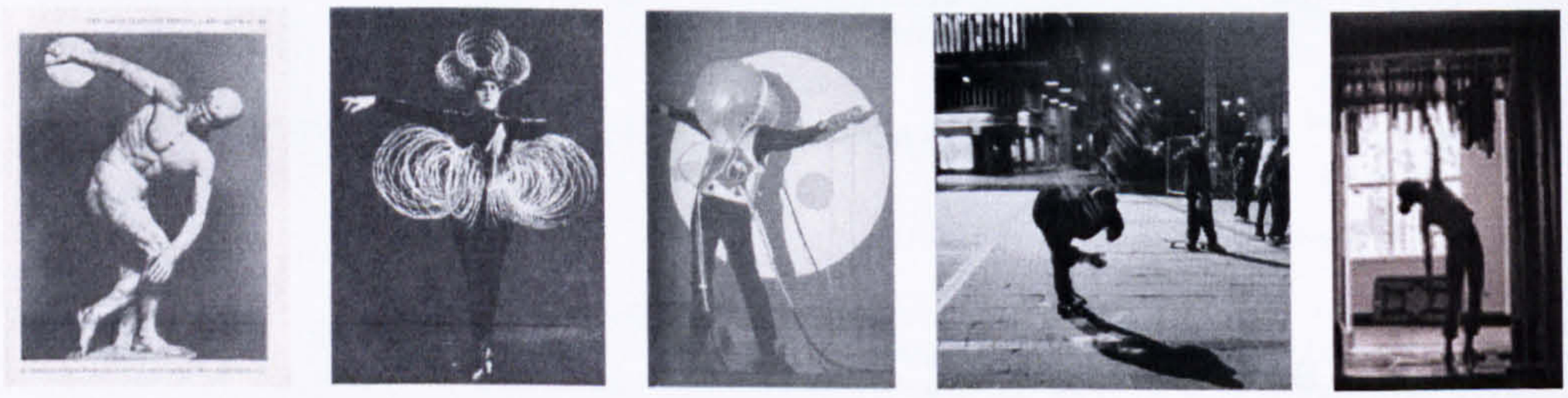


Figure 101 The body as measure in architecture
A comparative observation between the body of Le Corbusier and the body of Lozano-Hemmer. Both bodies appear with the same position as measure to architecture.

For instance, let us consider movement. Body movement, Virilio argues, should be considered as a measure of spatial qualities. Movement should be integrated as one of the key principles in architectural design. Throughout the different historic representation of the body, we find reference to movement. Since Greek sculpture, we see that motion is a universal product of personal experience, always trying to explore our relation to the world. The viewer cannot mistake what the motion is; a single rhythmos has captured the whole action. Just as symmetria gave rational order to form. With time, we a shift from the fixed, normalised body of Le Corbusier, into an extended body, a cross breeding with space through movement. Later, the focus on animism of post-human body implied animism in architecture (see Figure 102).



Motion and emotion in Greek Sculpture.

Schlemmer: Dance and costumes

Post-human body of Himmelblau

Interactive body in Under Scan

Dancing body in Threshold

Figure 102 Body movement as measure of space

In this context, movement here can be understood as an event; a planned or improvisational script that people and objects enact in space. It can also be defined as qualitative (or quantitative) measurement of a person's response to specific architectural conditions (in this case to the interfacings). This definition has become more possible in light of real time analysis made possible by digital tools, such as using video-camera or surveillance systems to measure movement.

9.2 Re-defining the Interface

The variety of works presented in this study confirms the potential of the notion of interface in architecture. In fact, the interface can move beyond its role as technological novelty to become an aspect of embodiment. Two ideas recurred in this intervention: First, the idea of intuitiveness, and second, site-mapping and the articulation between virtual and physical site. Based on these two ideas I extend the definition of the interfaces beyond the technical to involve two dimensions: the sensible and the locational. Whereas, the sensible dimension relates to cognitive and sociospatial practices, the locational dimension relates to site-mapping through locative media, dislocation or trans-locational systems. The sensible, locational and technical affects of the interface unfolded with memorial experiences and a model of sociability in the space of the interventions.

