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[PREFACE]

Over the past decade, interest towards interiority has increased considerably due to vast development on the subject and how it responds the interdependencies of body and space culturally. Interiority offers potential approach in dealing with the needs of saving resources and subsequently affect the sustainability of its design. Understanding of user and space in local and global context becomes essential in this subject and its connection towards interior architecture. This circumstance provides an urgency to encourage discourse and knowledge in the understanding of interiority and interior architecture.

Interiority in architecture is not limited to the concept of insidedness. It is related to all of the elements that affect human's life quality. Current thoughts on interiority as the core of interior architecture has not been fully addresed in practice and pedagogy. Further discourse of comprehensive practice, knowledge and methodology on interiority becomes a significant potential to be developed.

Exploration on interiority offers opportunities to gain insights on the body engagement in space, and how it may be approached through professional practice and pedagogy in the field of interior architecture.

Current discourse on interiority and interior architecture has called for a comprehensive investigation on interrelationship between local values, identity and how interior architecture posseses responsibilities to address those issues within the society. Such discourse is necessary to ensure knowledge sharing and to bring together creative ideas and future visions of interiority.

This proceedings contains papers from [in]arch International Conference on Interiority and Interior Architecture organised by Department of Architecture, Universitas Indonesia. The conference provides opportunity for not only reinterpreting and developing knowledge, methods and creativity in interiority, but also becoming an attempt to understand the potential agencies and collaboration in interior architecture design. This conference becomes a medium of dialog among international scholars and practitioners to discuss interiority and interior architecture through interdependent perspectives of practice and pedagogy.

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KEYNOTES

LEFTOVER SPACES: REDISCOVERING QUALITIES FOR INTERIOR ARCHITECTURE

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LEFTOVER SPACES

This article reflects on, analyzes, and critiques current and past work on interiority in the field of interior architecture and its adjacent fields of architecture and design as well as their educational methods. Interior spaces are often seen as "leftovers" of architecture and in need of "rediscovering spatial qualities." So Interior architecture (IA), seen by many as a "leftover" in the field, is in need of further definition and an expanded body of knowledge for its education, its practitioners and its research.

Those of us working in interior architecture need to further define our field and build up its body of knowledge in order to aid those who teach, practice, and research in the field. To begin with, interior architecture does indeed work with leftovers. "Leftover" in general can be defined as "something that remains unused or unconsumed" (Merriam-Webster).

While often used to describe food, the word "leftovers" could relate also to the field of interior architecture in reference to existing surpluses of vacant, empty, and undefined spaces and buildings around the globe--spaces that had been built without regard for the qualities of interiority. Previously, these spaces were seen as "merely" leftovers—excesses noticed only because of the vast number of buildings that exist. But interior architecture places these leftovers at the center of a focus on new ideas, methods, and values. So our current necessary task is to further define the field, to build theories and histories, and to find renewed potential for the re-imagination and the redesign of existing spaces and buildings.

DEFINING A FIELD

The collective history of building, architecture, and interior design offers critical examinations of recent and current practices in and around the profession, including its research and education. While IA has developed in some aspects into an independent discipline with specific educational programs and professional licenses, its philosophy, written history and theory are only slowly developing, and much of it is still a subset of architecture and interior design. It is critical to outline strategies to enhance, further define and suggest structures that can stimulate research, teaching and the body of knowledge in IA. Clearly communicating and developing the definition of the field is necessary to build its histories, theories and bigger body of knowledge.

To suggest a larger framework for IA, this paper draws on a diagram that F. Klingenberg discusses in her article "4 Dimensions of Interior Architecture," (Klingenberg, 2008). Klingenberg developed her argument from an earlier publication in which she defined the field of IA in three parts as a profession, a field of study and teaching—to a square, with the four corners representing IA's professional practice, body of knowledge, pedagogy, and research (see figure 1).

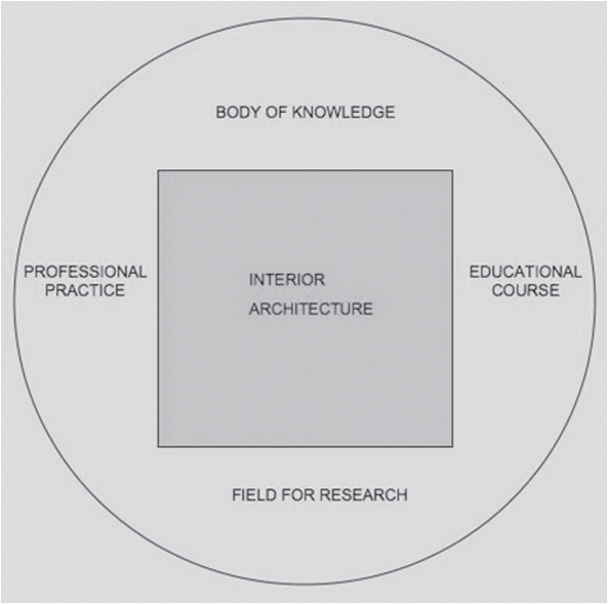

Figure 1.

IA EDUCATION AND THE BODY OF KNOWLEDGE

Architecture and design education and our body of knowledge are intrinsically connected and based on age-old values that may or may not be valid anymore but still determine our education system and knowledge. In many schools, the IA history and theory programs are embedded in architecture programs and structured and taught the same way. Histories, theories, techniques and its built work define to a significant part our current understanding of the teaching, work (body of knowledge) and practicing of IA. Like other art and design fields, IA is often perceived as formal and conceptual styles and manifestos and usually analyzed within a periodization of western architectural history. Few books of history or theory are available, and many of those have treated the interior as a subset of architecture. For example, the historian John Pile (2000) in his book "A History of Interior Design," a major survey text on interior design for over a decade, states that "interior design is inextricably linked to architecture and can only be studied within an architectural context."

But Pile's linear chronology of styles and objects has a very limited western mainstream approach, and the selected projects he discusses are merely aesthetic- and image-driven. This entire history of art, architecture and design, as well as the history of the interior, is overly focused on western philosophy. It left out, therefore, the biggest parts of our world and missed an understanding of geographical, cultural and behavioral, and climatic factors, as well as different techniques and concepts of comfort, and different understandings of human senses, to name a few of its limitations. Manfredo Tafuri (1976) directly criticized this kind of operative history, as for him history should critique and must be analytical.

"[H]istory is not about objects, but instead is about men, about human civilization. What should interest the historian are the cycles of architectural activity and the problem of how a work of architecture fits in its own time. To do otherwise is to impose one's own way of seeing on architectural history," (Tafuri, 1976 in Parman, 2009).

Similar to Tafuri, Giedion (1954) writes in "Space Time and Architecture": "History is not simply the repository of unchanging facts, but a process, a pattern of living and changing attitudes and interpretations." And further "... history cannot be touched without changing it." Giedion writes here of a dynamic history, a type of history that may have questioned the chronological and linear architecture history of the past; he writes further: "... the historian has often used his office to proclaim the eternal right of a static past. He has gone further and has used arguments based on happenings to restrict and distort the future."

These strong words from the 1960's underline the argument of Luis Diaz (2007) in his article "Towards a History of Interior Architecture" where he argues that IA as a recent field does not have a history. Attempts to create a history of IA could be done through a reversed chronology or a series of micro-histories to investigate different places and times (Diaz, 2007). Diaz writes: "... if we propose that interior architecture is recently formed, then we can suspend a search for a historical origin." He further writes on constructing a history for IA that "...discourses do not appear instantaneously and wholly formed; instead they coalesce, amalgamate, and emerge over time."

After considering questions of history and theory for the building of knowledge in IA, we must also consider the actual work that encompasses the field. Kurtich and Eakin defined in their book "Interior Architecture" the field of IA as "an exploration of the whole spectrum of architecture necessary for human accommodation, comfort and delight." This definition naturally comes close to Vitruvius's classic definition of (exterior) architecture as firmness, commodity and delight. The authors also think that the separation of architecture, interior design, and the fine arts during the Modernist period has limited the progress and development of truly humanistic architectonic space (Kurtich and Eakin, 1993).

A focus on the difference of the exterior versus the interior (or the outside versus the inside) as a definition of the variances between architecture and interior architecture may be a simple but overly limited approach. The field of IA certainly takes on both spheres, but perhaps more importantly, the one in-between, and any architect would proclaim the same with ("good and holistic") architecture. The first encounter one has with any interior is the act of entering, a movement from outside to inside (except for when one is born inside a building, when the initial movement is from inside to outside), which is a critical point in our appreciation and understanding of space and place. It creates a boundary of distinction, and it also defines the space that we can clearly inhabit as humans and, using the words of Elias Cornell, "take possession" of. Cornell wrote in his article "Humanistic Enquiry into Architecture, "To experience a building it is necessary to 'dwell' before it or within it. It is not always enough to be in its neighbourhood, where we can only see its exterior. It may be necessary actually to enter it," (Cornell, 1961).

In order to understand the interior as a space of habitation and not simply as a container with wall, floor, and ceiling surfaces, one needs to understand the act of habitation in itself. In his book, A Philosophy of Interior Design, Stanley Abercrombie (1990) argues that while architectural histories tend to focus on the facades of buildings, to understand "the containers within", requires a different experience: "We do not merely pass them on the street; we inhabit them. When we enter a building, we cease being merely its observer; we become its content" (Abercrombie, 1990).

IA PRACTICE AND PROFESSION

Apart from describing IA through its theories, history, and existing work, the field can also offer a definition of the scope of its work. Boundary lines are often blurred between the scope of architecture and related professions such as interior design, furniture, textiles, etc. Kurtich and Eakin (1993) defined the scope of work in their book Interior Architecture as follows: "(1) the entire building designed as an external shell containing integrated and finished interiors, ... (2) the completion of space within an existing architectural enclosure, .. (3) and the preservation, renovation or adaptive reuse of buildings, historical or otherwise, with a focus on the design of interior space."

This last point of the definition is also the focus of the Department of Interior Architecture, or INTAR, at the Rhode Island School of Design. The editors of Int|AR, the Journal of Interventions and Adaptive Reuse, Heinrich Hermann, Liliane Wong, and I, wrote in our editorial of Volume 01: "transforming an unused or underused building into one that serves a new use, we believe that this field of practice is rich and varied, and its importance includes not only the reuse of existing structures, but also the reuse of materials, transformative interventions, continuation of cultural phenomena through built infrastructure, connections across the fabric of time and space, and preservation of memory – all of which result in densely woven narratives of the built environment with adaptive reuse as their tool," (Berger, Hermann and Wong, 2009). The above definition allows for a wide interpretation of the scope and content of the field without hard defining lines—looking at issues and potentials and not services to be rendered. But professional associations and related practitioners are often focused in protecting their own "turf," defending their scope of work by trying to define clear boundaries and regulations. Legal recognition, accreditations, and a societally constructed opposition between design and conversation can be additional obstacles for the re-imagination of spaces with the values of the mind, body and soul.

IA RESEARCH

Research is crucial to connecting the existing body of IA knowledge with education and the practitioners. It is here that history and theory can be built on; it is here that technical and sustainable developments in the intervention of existing buildings and spaces occur, and it is the task of research to reconsider the values of the mind, body and soul. Designing sensory-rich spaces should enable us to experience the interiority of space and the movement of space in ways that integrate the sensuality and spirit of human life. As we design for the built world, explore the seen and un-seen potentials of existing frameworks and come to understand social, economic, and ecological parameters in new ways, can we also create homes for our memories, imagination and dreams? Such an approach may also create a way to shift our attitude to the question of sustainability in (interior) architecture. We, especially in the west, have addressed pressing questions of sustainability in the built world by largely focusing on standards, the technical aspects of finding energy efficient solutions and adding industrial, manufactured and labeled materials onto existing buildings. This technical and technology driven approach often results in the neglect of the quality, or spirit, of the architectural environment, and especially of interior spaces while not addressing larger energy issues. However, designing more holistically would require us to think about the sustainable transformation of spaces from the inside out, to take seriously how we as humans interact and feel in the spaces we inhabit. We need to make the multi-sensual and spiritual experience of spaces central to sustainable design – and not just as an afterthought, an accident of design. As designers we need to understand and be sensitive not just to how architecture is experienced through our senses of sight and touch, but also to the sound of a room and its odors in order to make the interior comprehensible to those who experience it.

CONCLUSION

To further develop and define IA, enhance the qualities of habitation in our interior environments (Americans, on average, spend approximately 90 percent of their time indoors)[1], achieve environmentally, economically and socially sustainable conditions while connecting with our past and current built heritage, the field needs to further progress. We need to find open and dynamic exchanges and collaborations of these four areas mentioned at the beginning of the article with strong connections back and forth between education, research and the practitioners (see figure 2) in order to critically examine and build on the current body of knowledge. Further, we need to question the status quo while allowing wide interpretations of the content of the field. For the benefit of the inhabitants of this planet and its ecological environment, we need to discover how best to fill our "leftovers" by re-thinking our approaches and then re-making the spaces we inhabit.

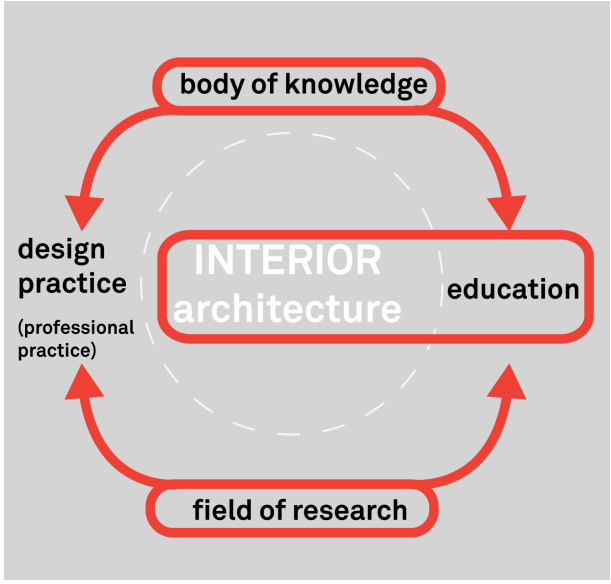

Figure 2.

