ETHNOGRAPHIC INTERVENTIONS: A STRATEGY AND EXPERIMENTS IN MAPPING SOCIOSPATIAL PRACTICES

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Abstract: *A growing awareness exists of the possibilities of architectural research adopting working methods used by artists. Many artists have adapted ethnographic methodologies to map site specificity and issues related to community and sociospatial practices. This paper draws on related examples of art practice to formulate a specific research strategy: ethnographic intervention. Ethnographic intervention has three characteristics: (a) ethnographic mapping of spatial practices on site, (b) the possibility of a horizontal replication of the study, and (c) an intervention protocol. We define ethnographic mapping as a critical process directed towards a specific cultural, social, or architectural situation. This involves re-presenting the situation through observing, documenting, videorecording, and photography. We explore the necessity of horizontal replication for producing reliable studies. Finally, we discuss the development of a multi-stage intervention protocol as a creative and flexible instrument, involving design and preparation, data collection, interpretation, and narration. Three case studies illustrate how this strategy has been conceived, applied, and developed at architectural sites. The article concludes with a discussion of the outcomes, usefulness, and possible applications of this strategy in other disciplines.*

Keywords: *ethnographic mapping, sociospatial practices, intervention, interactivity.*

INTRODUCTION

Recently, many calls have been made to embrace interpretation, meaning-in-context, interaction, and the users' experiences in architectural research (Cuff, 1991). Other investigations have considered measuring the quality of space in architecture (Virilio, 1994).

More directly relevant here, Groat and Wang (2002) and Cuff (1991) discuss strategies to understand the dynamics of the profession from the user's perspective and to draw space as people perceive it. Another case in point may be found at Space Syntax (n. d.). Space Syntax focuses on space—the places through which people move and in which social and economic activities are enacted—and the research has resulted in new techniques for describing space and spatial networks. These ideas include ways of representing what people saw as they moved through space, meaning their visual field and lines of sight. The aim was to draw space as people perceive it—to see architecture from the user's perspective. In research, the Space Syntax Laboratory developed methods for analyzing and representing spatial experiences. Spaces were broken down into components, analyzed as networks of choices, and then represented as maps and graphs that described the relative connectivity and integration of those spaces. In a parallel framework, our research also tries to examine spatial experiences in architecture. In this article, we will explore an interdisciplinary method for mapping sociospatial practices in architectural spaces. The discussion will draw on the precedent practices from art, architecture, and social sciences to outline a research strategy.

Architectural studies have often used mapping techniques to explore spatial experiences or as a basis for formulating design guidelines (Lynch, 1960; Lusk, 2002 as cited in Groat & Wang, 2002). Mapping is 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. For instance, Kevin Lynch's (1960) study of *The Image of the City* is a well-known example. Lynch used correlational mapping to examine the way physical characteristics of cities were experienced and understood by ordinary people. In 2002, Ann Lusk also used mapping in her investigation of greenway bicycle paths (as cited in Groat & Wang, 2002, p. 228).

Mapping has proved to be a compliant and evolving technique. It has been used in different research (Susi, 1985; Wall, Karl & Smigiel, 1986). Mapping has even been used in some artistic practices, more specifically 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). More recently, the reassessment of site specificity initiated an original view of artworks and architectural spaces by relating them to social issues and the community, as well as ideas of place and non-place (Kwon, 2004). Some of these art practices were coupled with a quasi-ethnographic way of working (Foster, 1996; McTighe, 2005). A precedent 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 artwork 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.

Some of the precedent mapping and quasi-ethnographic techniques were used to explore aspects of sociospatial practices. Recently, there has been a growing awareness in various disciplines (including architecture) to understand the implications of and correlations between the spatial layout and the users' movements and interactivity. For example, there has been a growing interest in analyzing interactivity and spatial experiences (Haque Design and Research, 2006; Jensen, 1998; McCarthy & Wright 2004). In theory, Jens F. Jensen (1998) categorized the

concept of interactivity into four dimensions: transmissional, consultational, conversational, and registrational. More recently, McCarthy and Wright (2004) investigated interaction design by considering the emotional, intellectual, and sensual aspects of the users' experiences. In architecture, Usman Haque is among a few architects who are working on interactive architecture systems. Haque Design + Research projects involve responsive environments, interactive installations, digital interface devices, and choreographed performances.

In this article, we will try to explore a methodology for mapping sociospatial practices that includes interactivity, particularly in response to some virtual aspects of space and to the relation between virtual and physical. This paper will report mainly on the strategy, rather than the research results. This strategy is called *ethnographic intervention*. It has been used in our research to study the users' spatial experiences in response to specific architectural and virtual conditions (i.e., soundscapes, imagery, interactive video projections). We will start the discussion by demonstrating how the strategy was derived and developed from precedent art practices. We will then discuss the different elements and characteristics of the strategy. In this context, a specific research instrument, which we refer to as the intervention protocol*,* will be explored. After this, we will explain through case studies how the protocol was incorporated in our research. Three interventions will be examined: (a) *Sited Moss: Invading or Fading Architecture*, (b) *Under Scan: Relational Architecture # 11* and (c) *Threshold*[1]. The paper will conclude with a discussion of the outcomes, usefulness, and possible applications of this strategy in the upcoming stages of this research, as well as in other research studies.

ETHNOGRAPHIC INTERVENTIONS

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. George Marcus (2003) argues that the prosperity of ethnography depends on the desire for it outside its discipline. 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 wider contemporary critical and interrogative practice (Wallis, 1997).

There are many similarities between ethnography and installation art. Both involve studying conditions of human experiences (Bishop, 2002; Denzin, 1997). The two practices are short-lived and characterized by a certain degree of temporal strategy, with ethnography being a temporal experience requiring a certain time for ethnographic immersion, and installation art being a provisional happening (Greverus, Macdonald, Römhild, Welz & Wulff, 2003; Reiss, 1999). This paper does not intend to undertake a discussion of the individual disciplines but is interested in the possibilities of the crossover between the two.

In our research, installations are investigated when they intervene in a particular architectural context to explore correlations between virtuality, spatial layout, and users' behavior. We believe that imagery and soundscapes may affect users' behavior—such as users' activities, interactivity, and sociospatial practices—in the architectural site. In order to investigate this situation, a specific research strategy is conceived and called ethnographic intervention. In this study, the term *intervention* was preferred over *installation* because this latter term has been previously used in an architectural context by scholars when referring to architectural installations (McTighe, 2005; Thompson & Sholette, 2004). Moreover, the concept of intervention (as used in the context of this research) involves more than the artwork: It is not limited to the actual installation but also involves the process of ethnographic mapping and postinstallation research. It is also important to note that this research follows a multi-case study approach, where each intervention represents a case study.

The *ethnographic intervention* involves three main characteristics: (a) an ethnographic mapping of spatial practices on site, (b) the ability for horizontal replication of the study, and (c) an intervention protocol. The following sections will clarify how this strategy has been conceived, applied, and developed to map sociospatial practices in different architectural sites.

ETHNOGRAPHIC MAPPING

In an essay titled "The Artist as Ethnographer*"* Hal Foster (1996, p. 184) introduced and discussed an artistic practice that he defined as *ethnographic mapping.* Ethnographic mapping is 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 (1996, p. 184) gave examples of the analogy of social and ethnographic mapping in relation to the "siting" of art. He also explained that *"*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.