The interventions were helpful in two ways: first in terms of defining, and designing, the interface. Second to test its affects on the users experience of architecture. The technologies used in the interventions are comparable. Each of the interventions was generally based on three main components: (1) a tracking sensory system to detect visitors' movements, (2) Servers to generate/process detection signals, and (3) a projection device to overlay the virtual layer on-site. The aim behind these technologies was to provide some kind of semi-transparent interface that could spark spontaneous connections or interactions between the site and the users. These technologies were not originally designed for art or architectural use. For instance, PLC systems are widely used by the automation industry. In Under Scan, the system used was conceptually and technically based on a surveillance system. However, technology was mainly used here as a basis to create relational interfacings between the body of the user and the architectural context.

First, one objective is to explore the 'siting' of the interface. This relates to site mapping through the process of 'unfolding' the specificity, history, associated stories and collective memories in order to outline the various events and experiences. The aim is to challenge the concept of the site as a permanent knowable whole. Such reading of site-specificity in art and architecture could help to rethink the interventions in relation to their context. Hence, virtual interventions in architecture can be considered as implicit spatial palimpsests with virtual effacing, transparency, scribing, layering, tracing, collage etc.

This was evident in Sited Moss. In Sited Moss, Kim and I looked for the different events which remained or were effaced. The site was dislocated with the soundscapes. Somehow it was negated, rewritten like a spatial palimpsest. In Sited Moss, original plans aimed to create a trans-locational projection to allow for exchange of real-life narratives and voices between the two very different physical locations (Damascus/London). Similarly, in Threshold, the chimes may have been more interesting if it projected in real-time mini narratives from the campus of the conference location. Also, in Under Scan, the artist explained the technical difficulties that prevented the ghostly portraits from whispering secrets to the users.

Drawing on Lozano-Hemmer's work, what I tried to keep primary throughout my interventions was the notion of intuitiveness. The notion of an intuitive sensible interface took on a very significant role as it involved the use of technology in a way which responds to the human body, its needs and sensitivities, instead of being driven by technology alone. The real

interfacing in this sense is as abstract as the shadow portraits in Under Scan and soundscapes of Threshold. One can hardly think of an interface more intuitive than the human shadow, or a musical instrument where movement is the main drive behind interactivity.

In my interventions, the interface focused on users memory, movement and interactivity. Outcomes in Sited Moss reported that the soundscapes implied a certain sequence of movement within the space of the portico: people entering, gathering next to sound and then experiencing the whole space. These bodies are "sentient bodies" because the intervention focused on the stimulating and referred to the users sensibilities in architecture. The Under Scan intervention unfolded with clearer results as users developed a pattern of movement in relation to the different settings of the installation (Portraiture versus Interlude). The outcomes from the Threshold project also pointed to a possible relationship between the users' interactivity with the space and the intervention.

Looking back at the diversity in reaction and interaction within the three interventions. I could identify five interactive characters: the playful, the indifferent, the contemplative, the intuitive (or adaptable) and the creative. I can discuss different behaviours: interactive, passive, adaptive, intuitive, and creative. For instance, the indifferent users in Sited Moss and the passive participant in Under Scan, who is also 'principally' resistant to technological interventions. Also the creative or expressive users, who were dancing, jumping, laying on the ground in Under Scan or dancing in Threshold. There is the adaptable user who matches or extends his body to interact with the space, such as those who used their head to stimulate the interactive chimes in Threshold, or others who tried to adapt their shadows to stimulate the video portrait. I have seen users' shifting attitudes.

Relational interfacings relate the body to architecture through: memory, movement, location, sensation and spatial narratives. When based on human characteristics, relational interfacings stimulate interesting response from users such as sentience, interactivity and flexibility. And there is a correlation between the perfrormance of users and virtual projections in space. Findings showed that people respond to virtuality by changing their movement to interact with the sound or images. Hence, the success of an intervention is based on the user's activities and exchange within the space. The body of the user becomes a measure and a basis for relational interfacings. And there are specific issues which play a role in stimulating more action from users: for instance, adding a playful dimension to the piece or creating perplexing or funny situations.

Relational interfacings form one of many possible interpretations to the interface. Other interpretations may look at "chiasmic interfacings" where the interface becomes truly an element of being. The cyborg could be another aspect of the integration of the notion of interface in embodiment. In the context of Haraway and Grosz theories, the interface could started to suspend boundaries between public and private, between body and architecture or between the physical and the virtual. Virtual constructions can be used for temporary reappropriation of architecture for didactic and entertainment purposes.

One of the interesting aspects in this research is the fact that it brings together technology and humanities. As Saariluoma (2007) explains, humanities and technology were often considered distinct disciplines. But in the last few decades, the two fields could no longer be separated. On the part of technology, this takes the form of open refuge into collaborative and artistic embrace and human centred approach in technology. On the humanist side however, the embrace has been less open. The term "technology", and particularly the "interface", still cause discomfort in the architectural humanist circle.