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CREATIVE APPROACH FOR DESIGN RESEARCH

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ABSTRACT

As the academic discipline of interior architecture continues to mature, the common body of knowledge known as design research has advanced. Evidence-based design solutions from body of knowledge in interior achitecture provide practitioners with a method to stand, defend, and rationalize their design decisions as they relate to the human experience of the designed environment. Integrating research into design practice is a way to further evolve the profession of interior architecture as well as provide a link between the professional and scholarly worlds. Design scholars engaged in generating evidence-based design knowledge should use creative and rigorous research methods to provide valid and reliable research outcomes and promote the integration of research into the design process. Thus, the purpose of this presentation is to discuss a creative approach for design research using exemplary case studies. These case studies, pulled from a variety of design contexts including healthcare, retail, hospitality, institutional, and residential environments will illustrate the value of informing design with research.

Keywords: Design Research, Creative Approach, Interior Architecture, Evidence-based Design

INTRODUCTION

Interior architecture is a field that requires a high degree of creativity to solve complex design problems (Gardner & Weber, 1990). When designers create spaces by solving complex design problems, design decisions should be based on certain evidence. This paradigm is known as evidence-based design (EBD) which means basing design decisions on scientific research and data. Traditionally associated with healthcare architecture, evidence-based design is officially defined as: "a process of basing decisions about the built environment on credible research to achieve the best possible outcomes." (the Center for Health Design, 2010).

As the academic discipline of interior architecture continues to mature, the common body of knowledge known as design research has advanced. Evidence-based design solutions from the body of knowledge in interior architecture provide practitioners with a method to stand, defend, and rationalize their design decisions as they relate to the human experience of the designed environment. As reflected in the definition, evidence-based design is the use of credible research to design environments that

facilitate an overall sense of well-being and health. Credible research should follow creative and rigorous research design and methods that enhance the credibility of findings. Thus, the purpose of this presentation is to discuss a creative approach for design research using exemplary case studies. These case studies, pulled from a variety of design contexts including retail, healthcare, institutional, and residential environments will illustrate empirical research investigations using both rigorous quantitative and qualitative methods.

EXEMPLARY CASE STUDIES

Retail Store Dressing Room

A field study was conducted to examine the effect of dressing room lighting direction on consumers' perceptions of self and environment in a local area boutique store. A convenience sample of sixty females between the ages of 18 and 35 were randomly assigned to one of two dressing room lighting conditions, overhead and frontal. The color of light (3000K and 85-95 CRI) and the illuminance level (400 lux) were controlled. Differences between the two groups were compared using independent t-tests. Qualitative data were also collected and a content analysis was conducted of comments on the lighting and the dressing room.

Daycare Center for ASD

Considering special environmental factors in order to accommodate specific sensory needs for people with ASD, the COVE (Community Opportunity for Vocational Experience) is an innovative new autism daycare program center designed in Paradise, CA. About seven months after its occupancy, the case study was conducted to investigate the impact of the sensory environment on autistic behaviors. The assessment tools utilized in this study were in-depth interviews with 15 staff members, architectural documentation, and participatory observations of ASD clients for a period of two months.

NICU Center

A case study was conducted at the Neonatal Intensive Care Unit (NICU) of a local hospital in Florida. The purpose of the study was to assess caregivers' lighting satisfaction in the NICU and compare this data to objective lighting measures based on IESNA guidelines. A total of 96 doctors, nurses and parents participated in the survey and ten people in each group participated in the in-depth interviews. The lighting satisfaction was compared among three groups using analysis of variance and the interview data were analyzed using content analysis. The observation and documentations done in four different shifts were organized and then compared to the IESNA recommended standards.

Residential Design for Cross-culture Comprison

The study was to examine Korean temporary residents' housing perceptions and adjustment behaviors in U.S. residences. Working from Morris and Winter's (1978, 1994) theory of family housing adjustment, qualitative study was conducted with 27 female temporary residents between the ages of 33 and 54 visiting the U.S. Data were collected including in-depth interviews, direct observations, and documentation of previous housing conditions. The transcribed data were analyzed based on van Manen's (1990) approaches and content analysis method.

LEED Buildings in Higher Education

The study was designed to test several of the simulation tools and investigate if LEED buildings consumed

water and energy at the levels predicted during their LEED applications for two LEED certified buildings at the southeast university in the US. After collecting original LEED documents, water data, and energy records for each building, this information was analyzed to uncover current performance levels and identify deviations from the original LEED design and baseline predictions.

CONCLUSIONS

As interior architecture reflects and creates human experience, the quality and innovativeness of designing such spaces depends upon careful and creative research. Integrating research into design practice is a way to advance the profession of interior architecture as well as provide a link between the professional and scholarly worlds. Design scholars engaged in generating evidence-based design knowledge should use rigorous and creative research methods to provide valid and reliable research outcomes and promote the integration of research into the design process.

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A PRODUCED INTERIORITY

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Over the past ten years, there has been an increase in publications and conferences dedicated to interior design and interior architecture addressing different and diverse aspects of interiors including spatial and temporal conditions, bodies, materiality and performativity. However reading through these texts, the concept of 'the interior' is rarely opened up and addressed.

Assumptions include the equation of 'the interior' with enclosure and space as conditions that pre-exist the process of designing. The historian John Pile writes: 'interiors are [defined as] an integral part of the structures that contain them – usually buildings. This means that interior design is inextricably linked to architecture and can only be studied within an architectural context' (Pile 2009: 11).

The emergence of interiority as a focus in the discipline could be seen as an expression of a desire to further articulate the specific and distinctive nature of the practice of interior design. Michael Benedikt's self-described polemic is an example of this kind of offering. He describes interiority as an endless and oceanic condition that emanates and projects from the subject who experiences and practises. He calls for interior design to develop its own vocabulary through 'articulating the interiorist world view and all its sensitivities – sensitivities to texture, pattern, colour, style, touch, nearness, arrangement, personality, and domesticity, to "charged" objects (the *life* in inanimate things), to class, and to the power of people themselves – of their clothed, warm, breathing bodies – to transform any environment by their presence' (Benedikt 2002: 4).

While his text is a powerful assertion of interiority with an emphasis on designing from the inside out, it continues to position 'interior' in an essentialist, *a priori* way. My research within the discipline of interior design has been motivated to re-pose 'interior' as a question that is open to new orientations and possibilities.

One of the main tools I have used for opening up 'the interior' has been the writings of the philosopher Gilles Deleuze. Deleuze dismisses the concept of interiority that 'refers to the thought, dominant in Western philosophy since Plato, that things exist independently, and that their actions derive from the unfolding or embodying of this essential unity'. For Deleuze, one must not 'look to the internal or intrinsic "meaning", "structure" or "life" of the terms involved (whether they be people, a person and an animal, elements in a biological system, and so on). ... organised beings are not the embodiment of an essence or idea, but are the result of enormous numbers of relations between parts which have no significance on their own. In other words, specific beings are produced ... without reference to any

guiding interiority (Roffe, 2005: 95). Practices of interiorization occur within a general milieu of exteriority where '... the interior is only a selected exterior; the exterior, a projected interior' (Deleuze 1988: 125).

While this could be seen as a dismissal of the concept of interiority, Deleuze instead emphasises interiority as a creative production through a shift to relations and process. Interiority becomes practised in time and actualised spatially and materially. Moods, atmospheres and haecceities are foregrounded; subjectivity and objectivity reoriented as relational, dynamic, provisional and ecological.

In terms of 'interior' what is highlighted in this re-positioning is interior no longer as a given, pre-existing inside; instead the question of interior becomes critical to pose through practise. This could be: 'interior?' – a what kind of question which implicates a noun as an answer. It could also be posed as '?interior'. Shifting the ? to before 'interior' becomes a different proposition; coming beforehand, the question mark poses the very possibility of interior. In questioning 'interior' as ?interior, the invitation is not to provide an answer through redefining the concept of interior but to attend to it as a design, as a question in relation to practise – a 'how' question which as a creative problematic needs to be addressed each time anew. It is to suspend the assumption of the middle bit – the wall, boundary which already defines an inside – to place the question of ?interior in the world; to open it up to the exterior/outside; to flux, contingency and chance.

The potential for the practice of interior design as a discipline that addresses the designing of interiors and the constitution of interiority is amplified and open. Interior design becomes a critical practice where the question of interiority as a creative production connects with contemporary concerns. A series of experiments will be presented which engage with this provocation of a produced interiority.

Keywords: interior, time, interior design, Gilles Deleuze

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PAPERS

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INTERIOR SPACE GENERATING STRATEGY AS SECOND-SKIN ELEMENT

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ABSTRACT

Interior design is the linking point between designer purposes and the results of these purposes inside the recipient's mind. The interior design process addresses the users' minds by implication and expression of effectiveness. The sense perception is a stage of mental perception, which ideas and meaning are moving from the designers' mind to real material and meaning, which realized by the recipient's senses. Recipient realized the ideas and meanings by matching process for what was realized with mental images, depending on the output format in the space. Recipients can adapt to the interior space according to the sensing process. This process adopted on the first skin elements, which uses the five senses to realize the space physiologically. The second skin or psychic skin adopted on the cognitive and mental image matching process. Using objects or shapes related to specific culture, function, brand, or designer in interior design processes should follow limited rules. The interior design process is not collecting for objects and symbols inside a space. Some interior design projects reflect false and distorted meaning which lead to draw false mental image about the identity of space on the recipients' minds. This paper a is trail to identify the generating shape of interior space, which adapted to the users psychic skin. Geometric analysis and new shape production were done on selected sample to find out the adapted generating strategy with users' physic skin.

Keywords: generating strategy, second psychic skin, shape reconstruction, identity of interior, interior mental image

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INTRODUCTION

The processes of interior design have relationships between the generating strategy and understanding shapes, especially when the designer tries to give expression about the identity of place. This process is linked to the concepts of value and appearance, which set the identity of interior space. The designer can modify the metaphor object and re-shape it to match the recipients' mental image or to be near the probability of recipients' mental image about the modified objects. This research is focusing on the space results more than the actions, because the shape of the inner space as a whole, is determined by the identity of the space and its affiliation with classification. Interior space identity is one of recipient's psychic skin elements and it is determining the affiliation value of a person to the place depending on the

user psychological explanations (Caan, 2011). Realizing the creative design value depends on achieving second skin by achieving the physiological and psychological needs. Second skin is the result of achieving these needs. Designers should be depended on the second skin elements in interior design processes, by playing on the identity concept and its relationships with the user's perception. This strategy linked to generating shape processes which can address the users' minds by effecting on the mental image store (Hassan, 2007).

The effective process of perception in interior space is one of designer functions , which depends on transferring what in designer's mind to physical material and shapes. Physical output is perceived by users' senses. Then, perception process starts. (Jirjees, 2008) figure 1.

The matching grade between the mental image of designer and user is the base of psychic skin existence. In this research analysis will be made from elements associated with identity. Those elements will re-formed to generate a matrix of shapes and measuring the matching ratio. The generating symbols matrix can be circulated on any element to measure any model that can address the user mentally and makes it part of the space. Interior design for restaurants chosen as a case study. The case study chosen from Georgetown in Pulau Penang, Malaysia. This area has a special architecture and a cultural identity. Georgetown city has many heritage areas. It reflects the identity of Penang to all different types of visitors. Generating strategy is very important to create the third space and put it in the right way, in order to reflect the identity purposes, which considered a main element for psychic skin that associated with the first and second space in out zoom of space theory (Soja, 1996).

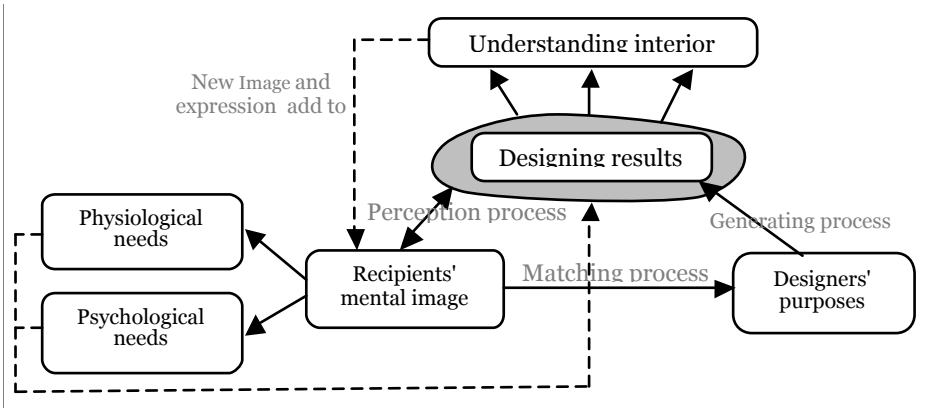

Figure 1. Cognitive process & perceptions elements & mechanism to achieving human needs: adopted by Hassan (2007); Jirjees (2008).

THE RESEARCH PLAN

Three parts are designed to reach the aim of the study, and identifying the generating rule to create interior space adopted on the identity term. The first part is to identify main variables that related to psychology and physiology needs, and the literature review will be discussed in both sides. Moreover, definition of term will be held in this stage. After identifying variables, second stage is designing measurement table to measure the case study which selected from Georgetown city. For each case, focusing will be on the main objects that used in design to reflect identity. This object will be re-modelled according to generating rules' variables that identified in the first stage of the study. Latest stage is matching process between the new models of shape with the users' mental image by questionnaires and interviews to reach the results.