The process of mapping may take different forms. Regarding mapping memory, McTighe (2005) discussed the work of four artists (Ann Hamilton, Renée Green, Fred Wilson, and Doris Salecdo) as examples of artists who practiced the process of mapping to involve voluntary or involuntary memory, while others practiced sociological mapping. For example, in *Tate Thames Dig* (Tate Online, n.d.-a)*,* Mark Dion was working with art as a social practice by studying found objects in their social (and archeological) contexts. In a process that involved three stages, Dion applied his archeological process to art. First, with local community groups, he undertook an archeological 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. Finally, the objects were represented in a curiosity cabinet in an exhibition space of Tate Modern (Dion, 2000; Tate Online, n.d.-a). Previously, Hal Foster (1996) discussed Dion's practice as an example of artists who use site-specific work for social outreach by "mixing mapping-site with situationist *detournement*" (p. 197–198; italics in original). He introduced Dion's work as a model of some art practices in the 1980s and 1990s. Mark Dion's work may be considered as a model of sociological mapping. It is an example "of the total integration of artistic and social practice*"* (Meyer, 2006, ¶ 8). The process of mapping seems to extend beyond mapping memory and social practice. There is evidence that other types of mapping are still practiced in some contemporary installation works; a good example is Bruce Nauman's series of installations *Mapping the Studio.*

Bruce Nauman's installation *Mapping the Studio II* (Tate Online, n.d.-b) reveals an interesting artwork in which the artist follows a quasi-ethnographic way of working. Actually, *Mapping the Studio II* was the second in a series of installations titled *Mapping the Studio*[2], in which the artist attempts to record, document, and re-present different activities and practices in the space of his studio through the process of mapping. *Mapping the Studio II* (2005) artwork was exhibited in the Tate Modern, 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.

An interesting aspect of this installation was the margin 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 remind viewers of a notebook made by Nauman for *Mapping the Studio I* in 2002, in which the artist documented the nocturnal activity in his studio of his cat and an infestation of mice during the summer of 2000 (Dia Center for the Arts, 2001). 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). 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. Actually, the process recording the notes may be regarded as an ethnographic piece in itself, revealing Nauman's method of working and his role as artist and as ethnographer.

Nauman's (Tate Online, n.d.-b) installation also implied another type of mapping, that of spatial practices within the confines of the studio. The work reflected the artist's attempt to treat and map 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. If we draw on all the previous mapping practices, we can redefine the process in a better light. In addition to being a measurement process for evaluating spatial experiences, *mapping* can be considered as a critical stance towards specific cultural, social, or architectural conditions. It involves recording, documenting, and re-presenting the implications of a specific condition through video and sound recording, drawings, photography, and so forth. But Nauman was not specifically criticizing a certain condition or an institution; rather he used ethnographic methods to represent the space of the studio. He was not looking for answers but trying to convey a situation. What is important here

is the process: *Mapping the Studio* installations provide additional examples of how both installation and ethnography can be combined in a meaningful way to map spatial experiences.

In addition to the mapping process, Foster examined another characteristic of this quasi-ethnographic art practice, that of horizontal replication of the artwork (Foster, 1996; McTighe, 2005). As we will discuss next, some artists deliberately replicate their artworks through a horizontal shift into different contexts.

HORIZONTAL REPLICATION OF AN INTERVENTION

Hal Foster (1996) proposed a parallel approach to ethnographic mapping. The writer argued that there has been a shift in art practice from vertical to horizontal meaning in a synchronic movement from social issue to social issue. He explained that the horizontal expansion of artistic expression was 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). Therefore, we consider this horizontal shift comparable to what is known in academic research as a theoretical replication of case studies (Yin, 1994).

In some of the earlier examples of ethnographic mapping, 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), all of which begs the following question: Can ethnographic mapping and theoretical replication be developed as part of a research strategy?

Both characteristics defined by Foster (1996) are included in this study. In addition to ethnographic mapping, we also draw on this idea of horizontal replication. But we adjust these two characteristics to correspond to our research. This strategy is tested through three successive interventions: *Sited Moss: Fading or Invading Architecture*, *Under Scan: Relational Architecture # 11*, and *Threshold*. As we will explain later, the second and third interventions started to introduce replication in different sites and with different people. However, we will also see that each intervention is an independent case study on its own, involving the actual artwork, ethnographic mapping, and a possible replication.

In each case, the study intervenes physically and virtually in a specific architectural/urban site in order to map memory and sociospatial practices. At the end of each intervention, an interpretative study then reframes the results in relation to the initial thesis investigating the correlation between virtuality and sociospatial experiences. For example, the first intervention (*Sited Moss*) intervened through sounds and mosses in an architectural monument. It focused on the architectural (and symbolic) condition of monumentality and

memory. The second intervention (*Under Scan*) involved the projection of interactive video portraiture in public space. The study then examined social practices in response to this intervention. This work was replicated by the artist in different cities and with different users. As a result, we were able to observe the conditions and implications of the artist's intervention in these different contexts. The final intervention (*Threshold*) was site-specific and explored the conditions of the threshold spaces as an important and symbolic architectural space. It mainly focused on drawing attention to the space through sound projections. The work then examined the change of spatial experiences by mapping movement and interactivity. *Threshold* was also presented twice, hence, allowing for more data gathering and interpretation.

In order to provide more reliability to the study of interventions we developed an intervention protocol. Together with *mapping* and *replication*, the *protocol* is believed to complete the strategy.

THE INTERVENTION PROTOCOL

Recently, some interventionist practices have been adopted 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. Nato Thompson (2004, p. 14) defined the notion of tactics as "a set of tools, like a hammer, a glue gun, or a screwdriver[;] they are means for building and deconstructing a given situation." In our research, we take into account this concept because, in some architectural practices, the researcher needs to have access to a series of tools to record, document, and measure the different conditions of spatial experiences. We are also aware that ethnographic mapping may be enhanced if supported by a mechanism to certify the process and to guarantee some level of reliability and dependability within the study. As a result, we began creating a research instrument called the *intervention protocol*. This protocol consists of a set of procedural steps that act as an agenda for theorizing, mapping, and interpreting the intervention.

Gradually, this protocol developed into a more interesting and useful tool, or actually a toolkit, involving all methods of ethnographic mapping, from observations (with sketches, notes, and drawings) to interviewing, photographing, videorecording, and so on. In a way, this is similar to a bricolage process by which a researcher juggles tactics from different disciplines to produce a creative and reliable (but flexible) tool that one can alter and design according to his/her needs. This toolkit can be designed before the intervention, but also adapted in the field to acknowledge the conditions and specificities of the study. This way, the researcher/designer is well prepared before the intervention. He/she assigns the appropriate methods to use according to each case.

However, the concept of the intervention protocol was not introduced into our research from the very beginning. 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, interpreted, and re-presented in the first

intervention. In the second intervention, the protocol was more defined. In the latest intervention, we made early use of the intervention protocol, and developed it according to the conditions of the study.

The next three sub-sections will explore this further. We will demonstrate how the protocol was employed in each of the three interventions.

Intervention I: *Sited Moss*

The first intervention was initiated, codesigned 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. The project involved making an installation titled *Sited Moss: Fading or Invading Architecture*, which was exhibited for one day as part of the [Dis]locating Specificity Conference, held September 17, 2004, at the University College London (UCL) [3]. The intervention took place in the Portico at the Main Quad of the UCL campus. As shown in Figure 1, this is an outdoor semipublic space; it forms an important part of the campus' main building. Before and during the installation process, we were constantly reminded of the protected state of the site by the Safety Office and by the UCL Estates and Facilities, who wrote: "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). We also often observed, prior to our intervention, the regular cleaning of all sorts of mosses and the maintenance of any symptoms of decay on the portico. All this stimulated the concept behind the intervention. *Sited Moss* aimed to state that building regulations would not necessarily prevent the portico floor from deterioration. The work also attempted to attenuate the intimidating scale of the portico by highlighting the on-going process of decay (Kim & Mounajjed, n. d.).