Surprisingly, the art world seems to approach this question of technology in a more efficient way. Most of the examples I refer to in this thesis, as we have seen, emerge from art practices—and particularly installation art. Relational artworks from Lozano-Hemmer to Wodizscko provide the integration of media technology to politically re-define site-specificity, memory and sociability. These examples from art demonstrate that there is an emerging

tradition of looking at virtuality and media technologies in a new way. The question is: Why do art practices succeed in merging technology and humanist issues?

In the context of this research, I believe that some art practices proved to integrate technology within the processes and products of human creativity and social life. As architects, we can learn from such art practices: we can start to integrate technology more within architectural design. One way would be to involve artists in integrating media technologies in real life interventions (like I did in this research). Another way would be to start acknowledging the virtual dimension in architectural design (as we have seen successfully in the Mossbrook Special School or the Kunsthaus).

9.3 Developing the Interventions

The three interventions involved intuitive and 'sited' interfaces, where touch, movement and shadows were the main drive behind the work. One of the expected extensions of this study could explore further the sensible and locational dimensions. Furthermore, relationality may be understood in the context of spatial re-appropriation. This study started to explore how didactic, communal and more creative re-appropriations of space. Under Scan will probably be installed in other locations to be experienced by other people. Like Sited Moss, it aimed to create critical moments of reflection, narrative with location.

Concerning Threshold, it would be also interesting to explore the piece in different contexts. This time it was exhibited for conference participants, but it would be also interesting to see how such work maybe experienced by children. We have been invited by FACT cultural centre in Liverpool to exhibit the work for children in future cultural events. Threshold is a flexible structure. The content of the sounds could be developed to stimulate the children's imagination and the piece can be changed to respond to children's bodies. Children are more intuitive and it would be interesting to see how they would interact with the piece. The piece may be considered didactic in this case, but not in the sense of preaching one narrative, the interactive chimes allow for creativity and the storage of different mini-narratives.

Future interventions can have other cultural and recreational implications. They promise to play a significant role in the reproduction and temporary re-appropriation of architecture as they restore the participatory and interactive role of the users. For example in the context of built heritage, relational interfacings could create a rich discursive realm between body and building, on the one hand, and between heritage and the contemporary provision of public and social life on the other hand. There is also potential for such interventions in the context of recent leisure revolution. Under Scan is a good example on this. These playful grounds for the public in the space of the city may be considered in relation to the recent extension of the leisure revolution as it grows to invade different domains, blurring edges between recreation, art, culture and space. The work of Lozano-Hemmer in particular brings to light a new public leisure activity and a ground that lies in between heritage, gaming, performance and the media (Mounajjed et al. 2006b).

More buildings have started to introduce media technology as integrated aspects of the architectural experience. I have argued that virtuality has been integrated for communication and entertainment purposes, but it could also be integrated for other purposes, (didactic for instance: I have already mentioned the Mossbrook Special School where virtuality has been conceived for learning of students). Virtuality must be accounted in the design of the building. In a few recent architectural projects, there has been an increased tendency to think both virtually and physically about architecture. Both the Mossbrook School and the Kunsthaus tried to integrate media technology and virtuality in the body of the building. They were integrated as part of the design process.

Following my experience with this genre of installation practice, I came to believe that ethnographic installation and the 'intervention protocol' it led to, is potentially a rigorous strategy for other research projects, even those related to design. I applied the strategy by working with a combination of artistic intervention and ethnographic study. As a result, I can conclude that not only can interventions generate interesting behaviours for ethnographic study, but also the results of that study can be used to improve the next iteration of the artwork. This strategy thus provides an example of how creative practices can engage with and be informed by a research perspective used quite widely in disciplines such as HCI.

This analysis of the interface would not have been possible without the interventions protocols. I have been working with a strategy, which allowed to look into the details of bodily experience, aspects of corporeality and relationships between the elements of the interventions. It also set the ground for the shift from the objectification of the body to styding subjectivity, and allowed using/combining design practices with methods of analysis from installations to video-analysis. As the study developed, the protocol also developed. Site-mapping was useful to study memory, sociality and site-specificity. Ethnographic mapping was developed into a process where body movement becomes a measure of performativity, and the possibility of a horizontal replication allowed me to repeat the work in different contexts.