PREVIOUS STUDIES

Two types of studies were discussed in this part. Psychology studies, which linked to the psychological needs of users, and geometrical studies, which addresses the physiological needs. From each study, a group of variables was found out to design the measurement stage. Definitions of some related term were identified in this part.

Caan (2011) explained the elements and requirements of second skin. Psychological and physiological needs are the most important elements to achieve a psychic value of interior space. Designs of space should respond to human needs. The user should be adapted to space, to feel as part of space. Psychical skin is a virtual skin related to psychological feelings. It is the substantial part of the interior design chain to understand the space perceptually and spiritually (Caan, 2011).

Chuang and Chiou (2009) pointed that there are important element to design healthy, aesthetic, and safety space for users. In addition to standards of design and its style, the space should be understood by users by understanding the active relations between users and the environment space. This process depends on the designer's experiences in term of creating psychic relations between human and objects in one space. To reach that, the designer have to understand most of human needs in space which designer tries to create. Users have mainly two needs which are physical and psychological. Chuang and Chiou (2009) present five basic needs for interior design, such as safety, atmosphere, and functions as physical needs in addition to the type of space and aesthetics as psychological needs.

Interior design processes are linked to third space theory in the shopping street. Third space is basically a different strategy for understanding the action and explaining human life with spatial space (Soja, 1996). Lefebvre explained third space as 'spaces of representation' and also 'lived space' that is not just a name but the idea for a new line of space and spatiality perception (Perolini, 2011). First space is by looking at area in details and raising questions such as what is space, who works here and what its type is. Furthermore, it focuses on the space they live in, art, architectural style, advertisements or any medium. Third space involves and covers the first and second space (Moles, 2008). Third space is the space in which the first and second come together. People are living in the first and second space where all activities are included but, in fact ,we create third space which surrounds our activities by virtual cover. This cover has different types depending on what people's activity are in that sector of first space. Lefebvre puts different examples to explain third space which one of them is about a market (Perolini, 2011). The first space is a geographic area of a market in any sector of the a town (Perolini, 2011). A case study is selected from third space area to connect culture and identity to the visitors' mental image. In this case, most of the visitors are also tourists.

Jassim (1993) explained that objectivity purposes could be achieved by using simple design principles to achieve formal harmony at the level of the designing and the cognitive impairment reaction, such as:

- Rhythm by: repetition, hierarchy, and continuity principles
- Balance
- Proportional relationships to achieve consistency with the overall shape and confirm the character and integrity of the design work
- Dominion in space by (Jassim, 1993), such as:
  1. Differentiation of one formal element
  2. Differentiation in colour or its tones
  3. Unification the perspective direction
  4. Oncoming or estrangement degree from the receiver

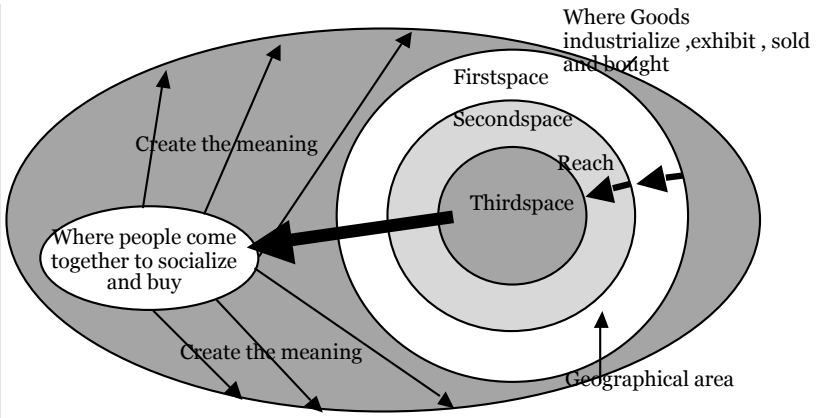

Figure 2: How could third space affect the users' minds. Adopted by: Moles (2008), Soja (1996); Perolini (2011)

According to Ching and Binggeli (2012), generating shape starts from three modifying processes which are addition, subtraction and merging. The relationship among them is the limitation of value in identifying these processes. Some examples of these relationships are adjacency, overlap, and tangent. These processes of modification can be used to create interior space or to reflect an adjoining element or site feature in order to link interior space with aesthetic value (Ching & Binggeli, 2012).

Alchalabi and others (2011) found out the main element to analysis and reconstruct shape according to matrix of shape. The matrix contained raw and column and could be in three stages which are single shape, multi-shape, and objects. This matrix depends on the analysis process of shape. Multiplying one element from the raw with one element from the column leads to generate new shape. This process, like a mathematical equation, is done by changing variable effects the results. Thus, sequences of shape are identified as main variables (Alchalabi, Alhafiz, and Sabah, 2011).

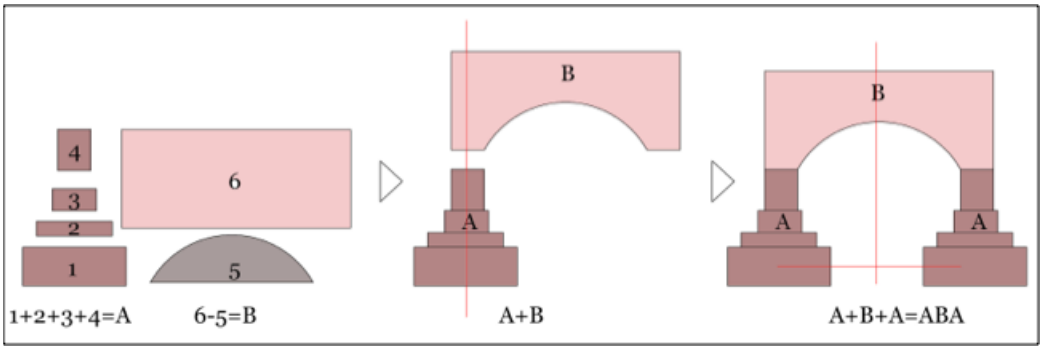

Figure 3. Generating process to use it in interior design to reflect the identity of place.
Adopted by: Alchalabi & others (2011); Huang& others (2005)
Drawing by: Researchers

Marusan and others (2006) illustrated the mechanism and elements of mental images, and its effects on the user behaviour, according to the matching process between the real image and the virtual image. Recalling process of the existing and virtual image is like a comparative visual image with the nearest aimage in the uses' mind. Matching process depended on the mental image process, which were

thinking and remembrance processes to re-call images from uses' mind, and matching it with recently visualized image from the real or virtual places, in order to understand this space and reflect the feelings as behaviours. Feelings of the usual or unusual, four stages achieve these variables (Marusan, Kulistak, & Zara, 2006):

- Generation: the ability to generate and save mental images as recourses
- Maintenance: the ability to use images over time during viewing place
- Scanning: the ability to shift one's attention over an imaged object
- Manipulation: the ability to rotate or otherwise transform images and the ability of the mind to control the behaviour during this process (Marusan, Kulistak, & Zara, 2006)

Hussein (2010) indicated the main elements which related to the human psychological needs in interior space. Reaching a satisfaction of design depends on the process of transferring meaning from visual feelings by the five sense to psychological emotion (Hussein, 2010). Three main elements related to this process are as follows:

- Scale variables: human scale, edifice scale, and miniature scale
- Strangeness variables: three types of variables depending on what interior design reflects to user: adaptable space, strange, and unadoptable
- Spiritual design variables: anti-design and friendly design (Hussein, 2010)

Shape can be abstracted and re-constructed in interior space according to two rules. The first rule is related to the original shape and formal relations which can be found out by geometric analysis. This analysis identifies shape and its relation to generate a new version. The second rule is related to material and virtual senses which are linked to users' perceptions (Ching & Binggeli, 2012).

PRACTICAL STUDY

Design the measurement tools

The previous studies are related to pyschological and physiological needs in design and interiority. Each studies is identified with group of variables which are derived from the measurement tables and questionnaires (that test sample and populations).

Variables Related to Analyse Samples

Samples will be analysed according to three stages that each stage is connected to the next stage as an element of shape construction (Figure 4):

- Main shape
- Secondary shape
- Final form

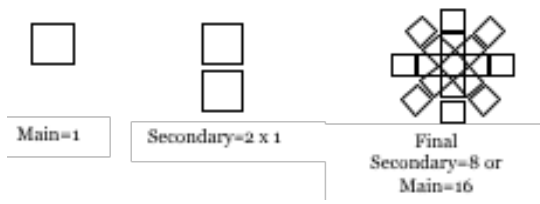

Figure 4. Explaining the three stages of shape analysis

Table 1. Variables of shape reconstruction in interior space

Sample no.					
Place of sample					
Restaurant type	Fast Food Restaurants		Value		0 or 1
	Family style Restaurants				
	Fine Dining Restaurants				
	Cafés and coffee shops				
Stages of shape			Main shape		
			Secondary shape.		
			Final form		
Relations			Adjacency		
			Overlap		
			Tangent		
Sequences			Random.		
			Sequent.		
			Partially Sequent.		
Colour			Original		
			Modified		
			Strange		
Shape Related to			Place identity		
			Functional identity		
			Architectural identity		
			Brand identity		
			Designer identity		
Repetition	Repetition type		With transformation		
			Without transformation		
	Repetition direction		Regular	Linear	
				Central	
				Radiant	
			Irregular		
Material	Material type		Traditional		
			Normal		
			Hi-tech		
	Material use		Usual		
			Unusual		
	Related to		Place identity		
			Functional identity		
			Brand identity		

Source: Researchers

In relation to Ching and Binggeli's study (2012), this part contains the relationships between variables which are:

- Adjacency
- Overlap
- Tangent

The other variables are related to the sequences of shape in the final form which could play with this variable to generate new models from one shape. This contained three micro variables as follows:

- Random
- Sequent
- Partially Sequent

These variables will be arranged as a measurement table to find out the main element of the shape and mechanism of re-constructed new models from the original shape. After this stage, the questionnaire will be done from the original and virtual models to measure the elements of second skin and the value of adapting with new and strange models. They includes interior space and its effects on identity of place (see Table 1).

Variables related to Psychological needs

In this paper, questionnaire table was done to measure the psychological reaction against the new models which compared with the original one (Table 2). The value of adapting to space psychologically leads to achievement of psychic skin which depends on the elements of second skin. Place's identity is one of these elements. Generating shape of interior design depends on the original shape that is related to place's identity and follows different way but within the limited mechanism. The matching between the shape-analysis result and questionnaire will identify the best generating strategy. Later, it can be used to generate interior design which adopts rule of identity.

Table 2. Questionnaire table to measure the samples.

Sample no.		Place of sample							
1-Recipient Type			Tourist						
			Citizen						
2-Nationality									
3-Age		4-Gender	M	F					
2- Frequency			First time						
			Daily						
			Weekly						
			Monthly						
3-Experiences about sample.			Yes						
			No						
4-Do you think this place has any identity or styles?								Yes	No
5-Have you ever been in same this environment before?								Yes	No
Feelings value	Value				1	2	3	4	5
	6- Type of interior design according to (usual –unusual)		Details						
			Overall						
	7-Exciting value		Details						
			Overall						
	8-Adapting with interior space scale(Huge- Tight)								
	9-Value of Strangeness(Ordinary Strange)								
	10-Spiritual design (Anti - Friendly)								
11- Do you think this place carried meanings or identity					Yes		No		Between
Notes									

Source: Researchers

The matching process is the last stage to fine the best generating strategy and its effects on the second skin in interior design, matching for the results of the original space questionnaire and survey with the results from table 3 which is the users reaction towards new models of original shapes in the interior space. Table three contains approximately same questions but the questions about same sample with new shape generated from the original shape. This measures elements of interior space. Questionnaire 1 and 2 (see table 2 and 3) are mostly answered by the same user.

Table 3. Questionnaire table to measure the new models of sample shapes.

Sample no.		Model 1	Model 2	Model 3	Model 4					
Place of sample										
Number of models	4									
1-Do you think this shape has any identity or styles?						Model 1	Yes	No		
						Model 2				
						Model 3				
						Model 4				
2- Do you think this shape related to this place?						Model 1				
						Model 2				
						Model 3				
						Model 4				
3-Have you ever seen this shape before?						Model 1				
						Model 2				
						Model 3				
						Model 4				
Feelings value	Value					1	2	3	4	5
	4- Type of design according to (usual –unusual)					Model 1					
						Model 2					
						Model 3					
						Model 4					
	5-Exciting value					Model 1					
						Model 2					
						Model 3					
						Model 4					
	6-Adapting with interior space scale (Huge- Tight)					Model 1					
						Model 2					
						Model 3					
						Model 4					
	7- Value of Strangeness) Ordinary Strange)					Model 1					
						Model 2					
						Model 3					
						Model 4					
	8-Spiritual design (Anti - Friendly)					Model 1					
						Model 2					
						Model 3					
						Model 4					
9- Do you think this place carried meanings or identify?							Yes	No	Between		
Notes											

Source: Researchers

Samples Of Study

The selected samples will be from Georgetown which is well-known by its heritage sites. They are considered as the face of Pulau Penang, Malaysia (Figure 5). Penang's capital city is interesting and historic. The city was listed as a World Heritage Site by UNESCO on the 7th of July 2008.

Figure 5. Georgetown city, Pulau Penang –Malaysia.
Source: Google earth, 2004

In this study four samples were chosen to make the analytical study. Selected samples were chosen according to survey of Georgetown area to find some restaurants that was able to reflect identity of place (Figure 6).

Figure 6. Samples from Georgetown restaurants.
Source: Researchers

In Georgetown, there are six types of restaurant spaces according to the restaurant classifications, as follows:

Fast Food Restaurants

This type of restaurant usually reflects the Brand Identity which some time confuses users, especially tourists because brand like KFC or Subway carry their own identities everywhere (Vernet & de Wit, 2007).