Figure 1. *Sited Moss: Invading or Fading Architecture*, UCL, London, 2004. The two images show the site from outside the portico of the main building at the University College London. The external views of the portico reveal the impact that the building has on its visitors. The above images illustrate the size of the columns, the ceiling height, as well as the general scale and position the portico. The site is located on top of the stairs (over 50 steps), making it look like a stage elevated from the surrounding environment.

Throughout the 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. To start, we focused on the chairs and proposed to keep their location as a distinctive moment in time. Then, we suggested creating a map of mosses on the site, and overlaying it with soundscapes. By placing mosses on the site, we referred to the notion of ruins and questioned the untouchable status of the building. The soundscapes metaphorically suggested previous events (Kim & Mounajjed, n. d.).

First, we used different types of mosses with various colors 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*. Moss emerged naturally as the main material to work with because of its ability to perceive the cracks and gaps within a given surface, to settle in and to develop: The moss served as a decay detector. The moss map covered the whole floor of the portico (an approximate area of 23 m x 9 m). As a result, the work gave an instantaneous reading of the decaying history of the site. One could easily interpret how the portico has been exploited by its users, how the rain water was evacuated from the site, and where the weather mostly affected the space (Kim & Mounajjed, n. d.). Figure 2 illustrates the portico after installing *Sited Moss*.
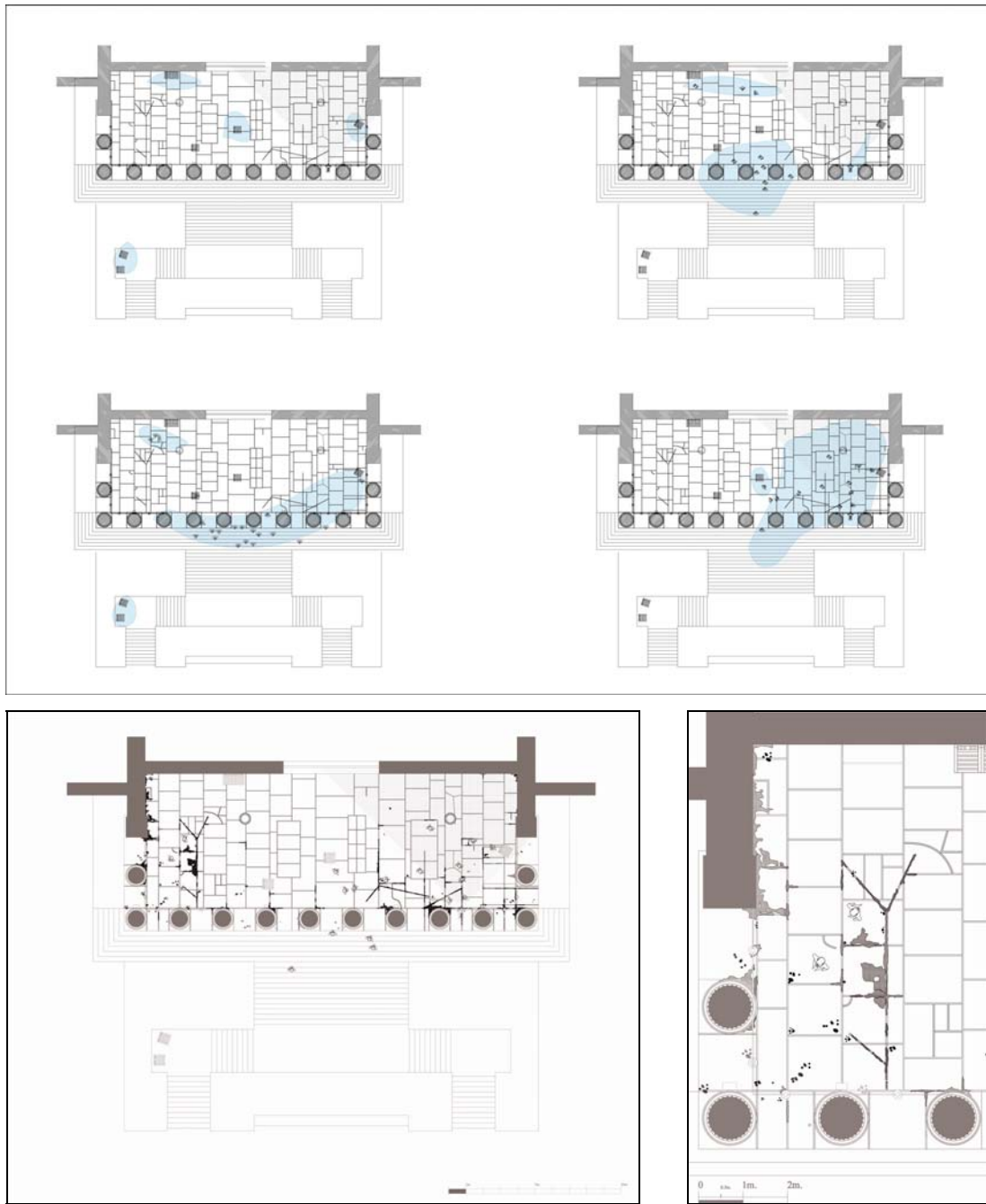

Figure 2. *Sited Moss: Invading or Fading Architecture*, UCL, London, 2004. The images show the space of the portico with the chairs and the mosses installed. The chairs suggest a previous or potential user.

The mosses were combined with soundscapes. These soundscapes acted on sensors and they could be triggered by users as they moved within the portico. Sounds of breathing, movement, and whispering were projected within the space. 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 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?" (Kim & Mounajjed, n. d., ¶ 4). In a way, *Sited Moss* aimed to awaken users to the current state of a familiar site, a site so familiar in fact that they used to ignore it, turning their backs to it when looking outwards. The intervention changed the space of the portico and converted the users' behavior from a passive into an exploratory attitude.

Sited Moss was experienced by conference attendees, students and staff from UCL. Most of the people involved in the intervention were regular users of the space, as they used the portico during their lunch breaks. And so their feedback was significant and reliable because they were familiar with the site. We asked some of them about their views on the intervention. Some of them 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.

In this study, the process of ethnographic mapping was not exactly conceived to examine the different activities, practices, and experiences of users in the space of the portico. The aim of the study, then, was to explore the impact of the intervention on those practices. At this stage of research, we were already using ethnographic tactics, such as personal observations, photography, and short interviews to gather data on the site. In this context, the images and observations were used to study users' movements, behaviors, and interactivity. Figure 3 illustrates how observations were collected and drawn to explain patterns of behavior. The observation involved the conditions of spatial experience with and without the installation. Generally, observations and comments confirmed that the installation subtly modified the quality of spatial experience in the portico.

Before the intervention, we noticed that people tended to occupy the space in many different ways. As shown in Figure 4, 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, usually the users sat on the floor and inhabited the center of the portico, slightly leaning towards the borders in order to catch the sunbeams. When *Sited Moss* was set up in the portico, ethnographic findings showed that the behavior and movement of people was slightly modified. We observed that users gathered close to the source of sound by 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 behavior.

Figure 3. *Sited Moss: Invading or Fading Architecture*, UCL, London, 2004. 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.

Figure 4. *Sited Moss: Invading or Fading Architecture*, UCL, London, 2004. The images show the users and their different spatial practices in the space of the Portico.

Interviewing was used during the intervention to gather more detailed 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*."

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).

In terms of the research strategy, the mapping in *Sited Moss* was still an audit trail. The strategy adopted in this study initiated the protocol for the following interventions. The next section will give more detail on this development.