Not only did the protocol allow measuring the affects of the interface through the body of the user in architecture, it also helped me identify and define the body I was studying: In Sited Moss, results led to a sentient body. In Under Scan, it was more interactive. In threshold we see a body adaptable, flexible and extended in space. The protocol is a flexible and creative framework. There are numerous possibilities for development by integrating other qualitative or even quantitative methods.

As we embark on more interdisciplinarity in research, further studies may look into performance practices which engage the design and inhabitation of the built environment. The study presented in this thesis offer an example on the role of new technologies in facilitating this performative turn (i.e. physical or virtual constructions that in themselves "perform", embedded or situated technologies that enable architectural and social performances and experience-based design). For instance, further investigation may ask: How have or will digital technologies of mobility, networked information contribute to new performative criteria onto architecture and architectural education?

I believe that some aspects from my research strategy could be practiced in art, architecture, and even in ethnography. In art, there are indications that some artists used quasi-ethnographic methods to document their artworks (i.e. Lozano-Hemmer, 2006; Nauman, 2005). However, it is not clear to what extent this has informed their practice. Ethnographic mapping may offer new directions in the use of ethnography in this respect. It could allow for more effective organization of data and would facilitate the assessment and improvement of the artwork. In interactive art, this strategy may be used to examine the users' behaviour or interactivity in response to the artwork. In ethnography, on the other hand, the bricolage process, which forms an important aspect of this strategy, may offer a deeper insight than observation alone. It could provide a creative and flexible process for the researcher.

Although this PhD thesis does not fall into the 'research by design' category, the strategy could move beyond the limits of this thesis to inform other research and even perhaps design processes. For instance, this strategy may offer the opportunity for users to directly experience the design and give feedback to the designer/researcher about their views experiences and recommendations (i.e. through interviewing). It can also provide a first hand experience for the researcher/designer to observe and examine the user's interaction and behaviour in relation to the product, interface and/or environment design. Furthermore, ethnographic interventions can be used in design courses. There is evidence that installation is being taught in art and architectural programs (Mounajjed, 2006). The ethnographic intervention may add a more defined framework for students to creatively use different tactics with their design (i.e.: installation with video-recording or observations).

In architecture, the strategy may lead to further applications. In this research, the mapping was applied in various architectural spaces (entrance area, portico, public space). It would be interesting to apply these methods to environments of different scales, contexts, or functions; for example, a transportation system, an interactive space (smart room, interactive surfaces, etc.), or an educational space. Our understanding of the strategy would also be enriched if comparative studies were applied to a greater range of environments than the three installations studied here. Furthermore, this thesis has focused particularly on mapping sociospatial practices. Future studies might investigate mapping memory, sociological mapping, or mapping interactivity.

9.4 Further Research

The bodily analogy in architecture is a complex area for research. Whereas much has been written on these early and subsequent periods of the Vitruvian tradition or Le Corbusier's Modulor, many other equally interesting topics are still wanting for investigation. And there is a particular shortage of work on contemporary analogies between body and architecture.

Even though I referred to poststructuralist and phenomenological ideas to underpin my study of embodiment. But feminist post-structuralism and phenomenology are rich areas promising further outcomes on the subject of the body in architecture. In this research, I tried to focus on the idea of cross-breeding, extendibility and sensibility: more specifically relational interfacings. Yet the interface is an important and ambiguous post-modern phenomenon, which extends to mean many things. There is a lot of work which may be done to explore further the impact of this new and emerging concept in architecture. Poststructuralist theory may again offer the ground for such exploration. Phenomenological ideas also promise to shed light on the changing conditions of architectural experience.

In this study, I was concerned with the mediated bodies and virtuality in the digital age, however the virtual dimension means many things. I only looked into augmented spaces. And this is just a part of the virtual expansion in architecture. There is a whole domain involving Virtual Environments and Virtual Reality, Further investigation in this area may extend the discussion to focus on contemporary processes in virtual reality and how the corporeal dimension might become manifested in sensible ways. Especially since this field is often at risk of loosing track with the humanistic perception to the body.

Another area for research may contemplate the representation of body in architecture. The representation of the human figure has been central in architectural design. It is becoming as significant in computer-aided design. Again here we see that this representation often implies a misunderstanding of the spatial needs of users and the development of technology. In this thesis, although I have not explored these particular points, the theoretical background in Part One can provide a helpful framework for further research in this area.