Fast Casual-Dining Restaurants

It contains tables and offers quick meals, have an informal environment. Kind of restaurants like fast food restaurants, but better quality in terms of the environment. Account is usually paid after the completion.

Family Style Restaurants

This type of restaurant has a fixed menu and prices. Users seat at shared tables. Example of this type of restaurant are sushi and noodle houses. This type reflects some of the culture's identity and are preferred by tourists. It is not only a place to eat but also an exciting place to learn cultures.

Casual Dining Restaurants

Usually, food and interior design are normal. The environment is informal. Users are mainly the worker s or employees coming to this restaurant in the rest hour.

Fine Dining Restaurants

Full-service restaurant and food, usually contains a list of the meal courses or meals interconnected. The interior design and atmospheres are very important in this type of restaurant, and usually there is a chef has experienced to manage the restaurant in addition to a professionals and officials waiters. Most of this type designed by a designer has an experience in interior design.

Cafés and coffee shops

Informal locations to provide drinks, some food, and special meals for breakfast. Is that the place allows you to relax and socialize without pressure to process applications or eating.

Population of Study

Georgetown is a place where you can find a different nationality form all over the world in addition to the citizen people. The population of the study is the real uses of space which researcher asked after completing their enjoyments at the place. In this paper, 24 questionnaires were done as (well as) two questionnaires that were designed before for each stage.

Testing the samples

After selecting the samples, the first stage is a geometrical analysis process for the samples to find the main element that effects the interior design. Depending on the variables that found out on previous studies, the main element was selected as effective element re-construct as new models from the

original one. After this stage, questionnaires for each samples were made to test which generated strategy and adaptation to the psychic skin. Four models for each sample were reconstructed depending on the geometric analysis study and found variables. Each model had different generating shape strategy to create, as follows:

Model 1: Constructing a model by changing the locations of the elements, materials, colour and shape sequence.

Figure 7. Interior views from model 1 for sample 1 (Royal restaurant Georgetown)
Researchers

Model 2 : Adopting on just elements by reformation it by changing some variables value such as repetition, type and relations.

Figure 8. Interior views from model 2 for sample 1 (Royal restaurant Georgetown).
Researchers

Model 3: This model has two parts but linked as one variable value which contained a colour of detail and overall design.

Figure 9. Interior views from model 3 for sample 1 (Royal restaurant Georgetown).
Researchers

Model 4 : This model was created by using abstract shapes. This generating strategy lead to change in the style of space because sequences and relations were changed to another direction.

Figure 10. Interior views from model 4 for sample 1 (Royal restaurant Georgetown). Researchers

FINDINGS

In the first stage analysis, results show that samples generated mainly from main shape and secondary shape in design detail. The overall form result is linked to the main shape and the secondary shape in design detail but the final form going to overall design is not just for detail. Relations' result was 68% for adjacency, 62% for tangent and 24% for overlap variable. In details, the rate of sequent variable was 79% and in overall design partially sequent 66%. 82% of colours were changed from and 78% of them was done by inserting 'strange' colours. 66% of samples were related to the identity of Georgetown while 34% others were function related. Repetition type was regular with transformation in proportion ands scale. 81% of materials were related to the identity of place but with some modifications.

The second stage, which is about the interior space of samples, shows that recipients choose sample according to their psychological needs. 74% mentioned that the sample had an identity and style related to the outdoor space. 63% mentioned that the interior space was usual in detail and overall design and 76% answered that they felt excited there. Questioners mentioned that adopted with the huge and normal space by rate 84%. 74% mentioned that the space was somehow ordinary (rated between 3-4) but with details was ordinary (rated 1-2). 82% from questioners came to the place because it had an identity and special environment. Different notes mentioned in the last field of the questionnaire, most of them were about the details in interior space and material. Another noted that there were different type of traditional arcs in one space and if there were any relation to the architectural style. 14% from questioners noted that they thought that there were no harmony between furniture and the style of the space.

The last stage is the results of questionnaire for new models of element in interior space and comparasion among the models. 54% selected model 2 (figure 8) as models that adapted to place and reflected the same meaning of space. Model 3 (figure 9) got 24%. Model 1 (figure 7) got the lower rate by users because they felt like another space. Although model 1 had exactly same secondary shapes, changing location and relations among them lead to lose and confused the users' mind. Model 4 was very near to users's mind. The abstracting shape process should follow rules to keep space identity more acceptable by users.

CONCLUSIONS

According to the three stages of results, in addition to comparative process between level two and three, the results show that the main element of generating strategy that effected the users' perceptions are sequence, regular repetition type linear, relationship of the details and strangeness factors. Users can adopt with space physiology but may get another psychological reaction. It is due to the adapting of second skin (psychic skin) with interior space. Although first skin is not adopted, normal users can realize the changing in shape, colour, and relationship for the new models. Identity of place effected the second skin by playing with the physiological and psychological needs which were related to the willingness

of belonging to a place. Every shape has an identity and meaning. Changing the shape could affect the users' perceptually. Generating shape depends on original shape, which has value, and is a critical process. Designers should know the construction strategy of the shape to be easyly re-constructed and derived as new models(4 models). These models mostly have same DNAs as the original shape because the users have natural ability to recognize the similarity genes although the changing shape or colour. Designer should identify the main element that affected the interior space and designed process start from those elements by adding or remodeling it. Hence, as the results show, remodeling should depend on model 2 and model 3 rules in order to create the environment of second skin. If users sense the interior space by their psychic skin, interior space will have aesthetic and identity value.

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A THING IN THE DRAWING ITSELF

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ABSTRACT

Corresponding to Kant's *Das Ding an sich*, drawing as architectural representation has thing beside the sum of its data. The idea is that there is thing-in-itself, separated from the data and not mediated through perception by the senses or conceptualization. Therefore, it may be beyond our knowledge and understanding of what drawing *really is*. Though, it is still possible to define what drawing is meant to be (its *telos*) and what appears to us.

What we perceive from drawing is its appearance. Thus, it needs to be accompanied by the thing that appears. Recognition of thing-in-itself results in change of usual method of representation.

This paper examines possibilities of thing-in-itself acknowledgement in the works of Daniel Libeskind, particularly Micromegas. It is transcendental to our senses that it can no longer be read the way drawing used to be read. Libeskind rejects any means of common pictorial representation. We hardly recognize which is what. In these sense, the drawings are engaged more to its being rather than their relation to something else. They refer to nothing but themselves. Herewith, an alternative to common mode of reading is proposed and questions regarding architectural drawing's interiority are raised.

Keywords: architectural drawing, representation, thing-in-itself, reference, being

DRAWING AS IT APPEARS

> My drawing was not a picture of a hat. It was a picture of a boa constrictor digesting an elephant. But since the grown-ups were not able to understand it, I made another drawing: I drew the inside of the boa constrictor, so that the grown-ups could see it clearly. They always need to have things explained (Saint-Exupery, 1943: 1, 6).

Our understanding of a drawing does not derived from the drawing itself, but rather its appearance. We preceive what appears to us. Hence, it is no doubt that a boa constrictor digesting an elephant is mistaken by a hat because it looks like one (Saint-Exupery, 1943). We do not see drawing as it *really* is. It is merely a phenomena; drawing as it appears to readers (Kant, 1990).

The drawing itself, although its existence can not be denied, is quite unknown to us in itself and thus, is nothing more than a representation of our sensibility (Kant, 1990). Along with intuition and perception,

sensibility acting in between drawing and its reader, mediates the process. That is to say, our sense is a tool of understanding. We gain information from drawing mainly through our visions. Though, it is not impossible to use the other senses such as hearing and touch. We think we know certain information or qualities of a drawing because our eyes see it that way. Senses act in between drawing and its reader. It is a medium. It allows reader to connect and perceive informations within a drawing.

Because phenomena only corresponds to our senses, the possibility of its existence is restricted and dependent upon our minds (Kant, 1990). Appearance does not exist within the drawing. It is outside of drawing. It only appears to us, readers. However, when we see drawing, information does not only come from our sensory experiences but also interferes with knowledge a priori. Kant (1990, in Blumenau, 2001) mention this condition as *anschauungen*; when the minds see the world, they have no choice but to look at it with ideas that are build into the mind. Reading, similar to the act of drawing, fuses the external knowledge (which is gained by senses) and the internal (such as perception, conception, etc), and therefore, the result may be subjective (Pallasmaa, 2009). Thus, it makes sense if different people perceive one drawing differently. It has to do with the way our minds operate that is determined by the way our mind constituted (Blumenau, 2001). Whereas, constitution is also a priori though it will subsequently be applied to experience.

Drawing, as a "creation by means of 'the form rich in ideas', is not the purely transparent expression of this form. It is nevertheless, simultaneously, revelation" (Derrida, 1978: 12). It allows some of its attributes to be seen and known to its reader, partially. In saying this as drawing's incapability of containing and revealing information, we need not to forget that drawing is a representation in the first place.

"Inasmuch as architects work at a distance from the material reality of their discipline, they necessarily work through the mediation of systems of representation" (Allen, 2009: xvii) which is drawing. It *represent* attributes of architecture (Boros, 1998) and therefore does not have to *present* the architecture itself (Bovelet, 2010). There are only certain qualities or characteristics that are presented as architectural representation. Drawing will always be partial. At this point, we can see drawing as a language that it allows us to share ideas (Milani and Scooderbeek, 2010: 14). Besides, drawing also works diagrammatically (Bovelet, 2010) and shapes ideas by translating it into building (Evans, 1997). Drawing is similar to that of a language without having to become one.

> ... a formidable impulse from an anxiety of language – which can only be an anxiety of language, within language itself – is a strangely concerted development; and it is the nature of this development not to be able to display itself in its entirely ... (Derrida, 1978: 1-2).

Sharing the same linguistic characters, drawing as architectural representation does not able to reveal every information it contains. The container is not as transparent as our common understanding (which is a priori, indeed). "We have to many things," said Flaubert (Derrida, 1978: 1), "but not (having) enough forms." The anxiety of not-having enough form which is commonly found in representing architecture has something to do with having similar linguistic characters. If we see drawing as a translation, then it is definite that the process is an approximation. Information might be lost in translation (Evans, 1997).

However, if the drawing we perceive is only its appearace, does it also come with the thing that appears? Or is it just a mix of appearances? If phenomena that depends on sensibility is subjective, can we be objective by 'reading' its cause of appearance?

DRAWING AS IT REALLY IS

The answer (to the first question) is a yes, as Kan't would probably argue. He (1990) belives that there should be something that accompanied the appearances. It should also be the ground of appearance.

A container and its *content*. Appearance can be seen as a effect of something that causes (appearance).

Kant's (1990) notion of *das ding an sich* would be that there is a thing inside of drawing beside the sum of its data. It is also separated from the data. According to this term, drawing is seen as it *really* is, a noumena. It is not mediated through any means of perception and sensation. Our senses experience drawing differently. Therefore, noumena is the opposite of phenomena. Or at least, noumena is different to that of its appearances. It causes appearance to emerge and be perceived by readers. In that sense, it is safe to say that "noumena has no determinate object corresponding to them" and due to the absence of determinant, "(they) cannot therefore posses objective validity" (Kant, 1990: 188). This also means that we can never see 'the internal thing' objectively. The determinant would be sensibility or senses that is used in perceiving phenomena. Noumena can not be read the way phenomena is perceived. Since noumena is not understood by senses, it has no determinate object (which is senses) to correspond.

Noumena can be seen as 'the internal' within a drawing because it seems to be covered by phenomena, its appearance. 'The internal thing' is beyond our (common) knowledge and understanding and it can not be experienced or sensed. It is transcendental, indeed. We hardly know what it really is because it might be different to what we see and perceive. However, we still can assure its existence. First of all, we can see it through phenomena. Appearance is an effect caused by thing that appears. We may see its (the cause) presence in the presence of its effects. Perhaps, by examining the effects, we may gain proper knowledge and understanding of 'the internal'. On the other hand, even though it is external to its reader, 'the internal' still inhabits our world (Derrida, 1978). Phenomena does really exist and noumena does too, in a slightly different way.

Derrida and Reference

Jacques Derrida (1978) has his own terms, in accordance to Kantian notion of *das ding an sich* or simply noumena, which is the absence of reference. Although closely related to, Derrida's notion probably explains further on why noumena would never be perceived by reader. Let me first remind us that drawing is a revelation and it shares linguistic characteristic without having to be a language. Derrida (1978) also includes several other terms, such as 'sign', 'signification' and 'being'.

> This revelatory power of true literary language ... unburdened of its signalizing function by the word 'Being' ... It is when which is written is *deceased* as a sign-signal that it is born as language; for then it says what is, thereby referring only to itself, a sign without signification ... (Derrida, 1978: 13).

Architectural drawing tends to share common reference to things outside of drawing with its readers. There are certain ways to represent door that will not be read as window. It is called notation, sign or simply reference. In spite of that, noumena can not be read because it refers to nothing.

"Referring only to itself" indicates a certain condition where a thing does not have reference outside of itself. It is when the signifier does not signify (Derrida, 1978). It means that the sign in a drawing does not share the same references to its reader. Therefore, it seems like the sign does not signify anything. However, it does signify something different. "Referring to nothing but itself" does not mean that drawing does not have any means of references. It does refer to itself. The absence of refrence, as being noumena, refer to drawing not having *proper* reference that can be used by its reader to intrepet and perceived. Therefore, the only reference it has is itself. The difference won't allow readers to interpret drawings the way it used to be.

Kant and His Problem

Kant (1871), on the other hand, seems to see eye to eye with Derrida's notion of using reference. He realise that the conception of noumena itself, which is not derived from sensory experience, is probematical since our understanding of noumena only derived from its appearance. It is not directly from 'the internal thing'.