Intervention II: *Under Scan*

The second intervention focused on *Under Scan: Relational Architecture #11*, a large-scale interactive video installation by Mexican-Canadian artist Rafael Lozano-Hemmer[4], which took place in 2005 and 2006. The work was part of a cultural program that took place in five UK cities, involving Derby, Leicester, Lincoln, Northampton and Nottingham. Our study of *Under Scan* focused on the condition of spatial practices in public space, particularly when video images were projected onto a site.

The piece was a large and sophisticated shadow play in which highly complex and powerful projectors cast video into people's shadows in the public space. *Under Scan* created a platform for people to engage in relationships with each other through the representation of *video portraiture* (Mounajjed, in press-a). The installation involved two settings: the video portraiture and an interlude. First, *Under Scan* consisted of video portraits projected onto the floor of public spaces. A thousand portraits were previously filmed for this purpose by local people and artists. As shown in Figure 5, these portraits, activated by the passers-by at 14 changing locations in public spaces[5], were deliberately projected onto the path of the passers. It would lie on the floor waiting for a user to approach it. In a sense, these portraits "took over" users' shadows and the portrait subjects "looked out" at the public.

Technically speaking, 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. However, most of the time two or three people would gather around one portrait and start to understand what they were trying to tell them.

Figure 5. 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).

Under Scan did not involve sound projections. The portraits were mute. However, 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. In Figure 6, one can see examples of a subject in the projected portrait situated on the ground, awaiting interaction. The image shows the portrait subject with eyes diverted from the camera. However, when the user's shadow matches the projected portrait, the portrait is triggered into action by the computer, and the subject looks toward the user. The prerecorded subject then begins a nonverbal gesturing to engage the user, who can reciprocate or react in other ways. When the user walks away from the portrait, the recording is triggered to the point where the subject looks away from the camera, and then the image disappears.

Most people tried to imitate the subjects in the portraits as one explained: *"We have done the rowing with one of the portraits over there! The guy was rowing and I rowed."* Another participant explained her movement in response to the portrait: *"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, in press-b).

In order to restart and redistribute the portraits, the system periodically needed to stop the projections for a short time. During this switching period, 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. This in-between time was called the interlude. Figure 7 illustrates 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 (Mounajjed, in press-a), 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."*

In parallel to the projections, a screening of the interaction was displayed on an exhibited small screen. This was deliberately used by the artist as a critique of excessive use of surveillance in public spaces. It also tempted users to stand and look at their interactions through the screen.


Figure 6. *Under Scan*, in Leicester, January 13, 2006. Left: a user walking towards a portrait. The image also shows the screen displayed behind the person. Right: another user is trying to overlap his shadow on the video portrait; the girl in the video is looking at the user and waiting to move.

Figure 7. The *Under Scan* interlude of lights appeared while the portrait system reset itself every 7.5 minutes. This photo was taken in Nottingham, March 10, 2006.

Under Scan was experienced by thousands of people from all ages and classes. The piece was located in different contexts. Figure 8 illustrates *Under Scan* in Lincoln, where the work was sited on the university campus, so most participants were students, staff, and teachers. In Leicester, on the other hand, the intervention was simply projected onto a public square in the center of the city. Most participants were local passers-by from various backgrounds.
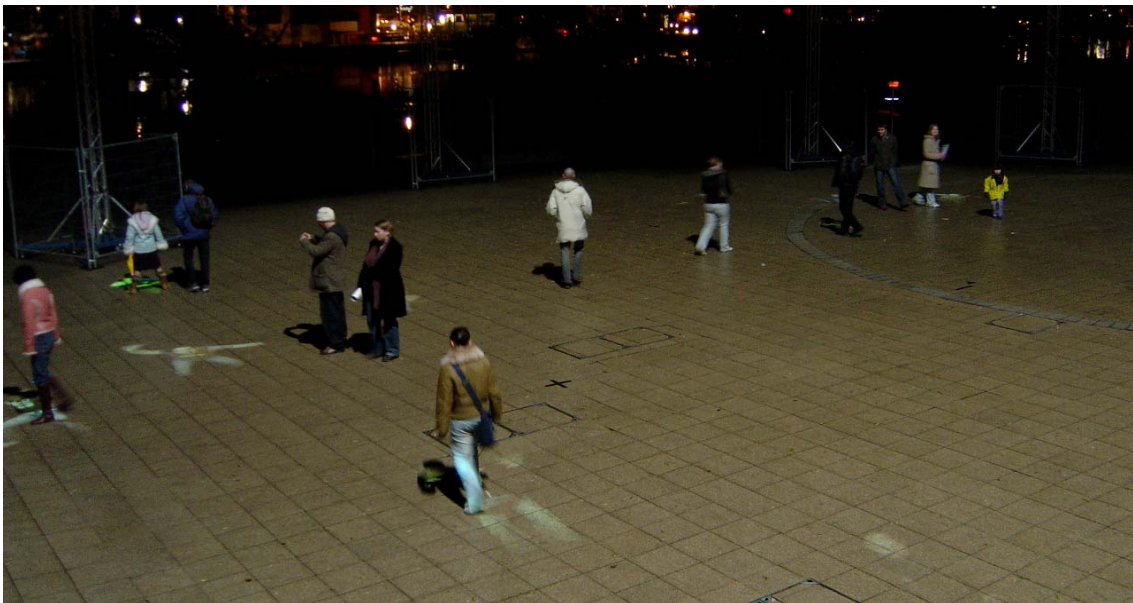
Figure 8. *Under Scan* in Lincoln, December 3, 2005.

We carried out an ethnographic mapping process to study the users' behavior and interactivity in relation to the installation. The mapping process involved recording, documenting, and re-presenting the event. To facilitate this process we devised a specific intervention protocol. This protocol consisted of four phases: a) preparatory stage, b) data collection, c) interpretation, and d) narration and case study re-presentation. Appendix A illustrates the protocol of *Under Scan* at the different stages.

The study started with a preinstallation preparatory stage. This first involved setting up the thesis and research objectives: What was it that we wanted to study? And then it involved developing a case study database that established an agenda for collecting evidence about the site and observing the users' conduct, as well as the site's spatial and material qualities. The database was designed thematically and focused on the following issues: sociospatial practices (interactivity, movement, and social integration), the virtual setting (video portraiture and interlude), and questions regarding memory and time of engagement.

The second phase was data collection, in which four qualitative methods were used: interviewing, observation, photographing, and videorecording. Video footage and personal observation were useful in identifying patterns of behavior and interactivity between the users. Some data about movements were also recorded from the images that were being captured from the surveillance cameras on site and projected on an exhibited screen. Figure 9 shows snippets from the screen with people moving during the intervention. However, the major source of data in *Under Scan* was the interviewing process.

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). We debriefed participants on their experiences. We wanted to know how they responded to, felt about, and interacted with *Under Scan*. More specifically, we were keen to know what they thought of the different virtual settings (i.e., video portraits or interlude) that were projected during the intervention, and if this changed their perception of the original space. Interviews were later transcribed and classified for interpretation in the following stage of the protocol.