9.5 ...In Conclusion

I started this thesis with examples of The Unilever Series. And to the Unilever Series I return to conclude this work: The seven installations so far exhibited in the Turbine Hall of the Tate are part of a wider intellectual manifestation attempting to understand embodiment. In the Weather project, Olafur Eliasson takes this ubiquitous subject of "weather" as the basis for exploring ideas about experience, mediation and representation. In this installation, The Weather Project, representations of the sun and sky dominate the expanse of the Turbine Hall.

Figure 103 'The Weather Project', sponsored by Unilever, Tate Modern, London.
Images show the visitors responding to the piece, by lying on the ground or staring at their reflections on the roof, or contemplating the orange disc (the Sun). Source of illustration: Retrieved March 31, 2007 from: http://www.telegraph.co.uk/arts/main.jhtml?xml=/arts/2003/11/12/batate12.xml

What is interesting is the use of special technology: At the far end of the hall is a giant semi-circular form made up of hundreds of mono-frequency lamps. The arc repeated in the mirror overhead produces a sphere of dazzling radiance linking the real space with the reflection. Generally used in street lighting, mono-frequency lamps emit light at such a narrow frequency that colours other than yellow and black are invisible, thus transforming the visual field around the sun into a vast duotone landscape (telegraph.co.uk) (see Figure 103).

Eliasson puts us face to face with the question of embodiment and the role of art and environment in this. As noted in the Daily Telegraph: "It is as though some deep primeval instinct compels us to do something—waving our hands, scissoring our legs, huddling in groups, forming shapes with our partners—to reassure ourselves of our individual existence in the universe...What this great artist has done, literally, is to hold up a mirror and show us who we are" (telegraph.co.uk, 2003, ¶ 6). The Weather Project described how architecture and the representation of the body in relation to the world continues today. Eliasson reinterpreted the space through his intervention, and looked at his representation of architecture as a mediation towards the structure of embodiment as a whole.

The "virtual sun" has a reference in everyone's core. A fine mist permeates the space, as if creeping in from the environment outside. Throughout the day, the mist accumulates into faint, cloud-like formations, before dissipating across the space. A glance overhead, to see where the mist might escape, reveals that the ceiling of the Turbine Hall has disappeared, replaced by a reflection of the space below. If there is an interface or technology then this is perhaps what the experience of virtuality in architecture should look like. By reversing the inside out, Eliasson has opened the 'box' to show us the world. In his work, architecture truly becomes a representation of the structure of embodiment.

As we see works like "the Weather Project", "Threshold" or "Under Scan", we start to wonder to what extent the virtual will define our everyday architectural experience from now on. In this research, my investigation was exploratory. But it showed that we clearly need sensible interfaces which are not simply an investigation of technology, but poetic and symbolic as well. It should speak of the individuals and their complex society, of their aspirations and their historical tradition, of the natural setting, and of the complicated functions of the world.

Illustrations

Glossary

Anthropomorphism

The attribution of human characteristics of the body on the building or the city.

Architectonics of Embodiment

An expression representing the primary structure of embodiment—and architecture being the most elementary mode of this structure of embodiment. This term was borrowed from Vesley (2000). In his essay, Vesley explains that things in the world are proportioned with respect to a unifying whole, as an open dialectical structure, and not for themselves as a visible unity or closed system of proportion.

Bricolage

The word comes from the French-language verb *bricoler*, meaning "to tinker" or "to fiddle". It is a *'travail d'amateur'* meaning handiwork: something constructed by using whatever comes to hand. Here, *bricolage* is used to mean the processes by which researchers juggles tactics and methods within the interventions.

BwO

Body without Organs: An aspect of embodiment. BwO is a series of virtual affects in a non-organic and non-organized multiplicity, molecular rather than molar. One can reach the BwO by moving different levels of sensations and intensities, BwO moves beyond the limitations of organism (as the biological organization of organs). There are two poles to the BwO: the social (molar) and the desire (molecular). And we continue to exist between these two realms of order (stability) and disorder (change and disintegration on the other). It is a post-organic body in the sense that organism becomes a limitation, an enemy, of experience (Deleuze & Guattari, 1999; Bogue, 1989; Uhlmann, 1999, p. 59)