> (But), in this case, a noumenon is not a particular intelligible object for our understanding ... for we cannot form the most distant conception ... of an understanding which should cognize an object ... in a non-sensuous intuition ... That is to say, it is not limited by, but rather limits, sensibility, by giving the name of noumena to things, not considered as phenomena, but as things in themselves (Kant, 1871: 188-189).

If noumena is not limited but limits sensibility, can we actually see it? Is there any means of uncovering the container?

> ... the possibility of concealing meaning throguh the very act of uncovering it. To *comprehend* the structure of becoming and of force, is to lose meaning by finding it (Derrida, 1978: 31).

'The internal thing' of a drawing is external to our being. However, it is inside of drawing because its existence is 'hidden' by its appearance. We may probably know that there are (the internal thing) but we will only scarcely know exactly what they are. Inside and outside are relatively relative. It is possible to be the most outside in search for the most inside.

The act of reading which is also similar to the act of drawing and reading is an act of being 'blind' (Derrida in Milani and Schooderbeek, 2010: 1). Since, it is a subjective expression of inner vision. Therefore, "one must be separated from oneself in order to be reunited with the blind origin of the work in its darkness" and it means that "the experience of conversion, which founds the literary act (writing and reading), is such that the very words 'separation' and 'exile' which always designate the interiority of a breaking-off with the world and a making of one's way within it ..." (Derrida, 1978: 6). By being separated from our knowledge a priori and dependent upon sensibility (Derrida's term of separation), readers may be able to seek drawing's being on a deeper level that will have possibilities of reaching noumena. That will also mean to read drawing without common reference since noumena only refers to itself.

DRAWING AS IT IS MEANT TO BE

Let us not forget that there is a man responsible for the act of drawing, the artist or the architect. He probably sees drawing from another point of view which is certainly different to phenomena. While we intepret drawing as readers, he sees drawing as creation. There is force that architect gives to make information fixed into its form (Derrida, 1978). Besides, drawing is undeniably affected by architect's understanding (Pallasmaa, 2009). Information that comes inside the process of drawing is probably not objective. Because, drawing also depends upon architect's visual imagery and drawing skills (Evans, 1997). These are needed to achieve desired qualities.

Hereby, drawing as it is meant to be by the architect (or artist) is not either noumena or phenomena. It can never be one of them. It is different to that of 'the internal thing' or appearances.

Force and Predetermined Existence

> By its very articulation force becomes a phenomenon ... But in saying this, one must refer to language's peculiar inability to emerge from itself in order to articulate its origin, and not to the

thought of force. Force is the other of language without which language would not be what it is (Derrida, 1978: 31).

Unlike phenomena and noumena, its existence is predetermined by the man that draws. Information which is derived from architect's understanding is *forced* into drawing within a certain grammatical rules. Thus, its existence is due to architect's vision. Drawing is as architect means (it) to be which is hardly ever the same as readers interpret. Drawing which is partial always affects architect's field of visibility (Evans, 1997). Thus, it will also affect the end-result of an act of drawing. The result might be just slightly or more different to the one imagined (predetermined) by the architect.

On the other hand, phenomena appears by the time reader approaches and experiences drawing. It can only exist after drawing is completed and read. It is also dependent upon reader's sensibility and conception. Hence, drawing as it is meant to be (by the architect or artist) would never be a phenomena that it exists prior to reading. Besides, it happens by force not through senses.

Then, it is also not noumena that it is predetermined. It means that drawing has reference outside of itself (which is the architect's understanding and conception). There is also force within the drawing that enables information to be fit into its form.

These are three different kinds of drawing that relied on our point of views. Readers see drawing as it appears to them. While the architect or artist sees drawing as what (the architect) means (drawing) to be. Neither reader nor architect can see drawing as it really is. Noumena will further become more inside because its existence is covered by its appearance (phenomena) and its determined existence.

However, 'the internal thing' is necessary to be taken into account, especially in the act of drawing. What readers perceive from drawing is merely phenomena. There should be a thing that causes appearances. It should also be the ground of appearances (Kant, 1990).

The recognition of 'the internal thing' may result in change of usual method of representation which happens in the work of Daniel Libeskind, particularly Micromegas.

MICROMEGAS

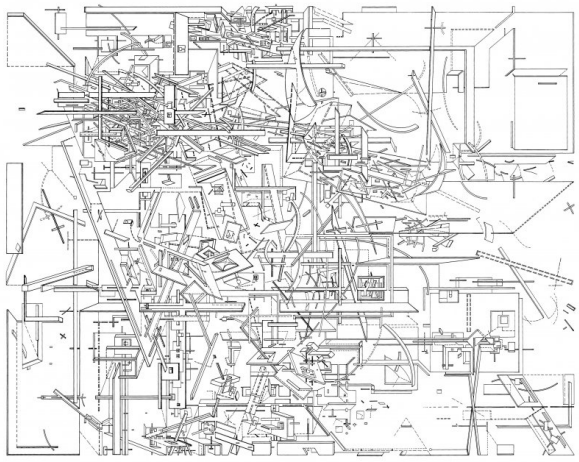

Figure 1. Micromegas, Little universe
Source: Studio Daniel Libeskind

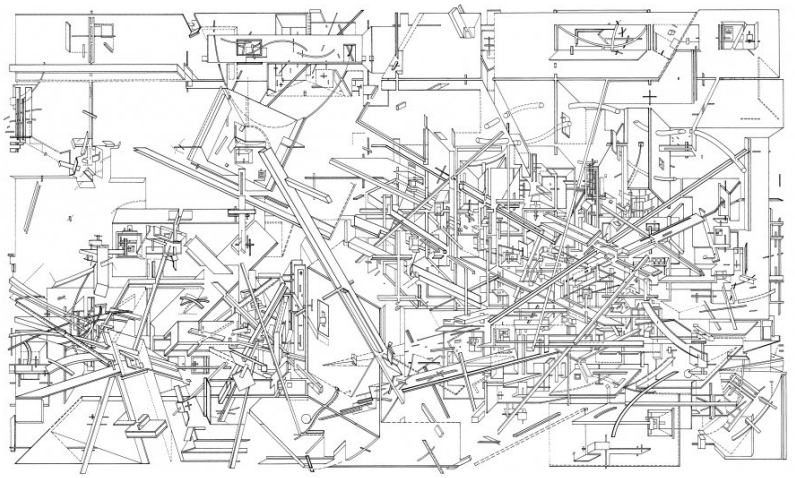

Figure 2. Micromegas, Leakage
Source: Studio Daniel Libeskind

Although Libeskind treats Micromegas as a blueprint of his architectural work (Libeskind, 2001), readers can hardly ever recognize which is what. Each drawn pieces of somewhat-architectural-elements does have characteristics of common architectural drawing. It is flat and sometimes axonometric-looked-alike. Still, it does not resemble any architectural or construction matter. There is nothing ringing in my head when I approach Micromegas in the first time. This is architectural drawing that does not speak *architecturally*. Libeskind does not draw doors the way we usually draw.

Micromegas itself consist of eleven drawings that were developed from Libeskind's interest in geometry and thus reflected in it (Libeskind, 2001). Figure 1 which is called Little Universe is one example of Micromegas. The drawing "produces not an alternate reality, but rather a conflicted one in which perception is relative to proximity and up is often down" (Kelley and Blankerbarker, 2012). It is not a coincidental mistake that readers find it hard to read Micromegas. Libeskind does make it a conflicted drawing that confuses our minds (as readers). Micromegas works best in its ambiguity. It could not be perceived with common understanding that it was *ambiguous*.

Drawing is usually seen as trace left from a projected object (www.merriam-webster.com) but Libeskind does not do the same. He perceives drawing as "more that the shadow of an object" that it is "as much as a prospective unfolding of future possibilities as it is a recovery of a particular history whose intentions it testifies and whose limits it always challenges" (Libeskind, 2001: 84).

Sign without Signification

Micromegas negates common visual representation and likeness while most architectural drawing has references outside of itself which is the imajined, projected building-to-be (Evans, 1984). Micromegas does not resemble anything. It is an architectural representation hence it does not represent architecture, at least according to our common sense of what architectural drawing should be. It is true that signs within Micromegas does not signify. However, "this negation must be understood not as a generic discordance nor as a simple splitting of signifier from signified, but as a telescoping of different registers of the architectural sign onto the same immanent plane – the real system, the notational signs, and the connotative signs ..." (Evans, 1984).

If we refer to Derrida's notion of *das ding an sich*, we know that the condition of noumena can be achieved when a sign does not properly signify a thing (Derrida, 1978). Whereas Micromegas does not *properly* represent architecture. It does not use notations that are commonly used in architecture. Hence, does it mean that Micromegas is a sign without signification? Or, in Kantian's sense, referring to nothing but itself?

> If we can go beyond the material carrier (sign) into the internal reality of a drawing, the reduction of representation to a formal system – seeming at first as void and useless – begins to appear as an extension of reality which is quite natural (Libeskind, 2001: 84).

Libeskind's Notion of Noumena

Perhaps, Libeskind's (2001) "the internal reality of a drawing" has closer meaning to that of Kantian's (1990) "the internal thing". It seems like Libeskind has interest in drawing as it *really* is. The recognition of 'the internal reality' enables him to escape the ordinary. Micromegas and his other notable works such as Little Universe and Chamberworks shares the same characteristic which is being an extraordinary representation. He represents architecture by presenting some of its qualities and characteristic (Boros, 1998) without having to present the architecture itself (Bovelet, 2010). Even, with a change in method due to recognition of noumena, Micromegas is no ordinary representation and thus readers are expected to read differently.

Micromegas, unlike any other architectural drawing, is therefore a "graphic exemplification of qualities that could not so well be achieved in building, an imaginative overspill ..." (Evans, 1984: 488). Therefore, "architectural drawing defines great exemplaries not only the idea of construction" but also "the meaning of the project of the self" (Purini, 1970, in Milani and Schooderbeek, 2010: 3). Micromegas is not just an architectural representation. It represents the idea, the design process and also recognition of thing-in-itself.

Libeskind and His Techne

Libeskind desires to "rethink the widely held belief that there is a predestined and correct expression assigned a priori to each form by 'the language of architecture' itself" (Libeskin in Evans, 1984: 840). It is probably the ground of his unusual method of representation. He does not take into granted common knowledge (which is mostly a priori) of architectural drawing. Meaning, within an architectural drawing, does not emerge by itself (Derrida, 1990) but rather must be understood as always yet to come (Libeskind in Evans: 840). Readers need to engage with the drawing in a whole different level of reading and understanding.

It is said before that Micromegas works best in its ambiguity that it can hardly be read. Ambiguities of architectural projection are employed as Libeskind's starting-point. It is not only a condition when reading is difficult. It allows Micromegas to disrupt common understanding of axonometry which is the homogenous and contunuous space into a multitude of conflicting spaces (Evans, 1984). The drawing itself is an investigation of fluctuating representations of space and surface (Evans, 1984). It attempts to "express this inadequateness" which "no (final) terms are provided; a lack of fulfillment that prevents manifestation from being reducible to an object-datum" (Libeskind, 2001: 84). Micromegas is not just conflicted but also unfinished work. It is an architectural representation that relies on the mode of imperfection; a condition of being incomplete (Libeskind, 2001).

"However unrelenting their destruction of unified picture space, (Micromegas) are masterly compositions; abstract but eminently three-dimensional, belonging to an established convention of pictorial fragmentation" (Evans, 1984: 484). Lines, being edges, traces, contours, trajectories and vectors,

do things other than just being line that they divide one territory from another, enclose areas and mark paths (Evans, 1984). In Micromegas, lines seek to "reflect on a deeper level of consciousness the inner life of geometrical order whose nucleus is the conflict between the voluntary and the involuntary" (Libeskind, 2001: 86).

Therefore, reading Micromegas is "an experience that receives only as much as it is capable of giving, draws only that which allows itself to be drawn into" (Libeskind, 2001: 86). Because "drawing is not mere invention" that "it is a state of experience in which the 'other' is revealed through mechanisms" provoking and supporting objective accomplishments and the one who draws upon them (Libeskind, 2001: 84).

RECOGNITION OF THING-IN-ITSELF

Having no proper or common reference, Micromegas allows readers to experience architectural drawing differently. Micromegas is a sign that does not signify. Readers can not perceive architectural elements the way drawing is usually read. Readers are not expected to only rely on knowledge a priori of architectural drawing.

This means Libeskind acknowledges the existence of a thing-in-the-drawing-itself. Drawing is not only seen as architect meant it to be. Micromegas also encourage readers to not only see drawing as it appears but to recognize drawing as it *really* is.

An alternative mode of representation is proposed. Libeskind does extraordinary in Micromegas and his other notable works such as Chamberworks. He works best with ambigutiy and engages more to the act of drawing. Libeskind shows us that architectural drawing is not predetermined language.

Thus, the search for 'the internal thing' does not only take reader and architect to 'the inside' but also to the extension of the reality itself. The inside and outside is relatively relative. We can be the most outside in search of the most inside. Interiority is singular but also dialectic.

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AN ANALYSIS OF INTERIOR SPACE PLANNING DESIGN AND RESIDENTS' PRIVACY OF CONTEMPORARY COURTYARD HOUSES IN AMMAN, JORDAN

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ABSTRACT

A courtyard house is characterized by its inner open space around which all the livable spaces are clustered. Traditionally, the Islamic-Arab world has adopted the courtyard house as the basic type of dwelling house because of its ability to satisfy and provide privacy to residents within their habitats. This courtyard is a private and isolated space through which all living rooms encircle it. In addition, the entrance is usually bent maintaining the privacy of the hou se. In Jordan, western style house space planning relates between living spaces and resident privacy creating an unsolved problem. Living in an industrial society changes many factors of the culture and the privacy of residents. This paper demonstrates the interior space planning in traditional courtyard houses. In this study, a survey research design using qualitative content analysis techniques is used to explore contemporary courtyard houses in Jordan. The empirical study carried out on four case studies are elicited and analyzed throughout field observations after site visits and photographic documentation. Researchers used open-ended interview questions with six residents living in contemporary courtyard houses in Amman Jordan in order to examine their perception in their house space planning and evaluate their privacy. The results reveal that contemporary courtyard houses have partially succeeded in reflecting the provision of privacy as in the houses of the past. Findings also show that the interior space planning reflects the residents' culture and their lifestyles.