Interviewing outcomes conveyed that the *Under Scan* project changed the users' spatial experiences, movements, and social integration in public space. The piece allowed for interactivity in a public space and revealed a social dimension as well. First, we observed that

Figure 9. *Under Scan,* Nottingham; March 10, 2006. Three sequence images where photographed from a monitor for the display of surveillance system. In parallel to the projections, Lozano-Hemmer showed these real images captured from the cameras surveillance in real-time. They are helpful to position users in relation to the portraits. The bright spots on the pavement reflect the video portraits in action; the different silhouettes also reflect people gathering around the portraits or scattered in the space.

the way people moved in the space of the installation was different from the normal movement in public space. This is perhaps due to the fact that the original concept behind the work was centered on the idea of the shadow, which is directly linked to body movement. Moreover, the video portraiture initiated conversations between participants; some were talking with the portrait or about it with others while interacting with it. They played with the different portraits by mimicking the portrait and checking the video subject's response. Many interactions involved multiple portraits and lasted over 15-20 minutes; some participants stayed even longer. Taking into account the fact that the system reset every 7.5 minutes, individuals had to interact with several portraits and with the moving grid of the interval during their 20 minutes experience of *Under Scan*. Many users confirmed that the intervention has changed their perception of the site. For them, the space became *"friendlier," "livelier,"* more *"intimate,"* and *"inviting."* Some regarded the intervention as a conversational piece: bringing people together from different ethnic groups, ages and background, and giving them something to talk about and play with.

The last two stages of the protocol involved interpretation and narration. Appendixes B and C demonstrate how, in this stage, data were compared, organized, and discussed in relation to the research question. In this part of the protocol, the mapping process reported that activities in *Under Scan* depended on the participants' age and on the difference in projection setting between the video portraiture and the interlude. Older people took a contemplative (observer) role, while younger adults and children were more playful and engaged with, and curious about, the piece. Users' behaviors and interactivity changed when the grid was projected during the interval.

More specifically, ethnographic mapping helped us to identify some patterns of behavior and movement sequences within the space of *Under Scan*. For example, during the video portraiture, as the person approached the space, he/she started looking, then shuffling: then stopping, staring, and standing on the portrait; then mimicking the portrait's movements, or talking to others while looking at it. At this point he/she was clearly engaged and became part of the installation. The interlude, on the other hand, offered another type of experience. The participants' behavior switched from a calm/contemplative attitude to a more active and intuitive way of behaving. Users were running with the moving projection and the space suddenly came to life. Furthermore, interview results reported that the interlude provided a more intimate and immersive experience for the users than the video portraiture setting.

What was interesting in the *Under Scan* protocol was that not only did it allow for ethnographic mapping, but it also informed the design of the installation. Artist Rafael Lozano-Hemmer had been concerned with collecting data to improve his artwork. In parallel to our ethnographic mapping, the artist was also on site, observing, interviewing, and recording the participants' views and behaviors. Sometimes, his attitude resembled an ethnographer: When he was on site, he carried his camera, talked to participants, and observed the work. The artist noted that his piece benefits from the data collected. For example, during one interview session, we heard comments from the participants concerning the interactivity of the children with the portraits. The portraits were too big and did not match the size of children's shadows. Such issues were dealt with in the following setup, or they were recorded for future consideration. As a result, the artwork itself was improved and the on-site experience of the users was enhanced. Also during this intervention, we learned that the protocol could be made more flexible to acknowledge the changing conditions and

contexts of the study. For instance, in this case, we had different types of users and contexts. So, we needed to change the protocol accordingly. We changed the questionnaires. We also brought into play the screens that were on site as a data source.

Intervention III: *Threshold*

Threshold[6] was an interactive/site-specific installation. It was located in the eastern wing of the foyer (entrance) in Queen's Building at the Queen Mary University of London. *Threshold* was also a collaborative research project with Dr. Nick Bryan-Kinns from the Queen Mary University of London (QMUL) and Dr. Jennifer Sheridan working in the InfoLab21 at Lancaster University's Department of Computing[7]. The aim of the project was to investigate interactivity in the space of threshold. It also examined the impact of composite soundscapes on the users' spatial practices (i.e., movement and interactivity). The artwork originally was conceived from the concept of a threshold, which 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. A threshold may stimulate different sensations of intimacy, intimidation, nostalgia, or sympathy. Similarly, the *Threshold* intervention was a work that stimulated sensation with visitors. The aim was to create a relational connection and exchange between the users and the architectural site.

In *Threshold,* the research strategy was developed from previous interventions. At this stage, ethnographic mapping was rethought into a whole process of collecting and interpreting the intervention (measurement and assessment). In *Threshold*, we reorganized the protocol into five stages: conception, installation, ethnographic mapping, interpretation, and representation. A sixth step—the horizontal replication—was added later and would repeat the process at either the second or third stage. To start with, we initiated the design of the artwork as an interactive installation. The conception phase led to two parallel design processes: (a) the design and construction of the physical piece, and (b) the design of the interface. And so, the installation consisted of two related elements: (1) a physical structure comprising instrument-like construction of interactive musical chimes, and (2) site-specific sound projections. These two elements were switching or overlapping simultaneously to provide two spatial settings for the users: one imaginary and the other real. An auditory interface was designed to track the users' body sensibilities and movements on site and to switch between the two different settings.

Two types of chimes were used: normal wind chimes and interactive chimes. First, *Threshold* was made of 250 hollow copper pipes (0.15–0.22 mm in diameter) with varying lengths (27–52 cm) providing different tones, all forming together a large instrument. It was located in the eastern corner of the foyer, at one of three entrances to the building. We designed a structure made of wood and a metallic mesh to support the chimes. All chimes were suspended vertically from the supporting structure, inviting people to play with the piece and to create their own tunes. So when a user played with the tubes, the chimes struck each other and produced a harmonic (or inharmonic) spectrum (Mounajjed et. al., 2007). Figure 10 illustrates the conceptual drawings and structural ideas for the piece.

Figure 10. The image illustrates the process of designing and constructing *Threshold*. It shows early plan and section of *Threshold* situated in the foyer. The figure also illustrates the structure of the artwork including: a) planed wood, b)copper chimes, c) a metal mesh and d) a metallic structure.

In addition, the piece contained three interactive chimes. These were made of copper tubes (9.5 mm in diameter and 31cm long) but they contained sensors. The interactive chimes were bigger than the wind chimes and were embedded in the piece. 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., 2007). Figure 11 demonstrates the relationship between the sensors and the computers.

Following the design stage, we worked on the *installation* phase. This involved several realization stages from the making to the testing and the final set-up of the piece with the interface. When installed, *Threshold* was sensitive to movement. This movement stimulated the interactive chimes (embedded in the piece) to project recorded audio clips. These clips highlighted the history of the site and the memory of Queen's 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. The second recorded audio clips 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. All these recordings were conceived, recorded and projected to create a spatial narrative for the users as they play with the installation.

Before the intervention, we believe the foyer had started to lose its spatial meaning for users and became simply a passage to other locales. We observed users as they walked by; they seem to have lost the sense of space in the foyer. In this context, the installation of *Threshold* acted as a site of exchange and interaction to re-engage visitors with the space of the foyer. It allowed people to establish a relational connection with the place through memories, narratives, and stories. The aim was also to examine if people would change their behavior in response to the stories or would interact and navigate differently in response to the spatial/audio narrative. In order to understand the stories, users had to sustain their interaction with the piece. However, the users were also free to imagine, create, and link their
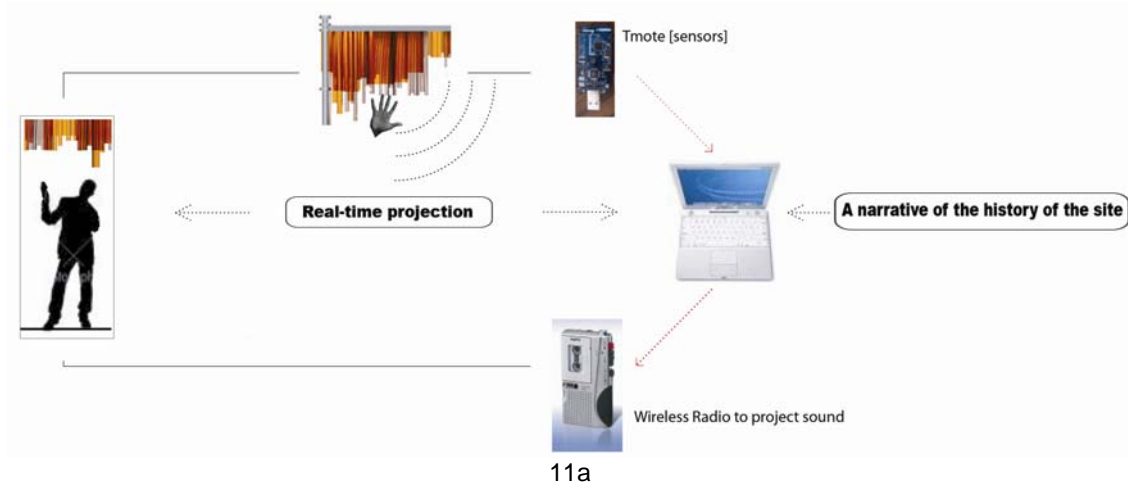
11a