Chiasm

An aspect of perception. It is what acts as a go-between the body and the world offering a means of communication between the two. This word was proposed by Merleau-Ponty

	meaning: "The Intertwining of Flesh". See 'flesh'.
Chiasmic Interfacings	A word deriving from two concepts: the chiasm and Interface. It is an aspect of embodiment where body and architecture are intuitively intertwined. It is a perceptual crossbreeding between body and environment.
Cosmomorphism	The representation of embodiment where the body is related to the world.
Cyborg	This cyborg body reflects a representation of embodiment where the body's physical abilities are extended beyond normal human limitations by mechanical elements built into the body. The cyborg body is half organic half digital Donna Haraway defined the Cyborg as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction" (Haraway, 1991, p. 180).
[Dis]locating Specificity	A one-day of site-specific conferencing initiated by Penny Florence, Director of Research at the Slade School of Fine Art and Jane Rendell, Director of Architectural Research at the Bartlett School of Architecture, The conference was an invitation to engage with a location in UCL. It resulted in proposals for installations involving different materials and processes, from mosses to voices, from meteorology to memorialisation, extending debates around site-specificity into the production of practice-based research within the academic institution.
Ethnographic Interventions	A strategy based on two disciplines: art installation and ethnography. It involves an artistic intervention in architectural sites as well as ethnographic methods to research the conditions resulting from this intervention. In this strategy, installations are investigated when they intervene in a particular architectural context to explore correlations between virtuality, location, and embodiment.
Flesh	An aspect of embodiment. It is the 'element' of being, which bounds the body and relates it to the world and the other—all held in particular moment at a particular place. It is also the "thickness" which separates body and environment or separates objects in space is 'continuity': The flesh is "the thickness of the body, far from rivalling that of the world, is on the contrary the sole means I have to go unto the heart of the things, by making myself a world and by making them flesh" (Merleau-Ponty, 1968, p.135).
Interface	When virtuality and electronic media mediates between body and architecture through sensory systems. In this study, the interface moves beyond the technical to involve locational and

	sensible dimensions. It becomes an aspect of embodiment, a crossing of boundaries between virtual and physical, or between body and architecture.
Intervention	An ethnographic installation, which takes place in an existing architectural site. The Intervention is an interference in an architectural formation through the means of an interface, it allows for redefining models of sociality in architecture. In this study, each intervention was considered a case study in this research.
Locative Media	A virtual construction in space. Locative media is the combination of mobile devices with locative technologies, and which supports experiences and social interaction that respond to a participant's physical location and context. This comprises mobile, wearable, distributed, networked and context-aware computing devices. It also includes everything from mobile *games, place-based storytelling,* spatial annotation and networked performances to device-*specific applications (Gallo*way & Ward, 2005, p. 4).
Protocol	The intervention protocol is a research framework involving a complex configuration of methods. It is a system of meaning, a discourse, which acts as a complex unit or an enunciative field. The protocol marks a crucial intersection of discourses and practices and sites, which locate the intervention within a definite social/architectural formation. It involves a bricolage approach and consists of three main processes: (1) site-mapping, (2) ethnographic mapping and (3) a horizontal replication.
Spatial Palimpsest	A space is like a palimpsest. Some events have been erased and some will be written in the future.
Virtuality	The design of virtual layers in architecture by mapping sounds and images on architectural sites.

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Endnotes

1. This approach is based on a course taught at the School of Architecture, University of Sheffield. The course, led by Stephen Walker in 2003, was entitled "Body & Architecture". It helped me to set a framework to start my research. Some of the "Bodies & Architectures" series of studies were reconsidered/redefined according to their relevance to the thesis.

2. Classical is used here in Pollitt's term: on the meaning of classical, Pollitt (1972) argues: the historical sense 'classical' has also come to mean 'of or pertaining to Greek and Roman culture'... Around the beginning of the nineteenth century the historical and qualitative significances of 'classical' were fused into a new stylistic sense. ...'Classical' came to imply a style which was highly formal and ordered as opposed to one which was intensely 'emotional'... Since the latter part of the nineteenth century historians of Greek art have customarily to the art produced in Greece between the Persian wars (481-479 B.C.) and the death of Alexander the Great (323 B.C.) as 'Classical'... In effect, they limited the historical meaning of 'classical' but maintained its qualitative and stylistic senses." Pollitt, J. J. (1972). Art and Experience in Classical Greece: Cambridge University Press, p. 1-2.