Keywords: courtyard houses, space planning, privacy, *architectural* and interior design, Islamic beliefs.

INTRODUCTION

The function of a house is more than a physical or a utilitarian shelter, but a "social unit of space". Its purpose is to create an environment that is most suitable for the way of life for people. Culture tends to make physical refinements or obvious utilitarian features of a house limitation based on the culture's accepted ways of doing things and its implicit ideals (Kumar, 2005). A standard definition of culture is the "totality of socially transmitted behavior patterns, arts, beliefs, institutions, and all other products of human work and thought typical of a population or community at a given time" (Daher, 1999). Rapoport (1969) defines one of the cultural elements affecting house formation is the religion. While highly

considering their own privacy, Muslims have adopted the concept of the courtyard because it suited their religious and social needs (Ibrahim, 2012).

Currently, new buildings in the Middle East can be viewed as direct imitations of Western models designed for a totally different culture. They have apparently been created and considered as alien to the environment in Islamic communities. In many Islamic countries many Muslim planners and architects are reacting to this invasion of Western culture by reasserting their Islamic heritage (Ghiasvand et al., 2008). However, the adoption of the British model, without taking into account different cultural and religious beliefs needs for privacy, has contributed to the failure of the housing design (Alnsour & Meaton, 2009). This shows that modern houses have a problem in their privacy condition. The need for privacy is an essential feature (Al-Nafea & Llewellyn-Jones, 1997). For this purpose, this study aims to determine how the religious beliefs such as privacy have affected the formation of house space planning in contemporary courtyard houses in Amman Jordan. To this purpose, the elements in the traditional Islamic-Arabic house affected were determined as the bent entrance, courtyard, and Haramlak-Selamlak (women's - men's quarters). In the first part of the study researchers present the sample of an Old Damascus house used in an evaluation selected as the ideal model for the traditional courtyard house. In the second part of the study, the researchers investigate whether the effects of religious beliefs have been reflected in space planning in today's contemporary courtyard houses. The sample house shall be a contemporary courtyard house from Jordan.

BACKGROUND AREA AND CULTURE

The study area in Bilad Al-Sham has had a history of many occupations which was ruled by the Romans, Egyptians, the Turkish Ottoman and British Empires (Meehan, 2012). The area was called Bilad Al-Sham and the capital was Old Damascus. Afterwards, the British and French divided Bilad Al-Sham into four countries which are now: Jordan, Lebanon, Palestine and Syria (Figure 1).

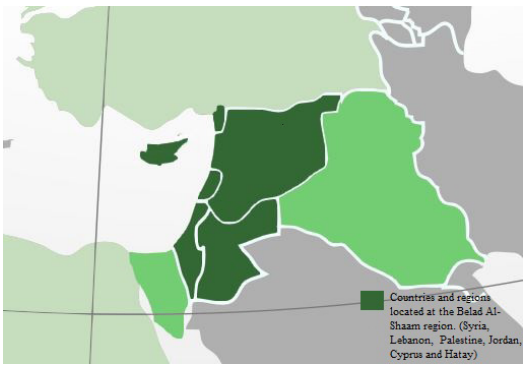

Figure 1. Bilad Al-Sham in Ottoman era. source: (http://en.wikipedia.org/wiki/Levant, 2013)
(http://en.wikipedia.org/wiki/Levant, 2013)

Traditionally, under the Ottoman rule, organic patterns of the urban fabric represents the basic stage to adapt to the environment, religious beliefs and social aspects (Al-Zubaidi & Shahin, 2005). The narrow and winding streets with closed vistas had the same function as the courtyard in a house which provided privacy to quarter from nearby strangers (Saleh, 1998).

The phenomenon of the Islamic house -traditional courtyard house- is the same as a cultural, environmental, and social one. Islamic houses became known as religious due to their Islamic nature. Also, in Islam, the house is a place to rest, relax the body and mind, and enjoy legitimate worldly delights

(Asadi & Tahir, 2012).

As for the Muslim Arab culture in Bilad Al-Sham and from the religious and social perspectives, the design characteristics of traditional courtyard houses can be summarize as follows (Edwards, 2006):

1. Privacy of the occupants, especially women in relation to the outsiders and male visitors.
2. The treatment of guests.
3. Responsibility to the neighbors.
4. Modesty in life.

Ayalp (2012) assured that with all these cultural and religious impacts it became a home and gains its high symbolic and emotional meaning. Moreover, shaping the interior space planning design in the house environment is directly related with its living habits. These living habits are rooted in the Islamic beliefs.

TYPICAL SPACE PLANNING IN TRADITIONAL COURTYARD HOUSES; ISLAMIC DETERMINANTS FOR PRIVACY

In traditional courtyard houses the space planning is in accord with Islamic beliefs. Specific areas of the house are for men in which women are kept separate. According to Ayalp and Bozdayi (2012); (Sari, Şen, Al, Kahya, & Sağsöz, 2011) the traditional courtyard house is mainly divided into three parts: (1) the "Haramlek" (women and family area) which are areas reserved for females and family members, (2) the "Salamlek" (men guest area) which are areas reserved for male guests, and (3) the "Khadamlek" deemed a service area. This division appeared in the period of the Ottoman era and influenced the surrounding area in Bilad Al-Sham (Kibrit, 2000). Traditional courtyard house arrangements are limited to one or two stories whereas; the top floor is always accepted as the most important part of the house for a sleeping area. Traditional courtyards in the houses of Bilad Al-Sham are typically composed of three parts: a basement floor, ground floor, comprising the main living areas, and a first floor comprising of the sleeping areas (Edwards, 2006).

In Bilad Al-Sham, the emergence of the following Islamic guidelines listed below has impacted the design of traditional courtyard houses in both direct and indirect manners.

- ***Bent entrance:*** the main entrance of a house called the Majaz which usually opens into the doorway and a courtyard area used as the main external feature at the ground floor. The Majaz (Figure 2), was designed to open into a blank wall to obstruct views into the inside from the outside in order to preserve the privacy of the family (El-Shorbagy, 2010). For the same reason, doors were not aligned on a central axis. The men's reception room for guests was located adjacent to, and directly accessible, from the entrance lobby thereby, they did not have to pass through the house (Al-Nafea & Llewellyn-Jones, 1997).

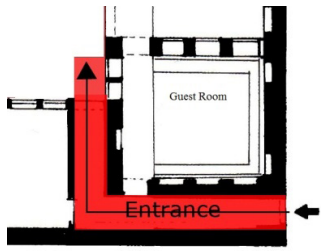

Figure 2. The bent entrance. Adapted from "Damascene House During the Ottoman Period" Kibrit, Z., 2000, 1 ed. Damascus, Syria.

- ***Separation between the guest and the living areas:*** separation in different areas of the house was done in all Old Damascene houses in Bilad Al-Sham, providing privacy for women (Figure 3). According to Sharif, Zain, and Surat (2010) the Salamlek male reception area (guest room) was separated from other family private areas Haramlek. It had direct access from the outside without going through the house, or was located adjacent to, and directly accessible, from the entrance lobby, so that they did not have to pass through the house (Al-Nafea & Llewellyn-Jones, 1997). The Haramlek (females and family area), is the courtyard restricted to family activities used by women to move between sections of the house. This courtyard is deemed as an important aspect of the house occupying half of the traditional house area. For female social activities it provides the needed privacy for women for eating and sleeping during the hot summer seasons (Ayalp & Bozdayi, 2012). Saleh (1998) referred to the concept of family privacy and the role of women in the family. The society is also reflected in the use of public, semi-private and private spaces. In addition, the entrance considers a public space within the house where stranger's and guests can access. In addition, it is considered as a transitional space between the outside (public) and the inside (private space). The courtyard is considered a semi-private space and the bedrooms are considered private space. The stairs are often located in the courtyard to obtain the continuity of movement from the ground floor (public space) to the upper floor (private space) (Mikhail, 2004). As for the Khadamlek area, the kitchen in included, which serves the residents, guests and reception areas. The ground floor is usually and sometimes in the basement (Kibrit, 2000).

Figure 3. Three divisions in the Old Damascus traditional courtyard house. Adapted from "Damascene House During the Ottoman Period" Kibrit, Z., 2000, 1 ed. Damascus, Syria.

- ***Inside disclosing:*** traditionally, the main role of women in an Islamic society is inside the house where they bring up the young uprising generation to be the core of a good nation with high morals and an integrated Islamic personality. The privacy of women should be respected in all circumstances at every level. The Muslim architect does his best to provide the women with comfort, calmness, and peace inside her home. As a result, Sari, Şen, Al, Kahya, and Sağsöz (2011) confirmed that the courtyard cannot be seen from other houses. Because the courtyard is the Harem (female and family area) of the house and is surrounded by high walls and houses whose windows look to the courtyard. Despite the horizontal closure, the only thing that can violate the secrecy of the house is the height of the neighboring houses (Figure 4). In order to prevent this, large, tall trees are viewed inside the courtyards. The housewife can relax there and carry out her chores without being seen from the outside. Moreover, the Muslim house is organized around an inner courtyard as the main area in the house, presenting to the outside world small and high windows or windowless external walls (Asadi & Tahir, 2012).

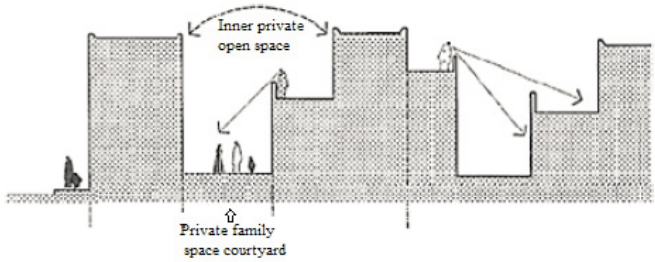

Figure 4. A section through adjoining houses showing how setbacks are used to maintain privacy between neighbors'. Adapted from: Courtyard housing: past, present, future (p.80), by B. Edwards, 2006, New York: Taylor & Francis.

RESEARCH METHODOLOGY

Methodologically, a research design is considered a qualitative method. Case studies are the main tools for this study, whereas, interviews, field observations, documentary data and visualizing materials are qualitative tools for collecting data (Creswell, 2008). According to the objective of the study:

1. Survey strategies explored four contemporary courtyard houses in Amman, the capital of Jordan, which are influenced by the traditional courtyard houses design.
2. Conducting face-to-face open-ended interviews with six residents living in contemporary courtyard houses in Amman, Jordan

SPACE PLANNING IN CONTEMPORARY COURTYARD HOUSES

In many parts of the Arab world, and particularly in Jordan, architects and designers started showing a new found respect for the great achievements of the past. They started searching for ways to reproduce this in today`s architecture as some of the patterns of city buildings have been identified as Islamic. More and more architects and interior designers are investigating ways in which courtyards can play a role in the development of today's homes and cities. A courtyard in houses can provide privacy for the family and a safe place for children to play (Abu-Lughod, 1987). In contemporary courtyard houses, the house concept, with the continuity of the past, is now explained with the concepts of total space and flexibility in order to place dining, sitting, and resting spaces together (Sari et al., 2011).

In contemporary courtyard houses (case studies) an analysis of the Islamic guidelines has impacted the space planning design, as follows:

- ***Bent entrance:*** The entrances in most of the contemporary courtyard houses are not bent as in the traditional courtyard houses. Most of the entrances face a blank wall as a transition space (entrance hall) between the guest room and the living room. This way also provides privacy for family members who are sitting in the living room, as shown in Figure 5.

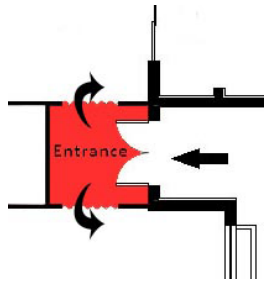

Figure 5. The entrance hall, facing a blank wall. source: authors

- ***Separation between the guest and the living areas:*** In the courtyard house space planning, there are no Haramlek-Salamelak divisions. The interior spaces consist of three main areas: (1) the first area, and the nearest to the entrance is the living area. It is divided into two zones that are separated from each other, one for the guests and the other for the family. The guest zone usually includes a large room to host the large number of guests from the circle of relatives, neighbors and friends and a dining room. Some services, such as toilets are often also included in the guest zone close to guest room; this area is considered a public space. (2) The second zone includes a family room and sometimes an office room. It may have a fireplace occupying one of the corners of the living room. The second area includes the services such as a kitchen, bathrooms, laundry room, storage space, and a staircase leading to the roof. The centered courtyard is the organizing element of interior spaces, which is not the main transition space as in the traditional courtyard houses. Moreover, the courtyard may have more than one entrance to the surrounding rooms; this area is considered a semi-private space. (3) The last area is the sleeping area. It consists mainly of two to three bedrooms, one being the master bedroom for the parents and one extra bath room; considered a private space. It may be on the same floor or on first floor. This zoning is very common in most Arab Jordanian houses (Malkawi & Al-Qudah, 2003). One of the case studies shows the zoning and public, semi-private and private spaces in the two floors (Figure 6 and Figure 7).