11b

Figures 11a and b. The architecture illustrated in figures 11a and 11b was mainly designed and installed by Jennifer Sheridan and Nick Bryan-Kinn. As shown in figure 11a, it consisted of Tmote Invent artifacts 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. 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 11b 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., 2007).

own narratives. After the installation, people began playing with the chimes, and listening to stories through their interactions with *Threshold*. These interactions were ethnographically mapped for analysis.

In order to investigate the further impact of *Threshold* on users' spatial experience, we documented and analyzed these interactions. This involved an on-site ethnographic mapping of the work in order to collect data and represent the users' experiences of the installation. It involved a set of methods including observation, video recording, interviews, and audio recording. During the exhibition period, we were recording notes and sketches in relation to

users' behavior. Fifteen short interviews, with randomly selected users, were also conducted to explore the users' views and expressions in response to the work.

Threshold attracted all sorts of participants, such as students, staff, conference participants, and university visitors. Some of the participants were dancers, performers and researchers. The resulting interactions with the installation were very interesting. For example, a dancer started to dance while playing with the chimes, and there were others who came in a group to play and interact with the chimes. As shown in Figure 12, the artwork kept visitors entertained and enhanced their spatial experience.

After two exhibitions, all data was organized for the next stage: the *interpretation* stage. In this stage, we analyzed the data that resulted from the observations, interviews, and video recordings. The audio recordings and interviews were evaluated to explore the individual experiences of participants. Observation notes were examined to infer data on movement and behavior. We also followed a similar (but simplified) approach to analyzing the interaction as that developed by Heath and Hindmarsh (2002), who examined video footage to study patterns of behavior and the integration of the users within gallery spaces. Figure 13 shows how we extracted sequences from the footage; these were later identified to trace the interactivity of one or two persons interacting with the piece.

We think that *Threshold* has changed the users' experience of the foyer space in a certain way. Initial findings indicate that the *Threshold* installation invited interactivity and exchange between the users and the foyer. Generally, the piece formed a stimulating entry to space and informed the users about the memory of the building. Also, the artwork kept users entertained and enhanced their spatial experience. Most users reported that the installation was engaging and that it had changed the space. Since this is still work in progress, no clear patterns or sequences of movements have yet been identified. However, we observed many visitors coming close to the piece, playing with it, and listening to the stories. Interestingly, some people were more intuitive in initiating interactions; others were more careful and slow in their

Figure 12. The installed *Threshold* being experience by users in the entrance space of the Foyer at the Queen Mary University London, September 2006.

Figure 13. 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.

interaction. On the other hand, there were few points that emerged from talking to users. The first issue was raised in relation to the conflict between natural soundscapes and sound projections. One person commented that he felt a clash between the sounds of chimes and the audio and this somehow hindered his experience. A woman told us that the projected speech was not always clear and that the sounds were fuzzy and overlapped with the natural soundscapes of the wind chimes. In this particular stage of the project, the chimes were not specifically laid out to produce a harmonic spectrum: It was not musically tuned. The aim was to leave space for imagination and creativity; however, this point is worth consideration.

Another related issue was also involved the "plot" of the audio projections and their interrelationships. Three users could not fully understand the relationship between the different clips. However, the intention of the installation was to create this confusion to enable the users to extend their own imaginative space on the physical space. Part of the work also aimed to observe links between spatial and narrative maps in the space of *Threshold*. This relationship may be explored and emphasized in future development of the work. It will be also interesting to explore the piece in different contexts. For example, the project may be developed and set up to be experienced by children. *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 fit the children's bodies. Children are more intuitive and they are generally fascinated by narratives. It would be interesting to see how they would interact with the piece.

Development of the Intervention Protocol

The three interventions, discussed above, convey a general framework for the intervention protocol but do not dictate one. However, we believe that the most recent version of the protocol—comprising the five stages of conception, installation, ethnographic mapping, interpretation and representation, with the possibility of including the sixth stage of replication—is the most ideal and applicable for the time being.

For future research, the protocol can be manipulated and reproduced according to the specificity of the inquiry, particularly when it comes to interpreting and theorizing the intervention. Finally, it must be noted that the intervention protocol should be envisioned as an essential part of the intervention. It must acknowledge the nature of the architectural site (entrance, indoor, outdoor), the context (social, cultural, and sometimes political), as well as the nature of the users (children, adults, students, dancers).

OUTCOMES, CONCLUSIONS, AND FURTHER STUDY

In the three case studies, ethnographic findings indicated a correlation between the interventions and sociospatial activities. The three installations aimed to recondition or overlay the site. As a result, they transformed the users' perceptual and spatial experiences. In *Sited Moss,* the findings demonstrate that the installation affected the spatial experience of the users. Results also reported that, at some point, the soundscapes implied a certain sequence of movement within the space of the portico. In *Under Scan*, the findings were clearer: The intervention radically changed the users' experience and sociospatial practices. People developed a pattern of movement in relation to the different settings of the installation. Finally, initial outcomes from the *Threshold* project also point to a possible relationship between the users' interactivity with the space and the intervention.

The ethnographic intervention strategy used in this study was mostly empirical. It was a combined strategy, bringing together ethnography and installation. This depended on three main characteristics: (a) ethnographic mapping, (b) horizontal replication, and (c) the intervention protocol. Ethnographic mapping provided a framework for analyzing aspects of the users' spatial experiences. On the other hand, horizontal replication, and the intervention protocol, provided a logical and objective framework for data collection, as well as interpreting and narrating the significant findings in the data. During this research, we generally found that interviewing was particularly useful to define specific patterns in individual experiences (subjective, memorial, and perceptual experiences). The video recording and the observations were useful in exploring 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. If facilities were available, an ideal way to record interactivity would be through 3D simulation of real images captured and transmitted from a video camera.

The intervention protocol easily could be applied in the fields of art, architecture, and even in ethnography, to name a few. In art, there are indications that some artists used quasi-ethnographic methods to document their artworks (e.g., Lozano-Hemmer, 2006; Nauman, Tate Online, n.d.-b). However, it is not clear to what extent this has informed their practices. 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' behavior 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 might provide a creative and flexible process for the researcher.

In architecture, the strategy also promises to be appropriately applicable. At the beginning of this article, we referred to Lynch (1960) and Lusk (2002 as cited in Groat & Wang, 2002) as examples adopting mapping techniques in architectural research. In addition, the Space Syntax (n. d.) practice has recently grown to become a well-known tool to help architects simulate the likely social effects of their designs. Ethnographic mapping may also be developed to be used in architectural studies. In the case studies presented in this article, the intervention protocol 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 paper particularly focused on mapping sociospatial practices. Future studies may investigate mapping memory, sociological mapping, or mapping interactivity.