3. "The 'Modulor' is a measuring tool based on the human body and on mathematics, a man-with-arm upraised provides, at the determining point of his occupation of space- foot, solar plexus, head, tips of fingers of the upraised arm- three intervals which give rise to a series of golden sections, called Fibonacci series. On the other hand, mathematics offers the simplest and also the most powerful variation of a value: the single unit, the double units and the three golden sections." This was the description given by Le Corbusier in his book: Le Corbusier, The Modulor, a Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics. Translated by Peter De Francia and Anna Bostodk. Second ed. 1 vols. London: Faber and Faber Limited, 1961. P: 55. The Modulor aimed to solve the problems of converting the metre to inches, it also was meant to reduce the obstacle created by the irreconcilable systems of measurement, the metre and the foot-and–inch.

4 . Deleuze here refers to Beckett's understanding of movement. Movement as related to change and the production of the new. Beckett tries to achieve exhaustion so that the movement will stop, because without movement there is 'nothing' (and once nothing has been achieved, the end, the merging with the infinite, has been reached at last) (as cited in Uhlmann, 1999, p. 20-21)

5. Davis based her concept on Bachelard's "Poetics of Space" and on Arthur Deikman's "Deautomatization and the Mystic Experience".

6. Davis explained: "OSMOSE was designed as an alternative to the dominant aesthetic and interactive sensibility of virtual reality. The work was created by Char Davis, John Harrison, and Georges Mauro, with sound by Rick Bidlack and Dorota Blaszczak, and was produced by Softimage between 1994 and 1995. Public installations of the work were made in an intimate enclosed immersion area with a darkened visitor space. Visitors were able to "witness" each immersive journey from the immersant's point of view as it took place via liver audiovisual connection. Adjacent to the video projection was a live shadow projection of the immersant, providing an associative link between his or her body as conduit for lived experience, and the work's consequent imagery and sound."; Davis, 1998.

7. For the user interface a method was developed that relies on the participants own breath and balance rather than on conventional, hand-oriented methods. (This method is based on breathing in to rise, out to fall, and leaning to change direction, which brings the experience inward, "grounding" it within the core of the participant's physical body.

8. 'Murmur' is a work by Gabe Sawhney. It was presented at Futuresonic 2004, as part of the Locative Media Lab session. In 2005, Gabe Sawhney revised his story collection process and launched [murmur] in a new neighborhood in Toronto. For more information on this project, see: http://murmure.ca

9. For more information on this artist work, see her website: http://www.terirueb.net

10. Nineteenth-century terminology: "the philosopher Robert Vischer, who coined in 1972 the word "empathy" (Einfühlung), spoke of it as being a feeling rather than a process of formal thought. He sensed an almost mystic quality in empathy and spoke of a person forming an emotional union with an external object. Observing that feelings may be aroused by experiencing totally abstract objects (as well as storms, sunsets, and trees), he surmised that we may empathise with objects by projecting our personal emotions into them.... He suggested in this way that the feelings of the artist while making a work of art could become the content of the work of art. This is an extraordinary thought, for in the context of architecture it implied that feelings of the inner self might be projected to the walls, doorways, and domes of a building" (as cited in Bloomer & Moore, date, p. 27). "Some early twentieth-century exponents of empathy tried to find specific formal identities between the shape and activity of the object of empathy and the body-reaction of the perceiver" (as cited in Bloomer & Moore, date, p. 27)

11. Another way of characterizing the present cultural situation, in its most creative aspects, would be to speak of a new attitude toward pleasure. In one sense, the new art and the new sensibility take a rather dim view of pleasure... If hedonism means sustaining the old ways in which we have found pleasure in art (the old sensory and psychic modalities), then the new art is anti-hedonistic. Having one's sensorium challenged or stretched hurts... There is, in a sense, no such thing as boredom... and the new languages which the interesting art of our time speaks are frustrating to the sensibilities of most educated people." (Sontag, 2001, p. 302/303)

13. By tracing the emergence of the term 'user' to the canon of modernist discourse (1950s and 1960s), Adrian Forty pointed out its contradictory role as both a cipher for user-functionalism and as the emancipator opportunity for 'users' to appropriate buildings for their own 'use.' Forty explains that the positive meaning of the term started to be understood after the 1990s; mainly due to Henri Lefebvre and Herman Hertzberger (Forty, 2000, p. 312-316)

14. What I understand or have called the politics of imperceptibility is a politics in which it is not the subject who acts, is an agent, produces its own identity retroactively, but forces in and through the subject. It is a theory of agency which situates it below the level of the subject, as Nietzsche suggests, on the level, perhaps, of cells themselves. What acts are forces, and these forces are not the effects of a subject but its causes, they are not the intentional object of a subject, but something altogether outside the subject. This philosophy of imperceptibility is about the capacity to act, whether or not it is received by someone as its audience or addressee.