Figure 6. Ground floor plan zoning and space planning. source: authors

Figure 7. First floor plan zoning and space planning. source: authors

- ***Inside disclosing:*** The windows are divided into two types: those located on the external façade of the house and those located on the courtyard façades; in-ward looking and the out-ward looking. The inside disclosing in the centered courtyard reserved for family member's privacy from the neighbors (Figure 8). Moreover, the external façades have windows to view the outside street. The external windows allow strangers to see inside the house, especially if there are no curtains covering the windows that maintain the privacy of the residents (Figure 9).

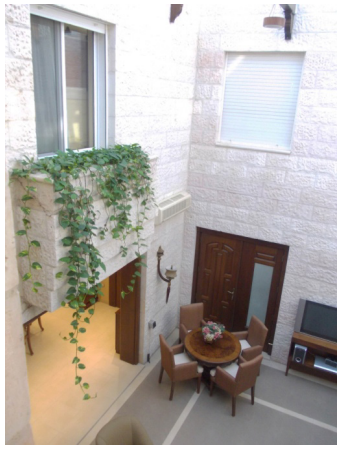

Figure 8. Internal courtyard-inward looking. source: authors

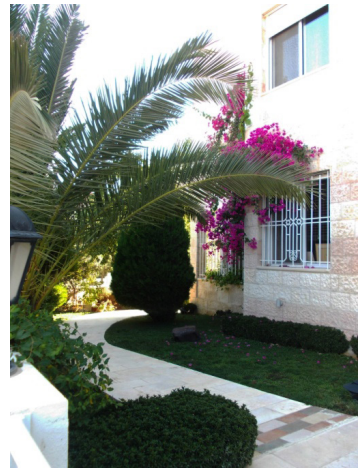

Figure 9. External façades-outward looking. source: authors

FINDINGS AND DISCUSSION

Survey respondents cited favorably to the privacy impact of the courtyard in contemporary houses. The interviews represent respondents' perception that the courtyard privacy has an effect on their lived experience. Privacy, in Islamic beliefs, of family members is very essential in the Muslim house, especially for the women. For residents with living experience, the majority of respondents assured that

the courtyard is an isolated and private place from outsiders and the neighbors', as one respondent pointed out:

> *"I like my privacy in the courtyard; I feel very comfortable without putting my veil, it is not exposed to the neighbors and I feel that it is only for me. And I feel safe and relaxed. Unlike my outside garden which is exposed to strangers and neighbors."*

However, the contemporary courtyard house designs are more flexible in the space planning as all the surrounding rooms can oversee the courtyard. The guest room, living room, dining room, and kitchen can all oversee the courtyard which yields decreased courtyard privacy. According to the minority of the responders mentioned, the courtyard was only considered a private place from the outsiders, but not for all the family members, as one respondent perceived her experience:

> *"It is not closed space from all sides, and the courtyard is considered as the most open area in the house."*

CONCLUSION

As shown from the examples given in this study, the traditional Islamic-Arabic house creation was a result of uniting a very profound cultural accumulation and religious beliefs with the knowledge of their periods. The house design that existed as a result of this creation was able to meet all the requirements of daily life and for family member's privacy. On the other hand, the contemporary courtyard houses, case studies, analysis revealed that the entrance, which faced a blank wall in most of the cases, achieved the residents' privacy. In addition, the separation of the guest room and the living room in most of the case studies showed an increase in separation for resident privacy. However, the modern style of having windows which view the streets increased the possibility of the violation for the resident privacy. These external windows are influenced from the British model in building regulations.

Moreover, the interviews revealed that the residents had an appreciation of the concept of the contemporary courtyard house had increased their privacy but felt that the courtyard was not closed off enough from inside visitors or family members. This occurred due to the open courtyard design to all surrounding rooms including the public space. The guest room reverses the traditional courtyard design separating the guest room (Salamek) as a public space from the courtyard (Haramlek) which is considered a semi-private space. In conclusion, the results reveal that contemporary courtyard houses have incompletely succeeded in reflecting the provision of privacy as in the houses of the past. Findings also show that the interior space planning is reflecting the residents' culture and their modern lifestyles.

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SPATIAL DESIGN ON THE BASIS OF CULTURAL LANDSCAPE: MEANING OF INTERIORITY IN THE LANDSCAPE

(Case : Corridor Segment Area and Gedung Sate Complex's Axis Node)

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ABSTRACT

Corridor Segment Area and Gedung Sate Complex's Axis Node are a historic environment which is became the representative to perform the variety of cultural activities. One of type of variety of cultural activities is popular culture, that include festivals and arts, sports, community association activities, and Pasar Kaget. The development of popular culture cause the original identity of place be obscured. However, this condition causes dilemma problems in the typographical arrangement. So, it need an effort to preserve, maintain, and develop the quality of the existing physical environment to preserve the identity of place. The identity of place is an important element in creating the interiority of the space. Cultural landscape approach used to define identity of place. Through the search of history, survey, and mapping method, something found that cultural tradition is cultural landscape component which order the identity of place. An effort to accommodate the cultural tradition is establish a cultural center as a representative space in order to get the comfortable space. So, interiority rests with the ability to control one's surroundings and the place where one acts performatively (like change the landscape) as boundaries to experience what forms its interiority. Although interiority is individual, interiority can be controlled.

Keywords: interiority, identity of place, cultural, landscape

INTRODUCTION

Space is something that is not constantly interrupted. Interior space, a transitional space, and exterior space is a unity of mutual influence and mutual shaping. Space is something that is very close to humans, because humans need space as a place to do various types of activities. We are always in a place. Places are absorbed in everyday life into our identity.

Inside the room, human get to know interior. The interiors were created by humans as much as possible can be recognized not only by physical reasoning, but psychologically and emotionally (Caan, 2011: 38). This process is known as the interiority. McCarthy[1] (2005, 122) in *Toward a Definition of Interiority* argued that interiority is that abstract quality that enables the recognition and definition of an interior.

Then, Perolini[2] (2010) in his paper *Bringing Interiority to Interior Design* defined interiority is intrinsic to the

experience of being human, where in cognition recognizes, and emotion reacts, to environments; it is not an agent in itself rather it is always linked to space, desire, object, reflection and lack. We recognize and engage with the world around us; all material and natural things and other human beings as objects of our experience are outside of us. But through engagements we know ourselves in a fundamentally different way. We don't look at ourselves only from the outside but significantly we experience ourselves from within, not as an object, but as a subject that is present to itself. This self-presence is the interiority of a human being. This is the place where each person dwells. Hvejsel (2011, 21) defining interiority as a spatial architectural matter signifying domestic architectural quality related to the physical ability of the building envelope to address the sensuous scale of furniture. But, interiority does not only mean the interior space. The term interiority relates to a method based on inside-out design, that is designing based on the program of space required and the quality of space desired, while attention to the impact of what we design can be caused by the user, inside of the building, as well as outdoor spaces around the building.

Base on that statements, interiority as a transformative concept, could dependent on cultural developments in quite specific societies. William (1983: 90) describes cultural as a general process of intellectual, spiritual and aesthetic development. As shown it is far more than this and is grounded in our being. The general process have happened over time, because humans have evolved intellectual, spiritual, and aesthetic that led to the different habits in running time to perform a variety of activities. There has been a complete changeover in a landscape. Human alteration of the landscape. Jackson (1984) in *Discovering the Vernacular Landscape* defined landscape is never simply a natural space, a feature of the natural environment. Every landscape is the place where we establish our own human organization of space and time. Landscape is complex phenomena. Landscapes reflect human activity and are imbued with cultural values. They combine elements of cultural and landscape concurred by Rapoport (1992) which his states that the city is an "urban cultural landscape", to understand a city needs a way to understand the culture of the various communities and the influence of values, norms, lifestyle, activities embraced by the community.

The objective of this study is to identify how the meaning of interiority that is formed by cultural concept in order to influence the spatial design, especially landscape. Because, design should be considering its powerful position and cultural significance. This study is in corridor segment area and Gedung Sate Complex's axis node, northern part of Bandung, West Java. This area has been designed for the Central Government with the formal character of the Dutch Colonial period in 1921, over time the formal character and the 'face' of the landscape have changed.

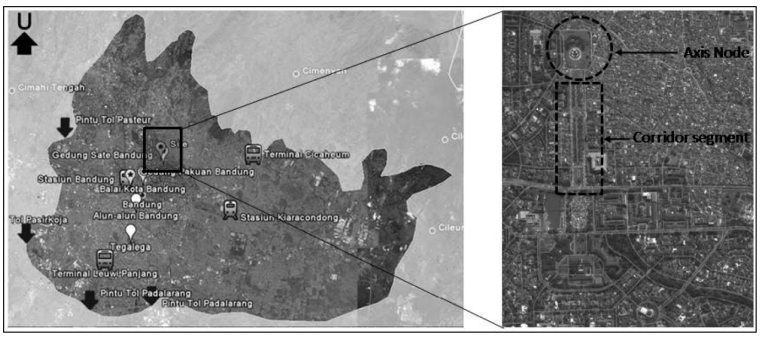

Figure 1. The location of site of the Bandung city position
Source: Reprocessed based on Google Earth, 2013

METHODOLOGY FOR STUDYING CULTURAL LANDSCAPE

This paper completes a study of a cultural landscape according to the methodology established by the U. S. Department of the Interior, National Park Service[3]. The method includes four steps. A cultural landscape is identified through : (1) Historical research, through gathers of information pertaining to the property and landscape that speaks about its historic context and site history, this is the key to the research landscape. (2) Inventory and documentation of existing conditions, evaluated through survey and mapping. (3) Site analysis, identified cultural activities, natural conditions, land use, and the historical district. (4) Preserved through recommendations for future management, by propose the The Master Plan and Design Guide Line. Recommendations for future research of the site is essential for continued protection and maintenance of that site. Without looking forward in time, the nature of a dynamic landscape is denied.

RESULTS

Site Historical

The area is used as the object of study is located in the northern part of Bandung. Planned northern region is divided into two parts, The Northeast and The Northwest. The Northeast focused on monumental building (Gedung Sate Complex) at the south end of the axis of the planning area, while The Northwest does not have a dominant structural element except airports. In 1915, The Northeast area is planned to be the location of the Central of Government which moved from Jakarta. In 1921 the highest technical service administration of the central government moved to Bandung.

Prestige complex of office buildings and employee housing is designed in the most northern part of the 3 areas of this development. Planning of the development was integrated in Uitbreidingsplan Bandoeng Noord (North Bandung Masterplan), which consists of : Military Complex (ARCHIPELWIJK), Education Complex (TECHNISCHE Hogeschool), and the Government Complex (TECHNICAL SERVICE), based in Gedung Sate Complex. Gedung Sate Complex is one of the priorities in the northern region. In general, planning of Uitbreidingsplan Bandoeng Noord start changing the structure of the city. Planning for northern Bandung in 1929 was followed by the development planning for the entire city including downtown as planning Cikapundung in 1938, which is only partially successfully implemented.

Because of displacement the center of government of Jakarta is not well done, the area that is used for the development of the governance area and residential areas were built based on Garden City principle with the provisions of the whole complex is oriented to Tangkuban Perahu Mount in the north of Bandung. Garden City concept is applied to characterize an independent satellite city area. Seen for example in the view of building a relatively low density. Other view is that the design of the road and park designed based on the node and axis. One-stop system on several small buildings attached is also one of the Garden City concept application that is applied to the Gedung Sate complex. The concept of planning is an important segment of the city and is referred to as Europeesche Zakenwijk.

[3] The goal of the method set forth by the National Park Service is completion of a National Register nomination. It is the intention of the author to use the method as a means of documenting and understanding the landscapes of Woodlands Farm and Thomas's Wharf to National Park Service standards

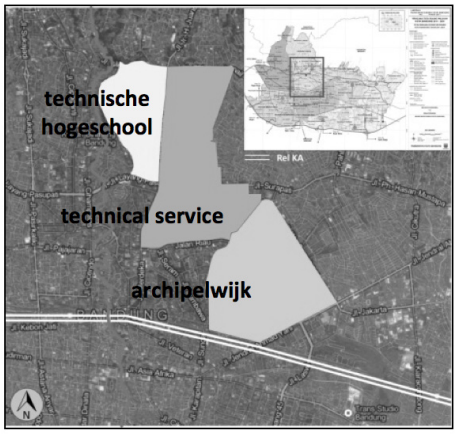

Figure 2. Position of Archipelwijk, Technische Hogeschool, and Technical Service in Uitbreidingsplan Bandoeng Noord
Source: Reprocessed based on Google Earth, 2013

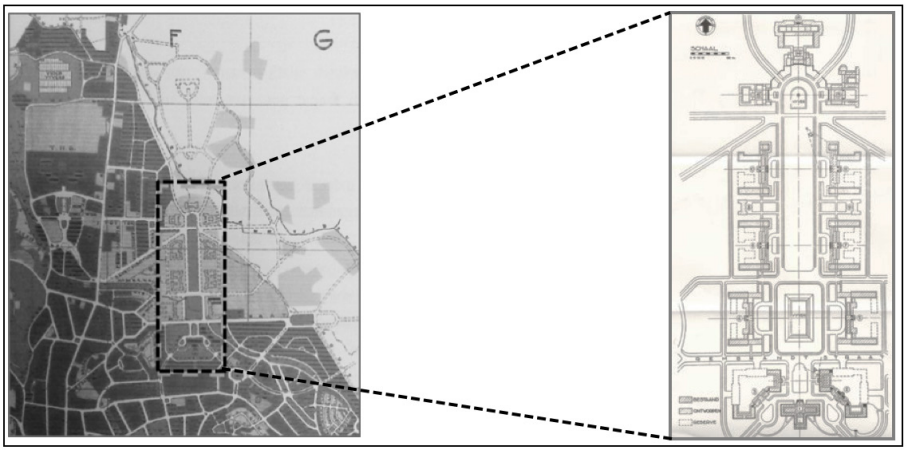

Figure 3 (left). Map of the Bandung City in 1933-1938. Source: Voskuil, 2007
Figure 4 (right). Symmetric Pattern. Source: Widaningsing, 2007

Changed of Area Function

Changes in land use of Corridor Segment Area and Gedung Sate Complex's Axis Node be reviewed based on the history of land use as compared to current conditions. Gedung Sate Complex was originally designed by Nusantara Capital Design Team led by Genie VL Slors for the construction of Central Government Building in Bandung (Damajani, 2007). The complex is laid out with the selection of Gerber design, because they have the style and architectural style that has the traditional feel of the archipelago. The existence of the Gedung Sate Complex with several other historic buildings around it until the 1980's has become one of the landmarks in the city.