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ENDNOTES

1. The first case study is based on an installation called *Sited Moss: Invading or Fading Architecture.* It was exhibited in 17.09.2004 as a result of a collaborative project between Rosalie Kim (University College London) and Nadia Mounajjed (University of Sheffield). The second intervention *Under Scan* was a video interactive intervention by Mexican-Canadian artist Rafael Lozano Hemmer; exhibited between November 2005 and March 2006 in different public spaces in the UK. The third case study *Threshold* was an interactive intervention in 2006 by Nadia Mounajjed, Chengzhi Peng and Stephen Walker (University of Sheffield) in collaboration with Nick Bryan-Kinns (Queen Mary University of London) and Jennifer G. Sheridan (InfoLab21, Lancaster University).

2. For more information and images from the video footage of Bruce Nauman's (2002) *Mapping the Studio I (Fat Chance John Cage)*, see http://www.diacenter.org/exhibs/nauman/mapping/ Also, for information on the *Studio Notebook (Book 1)* (Nauman, 2001) see the Guggenheim Collection Web site, http://www.tate.org.uk/collection/ (The notebook was lent by the American Fund to the Tate Gallery in 2004).

3. For more information on the *[Dis]locating Specificity* conference, see
http://www.bartlett.ucl.ac.uk/architecture/events/conferences/dislocating.htm

4. For more information on Rafael Lozano-Hemmer, see http://www.lozano-hemmer.com/eprlh.html

5. 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 behaviors, emotions and attitudes were recorded and projected.

6. *Threshold* is a collaboration project funded by EPSRC Leonardo-Net network. It involves the following people: Nadia Mounajjed, Chengzhi Peng, Stephen Walker, Nick Bryan-Kinns, and Jennifer Sheridan. The piece was exhibited twice. In June 2006, it was first installed for the PSI # 12: Performing Rights Conference at the Queen Mary, University of London. It was re-exhibited at the same location for the First International Symposium on *Culture, Creativity and Interaction Design* (CCID 2006) on Tuesday the 12th of September, 2006. For more information on the project, see http://www.leonardonet.org

7. Dr. Jennifer Sheridan is the Director of BigDog Interactive Ltd. For more information see http://www.jennifersheridan.com.

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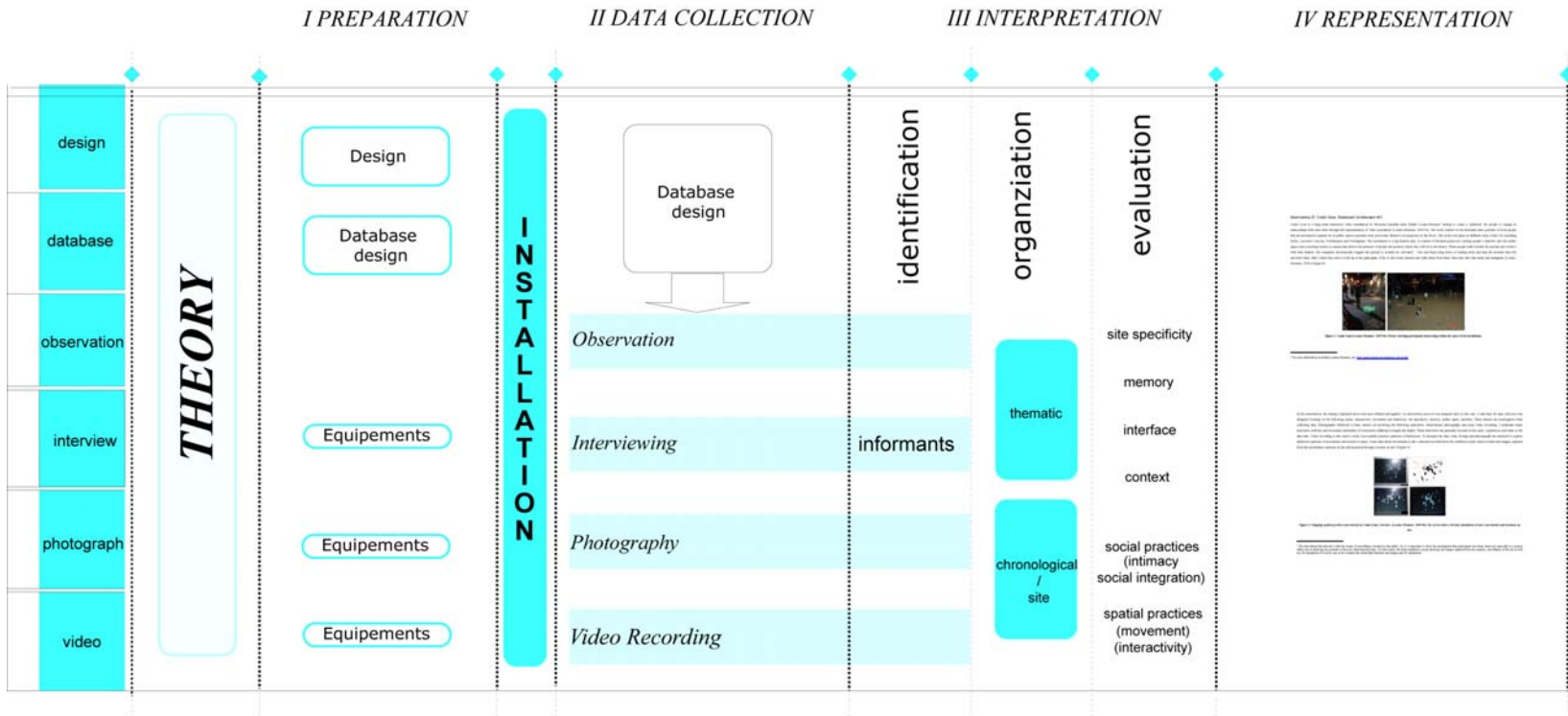
APPENDIX A

Appendix A. The Under Scan Intervention Protocol, illustrating the different phases of an ethnographic intervention. The table illustrates the different stages in the Under Scan intervention protocol. The protocol involves four phases outlined horizontally at the top. The areas in dark blue reflect the different methods used in this strategy.