15. She argues, calling to get rid of the peculiar control of the 'other' over the subject because the subject has to negotiate with the other as its compromise for existing in a world peopled by others.

16. Rafael Lozano-Hemmer used a computer-vision tracking system to monitor the location of projected shadows. This produced a very intuitive interface as everyone has a sophisticated vocabulary of expression using his or her own shadow. Therefore, it was not necessary to explain how to participate (as cited in Sullivan, n. d.). Lozano Hemmer explained: "Interfaces are most interesting when they are intuitive, not in the way of the interaction. Body Movies is the first piece I have made where the interface does not really need to be explained, no instructions or menus are needed, as we all already have a sophisticated vocabulary of things that we can do with our shadow. The interface is a language we have to question-poetically and critically" (as cited in Galdman, 2006).

17. The term "installation" appeared as its own listing in general reference books sooner than it did in The Art Index. The Oxford Dictionary of Art (1988) defines installation as a "term which came into vogue during the 1970s for an assemblage or environment constructed in the gallery specifically for a particular exhibition. The Glossary of Art, Architecture and Design Since 1945 (1992) concurs: "the word 'installation' has taken on a stronger meaning, i.e., a one-off exhibit fabricated in relation to the specific characteristics of a gallery space... in the late 1980s some artists began to specialize in constructing installations with the result that a specific genre- 'Installation Art'- came into being". Source: Reiss, 1999, pp. xii

18. The installation idea began again as far as I know in alternative spaces, because the Minimal venture was an impetus to that, because people were doing big things and they were doing stuff that in some ways didn't need a gallery. And then there were a variety of needs that involved abusing the space... And there was a tremendous surge out of the gallery and the lack of permissions within it. And the gallery as a commercial site was rejected in a variety of ways and that led to the installation idea that we know. And I think it paralleled the growth of unofficial institutions". Source: Reiss, 1995, pp. 111

19. Bishop argues that: "The emphasis on immediacy is familiar since the 1960s...Yet, instead of a "utopian" agenda, today's artists seek only to find provisional solutions in the here and the now; instead of trying to change their environment, artists today are simply "learning to inhabit the world in a better way"; instead of looking forward to a future utopia, this art sets up functioning "microtopias" in the present" (Bishop, 2002)

20. Claire Bishop explains that "some European work is rather low impact in appearance, including photography, video, wall texts, books, objects to be used, and leftovers from the aftermath of an opening event. It is basically installation art in format, but this is a term that many of its practitioners would resist"; C. Bishop (2002), Antagonism and Relational Aesthetics, In October 110, fall 2002, pp. 55.

21. As examples on this practice, Mctighe discusses the work of Ann Hamilton, Doris Salcedo, Fred Wilson and Renée Green, whose installations were described by critics in terms of memory. These artists' works are distinguished by using a division of memory found in the work of diverse twentieth-century writers, such as Walter Benjamin, Bergson, and Foucault.

22. For more information on Rafael Lozano-Hemmer, see: www.lozano-hemmer.com

23. For instance, Rosenthal defines on category of installations as interventions. In his book on 'Understanding Installation: From Duchamp to Holzer', Rosenthal argues that 'interventions are site specific works that merge on institutional critique'; as cited in McTighe, M. E. (2005). Epic forgetting: Mapping memory practices in installation art of the 1980s and 1990s, University of Virginia, Virginia, pp. 433.

24. At the beginning of this research, I led two 'pilot' interventions. The first was a workshop entitled 'Making Music' and led with students at the school of architecture, University of Sheffield. The second and more significant pilot intervention was entitled 'Body and Matter: materiality and the Senses'

25. The project was part of 'Material Matters' conference, which was held at the school of architecture and visual arts from March 29 to April 1, 2002. The installation was designed and set-up with Pepi Chourmouziadou, a PhD Student at the School of Architecture, University of Sheffield. For more information on this particular conference and the Body & Matter project please see: K. L. Thomas (Ed.), Material Matters: Architecture and Material Practice. London: Routledge.

26. In the filming of the characters to be projected in the space, the 'actors' were free to express themselves in the video portraits in whatever way they desired (R. Lozano-Hemmer, personal communication, January 13, 2006). As a result, a wide range of behaviours, emotions and attitudes were recorded and projected.