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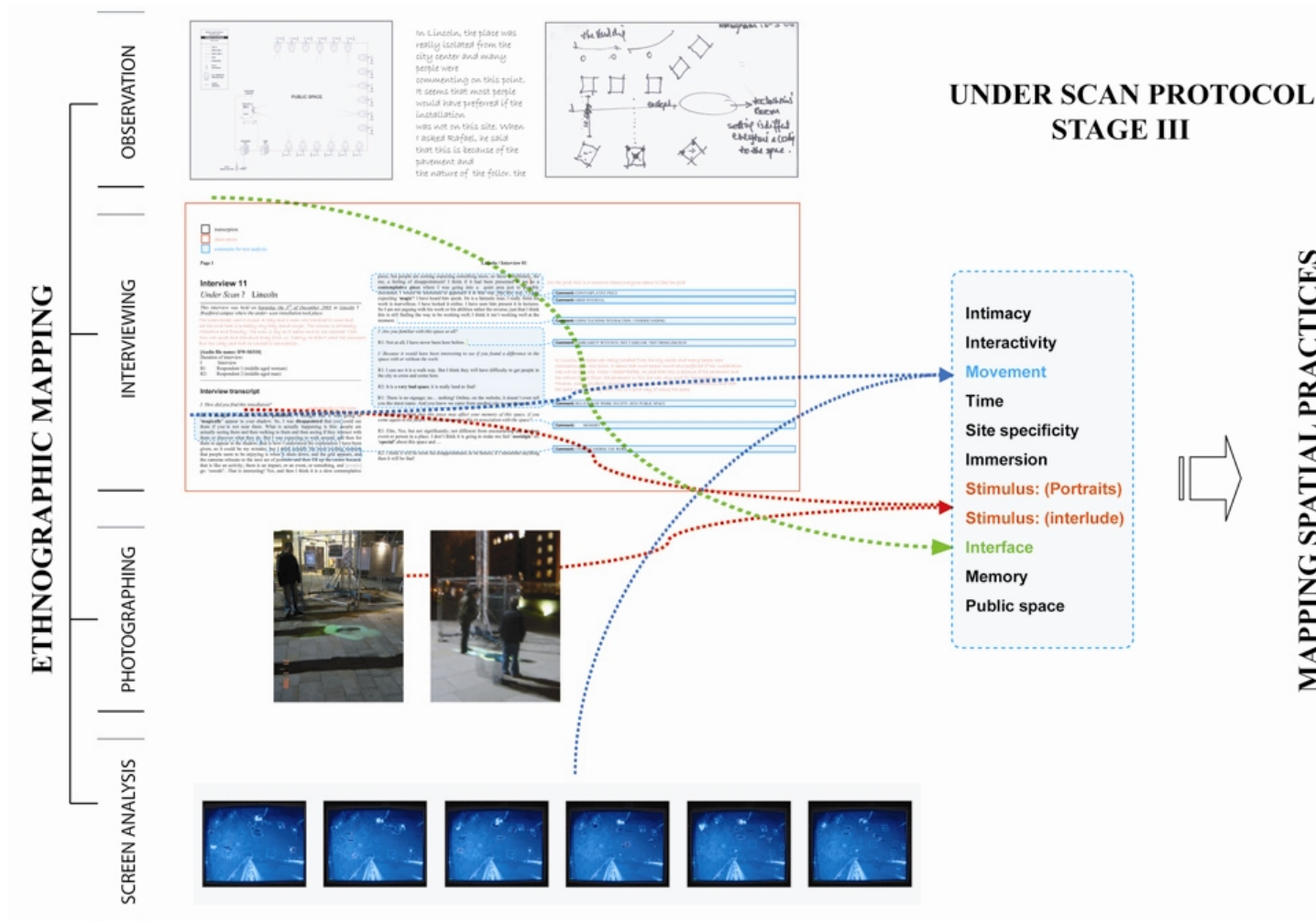
Appendix B. Under Scan Protocol: Images show a general overview of the ethnographic mapping process in *Under Scan* leading to analysis. It illustrates the different ethnographic methods of observation, interviewing, and interpretation. The following appendices will demonstrate more details on these methods.
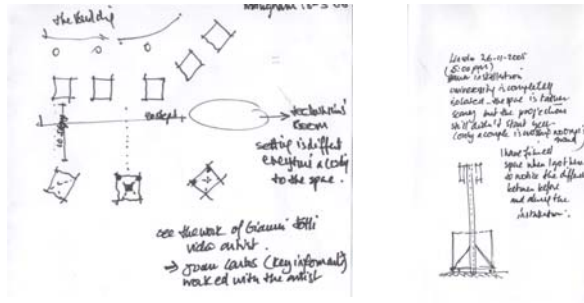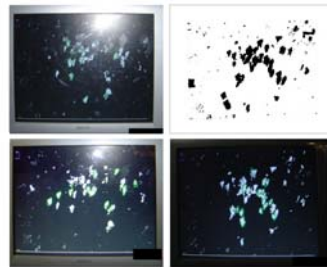
On site observation

Interviewing

Screen

Photography / video (visual Ethnography)

Appendix C. Under Scan Protocol: Images illustrate the different ethnographic methods used in data collection. This involves (1) an on-site observation of the piece, with sketches and notes. (2) Interviews with users, technicians and artist, (3) screen analysis to gather information of people's movements and behavior, and (4) photographing and video footage to provide an accurate source of information for later analysis.

□ transcription
□ observation
□ comments for text analysis

Page 1   Lincoln / Interview 01

Interview 11
Under Scan ? Lincoln

This interview was held on Saturday the 3rd of December 2005 in Lincoln ? Bradford campus where the under-scan installation took place.
The interviewees were a couple: A lady and a man who travelled to come and see the work that is probably why they spend longer. The woman is extremely talkative and friendly. The man is shy as it seems and as she claimed. Their Son was quiet and standing away from us. Clearly, he didn't want the comment. But the Lady said that he wanted to leave earlier.

[Audio file name: DW-S0310]
Duration of interview:
I   Interview
R1   Respondent 1 (middle aged woman)
R2   Respondent 2 (middle aged man)

Interview transcript

I: How did you find this installation?

understanding the piece

R1: I thought it would be more **predictive**. I thought that it was going to 'magically' appear in your shadow. So, I was **disappointed** that you could see them if you're not near them. What is actually happening is this: people are actually seeing them and then walking to them and then seeing if they interact with them or discover what they do. But I was expecting to walk around, and then for them to appear in the shadow; that is how I understood the explanation I have been given, so it could be my mistake, but I think actually the most exciting moment that people seem to be enjoying is when it shuts down, and the grid appears, and the cameras relocate to the next set of portraits and then fill up the centre because that is like an activity; there is an impact, or an event, or something, and [people] go: 'ooouh!'. That is interesting! Yes, and then I think it is a slow contemplative

piece, but people are coming expecting something more, so there is definitely, for me, a feeling of disappointment! I think if it had been presented to me as a **contemplative piece** where I was going into a quiet area just to possibly encounter, I would be interested to approach it in that way. But this way, I came expecting '**magic**'! I have heard him speak. He is a fantastic man. I really think his work is marvellous. I have looked it online. I have seen him present it in lectures. So I am not arguing with his work or his abilities rather the reverse; just that I think this is still finding the way to be working well; I think it isn't working well at the moment.

On the grid, this is a common theme everyone seems to like the grid

Comment: CONTEMPLATIVE PIECE
Comment: GRID INTERVAL

Comment: EXPECTATIONS/ INTERACTION / UNDERSTANDING

I: Are you familiar with this space at all?

R1: Not at all; I have never been here before.

Comment: FAMILIARITY WITH SITE: NOT FAMILIAR / NOT FROM LINCOLN!

I: Because it would have been interesting to see if you found a difference in the space with or without the work.

R1: I can see it is a walk way. But I think they will have difficulty to get people in the city to cross and come here.

R2: It is a **very bad space**; it is really hard to find!

R1: There is no signage; no... nothing! Online, on the website, it doesn't even tell you the street name. And you know we came from another city to see this, so ...

In Lincoln, the place was really isolated from the city center and many people were commenting on this point. It seems that most people would have preferred if the installation was not on this site. When I asked Rafael, he said that this is because of the pavement and the nature of the floor. The pavement in this are was very good for the projections. However, many students said that the space is much better with the installation and that the space is not usually used, this is a good way of using the space.

Comment: RELATION OF WORK TO CITY/. SITE/ PUBLIC SPACE

I: Would you think that this piece may affect your memory of this space, if you come again in the future. Will you remember this in association with the space?

R1: Elm, Yes, but not significantly; not different from encountering any random event or person in a place. I don't think it is going to make me feel '**nostalgic**' or, '**special**' about this space and ...

Comment: MEMORY

R2: I think it will be more the disappointment, to be honest, if I remember anything then it will be that!

Comment: UNDERSTANDING THE WORK

Appendix D. Under Scan Protocol. The image demonstrates the process of transcribing the interview, then analyzing the text to relate it to the main themes of the research. It also demonstrates some red notes recorded by the interviewer during the interview. With the most important ideas selected and highlighted in light blue.