In 1985 built Boulevard of Perjuangan rakyat Jawa Barat Monument, located in north Field Gasibu, lengthwise on the imaginary axis connecting the Gedung Sate Complex and Tangkuban Perahu Mount. One of the background of the construction of this monument is to continue the plans that have been

initiated before the building of the complex into the urban space with a formal character to support the Gedung Sate Complex functions as a formality area to be government office facilities.

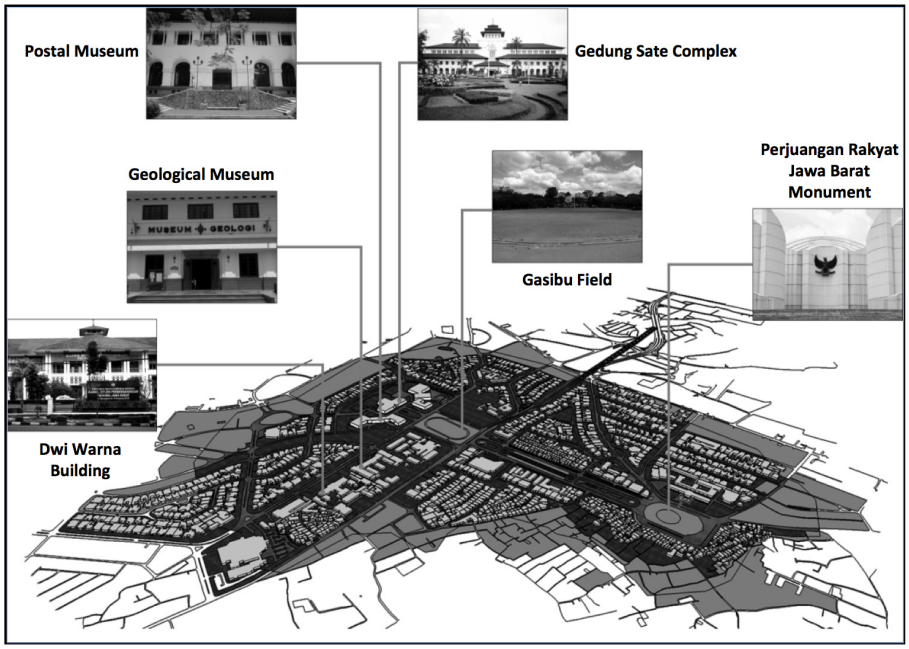

Figure 5. Historical District
Source: Personal Documentation, 2014

Articulating Gedung Sate Complex area like Gasibu area and Perjuangan Rakyat Jawa Barat Monument in this time are simple, that the view that manifests as a solid combination between symbol of style of urban life in the cities, among the crowded, dense traffic flow creep, replied said commodity traders, serta aroma of people's delicious confectionary dish which is dancing around along with the chanting of the sounds from various sound sources as bring harmony in the irregularity. Changes in land use of Gasibu area and surrounding not only because of activity and economic necessity . But also because of the development of construction in this area too.

Based on the preliminary review on the location, clear that there are change in the area over time. In the beginning, complex of urban space is a formal representation of the formal powers of government. However, the changes continue to occur, both functional changes and changes in usage patterns. The changes are encouraged by the needs of the people, economic and social factors, and lifestyle requisite. Towards this condition, I refers to it as a form of culture that was developing in the community. Changes of condition in the area is the result of human activity by their culture, this is called landscape.

Site Analysis

Cultural Activities

1. Cultural Tradition

Everything that is inherited down from generation to generation is considered as a tradition, no matter whether it is good or bad. Traditional art laden with local cultural values. Sundanese, traditional art which

is closely related to the value of togetherness, gather, unite one of which is called the *kirap helaran* or *sisingaan*. Kirap helaran is a kind of traditional art or people performing arts are performed with a procession in the form of helaran. The show is usually performed at the event such as circumcision celebrations or special events such as; welcome guests, entertainment inauguration, the Independence Day activities, and the activities of other big days that followed hundreds of people from all over the village representatives. The event is in the form of a procession or parade.

Kirap helaran followed by community groups which presents Sundanese culture, such as sisingaan, gotong gagak, kendang rampak, calung, engrang, reog, barongsai, and a motorcycle club. Value created by the kirap helaran still visible in the form of popular culture that was developing in area at this time, such as : the procession attractions motorcycle clubs, bike clubs, marching bands, and others. Thus, a tradition in the form of traditional art became an important element in shaping contemporary culture or pop culture.

2. Popular Culture

Culture related to activities and practices everyday that characterize a group of people which is everyday highlighted. As we know that the culture originated from the habit, and that habit has unwittingly become a cultural in a community. This is what eventually became a popular culture. About the term "popular", Williams (1983) interpret it as something enjoyed by that many people, something that is easy to practiced, the work is done to please people. Corridor Segment Area and Gedung Sate Complex's Axis Node have become a representative popular culture urban communities. Many kinds of activities occur at certain times. The following description explain the kind of popular cultural activities that is emerging in the open space of study area. They grouped by time, because popular culture is present by the certain of time.

Weekday activities, consists of : (1) Sports, such as futsal, jogging, soccer, cycling. Occurred morning 07.00 am - 10.00 am, the dominant activity undertaken by primary or junior school children who are in the Gasibu Field area and surrounding. Then, sports in the afternoon at 15.00 pm - 18.00 pm mostly done by the general public who came to the field. (2) Street vendors activity. Timing for selling varied, such as : from morning till late afternoon approximately 07.00 am - 18.00 pm, some of them are from morning till night is at 07:00 am - 22:00 pm. (3) Community associations of young children. Their aim is to come there to relax, 'chat', refreshing, enjoy special snacks of Bandung, and others. Some of these communities include : social community, the community of bicycle, motorcycle clubs, etc.

Weekend activites, consist of : (1) Sports, such as jogging, cycling, football, futsal, badminton, volleyball, and gymnastics. Occurs in the morning until the early afternoon at 05.00 am - 10.30 am , afternoon 15:00 pm - 18:30 pm. Sports also took place along the Garden of Perjuangan Rakyat Jawa Barat Monument in the morning 05.00 am - 11.00 am. (2) Pasar Kaget, a market that is only present on every Sunday morning. This Pasar Kaget called Gasibu Market which is one of the traditional market or the biggest of public market in Bandung. (3) Recreation, such as refreshing, relaxing, family holiday in Gasibu Field, Garden of Perjuangan Rakyat Jawa Barat Monument, Garden of Gedung Sate Complex, even Gasibu Market often be recreational purposes by people from inside and outside the city of Bandung on Sunday, from 07.00 am - 12.00 pm. (4) Heritage Tourism, due to the historical values include architectural magnificence of the buildings as a legacy of colonial history, a force to establish the identity of the area. There are Gedung Sate, Perjuangan Rakyat Jawa Barat Monument, Postal Museum, the Geological Museum, Dwi Warna Building. All of them be educational tourism destination. These activities take place throughout the day, from morning to evening.

The annual event, such as new year celebrations and Ramadhan Market. Ramadhan Market is a market that is open during the month of Ramadhan (Moeslim Month) for about 30 days, at 14.00 pm till night

at 20.00 pm. And then, the activities in uncertain time. Commonly, there are very diverse activities. Such as : art and music event, festival, traditional cultural week, reality show, exhibition, concert, motorcycle racing, demonstration, etc.

Natural Conditions

Bandung is surrounded by mountains, so that the morphology of the area is like a giant bowl. Geographically, the city is located at an altitude of ± 768 m above sea level, the highest point is in the north with an altitude of 1,050 meters above sea level and to the south is an area of low with 675 meters height above sea level. The type of soil in the area is latosol brown. Temperate mountains (moist and cool) with an average temperature of 23.6 º C. Average rainfall 156.4 mm, number of rainy days on average 15 days/month. Sources of water to supply the needs of the community that comes from rivers, springs, groundwater. The depth of ground water level depressed <25m below ground level. Bandung with cool air and lies in the fertile highlands contoured and surrounded by hills and mountains, making the natural orientation of the design. The uniqueness of this natural characteristic became potential advantages for Bandung.

Land Use

The study area is consist of dwelling, office and public facility, museum, technical service, open space, educational, and commercial area.

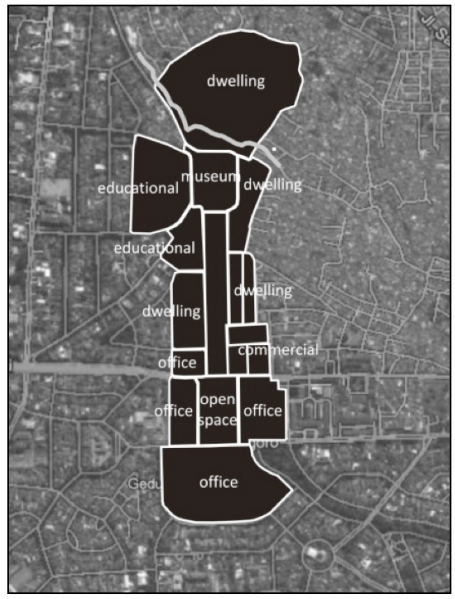

Figure 6. Land Use Mapping
Source: Reprocessed based on Google Earth, 2013

DISCUSSION

Cultural Landscape Approach to Define Meaning of Interiority

Human in look the interiority not only fixated on geometric shapes and patterns, but they are also trying to understand the room by using feelings, thoughts, and imagination that can not be assessed in plain view eye. Information obtained or messages through the human communication process that occurs in

the environment can affect usability, awareness, developmental, emotional, and aesthetic satisfaction on the environment (Lynch, 1976: 30). The sensation that comes from the environment cause reactions in the human perception form.

Interpretation is the most important stages in perception. Interpretation involves the human ability to think, gives the sense, and gives meaning to be understood. Something that is 'be felt' then given meaning and significance. Human interpretation of the environment produces the message. Messages are captured from the environment of human being as a result of interpretation spawned image. The image is based on information from the senses sensitivity (Lynch, 1972: 163). Message is seen and felt. The message creates a sense of space in the minds of men who later developed into interiority. Interiority is generated based on human interpretation of the environment and then into a guide that helps people to build a world around it.

Image of the city can be analyzed through the identity (Lynch, 1960: 8). Uniqueness factor is a privilege or a primacy of that must be owned by the identity (Grayson, 2003: 2). The city's identity can change over time. Through the landscape there is a trail of events and the events associated with the people who live in the surrounding areas (Lynch, 1972: 63). The identity of a city should not be the same thing. A place can provide different information when people who are in that place doing different activities. The difference occurs because humans have evolved intellectual, spiritual, and aesthetic directing the different habits in running time to perform a variety of activities. William (1983: 90) formulates the process as a cultural concept.

Thereby, understanding the concept of cultural forms and the landscape produced by the area will show the interaction system between human activities and the area that experienced the development from time to time. These developments will make the development of people's interiority. The concept of culture and landscape formulated into an approach, the approach of the cultural landscape. This approach emphasizes it is important to realize that the area is in its development process also formed a new image based on the identity that has been formed long ago. However, through the landscape change there is a trace of history of an event, so that the whole series of events that are related to the present can be identified.

Based on my study of the activity that occurs in the open space located in the Corridor Segment Area and Gedung Sate Complex's Axis Node, it appears that both of the open space is a representative to perform various kinds of cultural activities. Cultures were developing not only focused on popular culture. However, traditional culture has become one part of the various kinds of activities in that area.

The most obvious manifestation of the process of popular culture is the emergence of variety of artistic activities. Various musical performing arts activities is one example of the activities that are often held to meet the tastes of urban youth especially those who can not or are not able to pay for the show which was held at the café or hotel. Implementation of performing arts events by presenting famous artists and is supported by sponsors (corporate / industrial), of course, has become part of the resources the city that can continue to developed. They are all emotional expressions of culture actors through the activities in their size can represent their soul and character. It makes the quality of open space located in the Corridor Segment Area and Gedung Sate Complex's Axis Node make a significant contribution to the emergence of cultural behavior, the main attraction because of its strategic location in the city so that can be reached by people in Bandung. Thereby, the open space is an object that is not free of culture.

Peoples with different cultural backgrounds will have different views of the meaning of public open space, so the effect on the interiority perceived. Consequently cause usage patterns, activities performed, as well as a variety of cultural behavior that occurs will be different. The most important

thing that needs attention is how the activity pattern of the cultured have adequate space along with the times. Because, culture is also flexible in the face of certain situations. The exists of culture to change what is in the surrounding environment becomes meaningful. These changes form a new image and identity in the area.

Strategies as Recommendation of Spatial Design

According to Page (1998: 53), the component forming the landscape characteristics that are very effect on the formation of the landscape in one area namely a cultural tradition. Cultural traditions are cultural activities that affect the development of the landscape in terms of land use, land division patterns, the shape of the building, and the use of materials. Cultural traditions is something that has been done for a long time and become a part of the lives of a group of people with a culture, time, or the same religion. The most fundamental thing of tradition is the information that is passed on from generation to generation of both written and (often) oral, because without it, a tradition may be extinct. Through a design would make the local cultural traditions that will create a cultural space and distinctive elements that can form on the landscape character in the area.

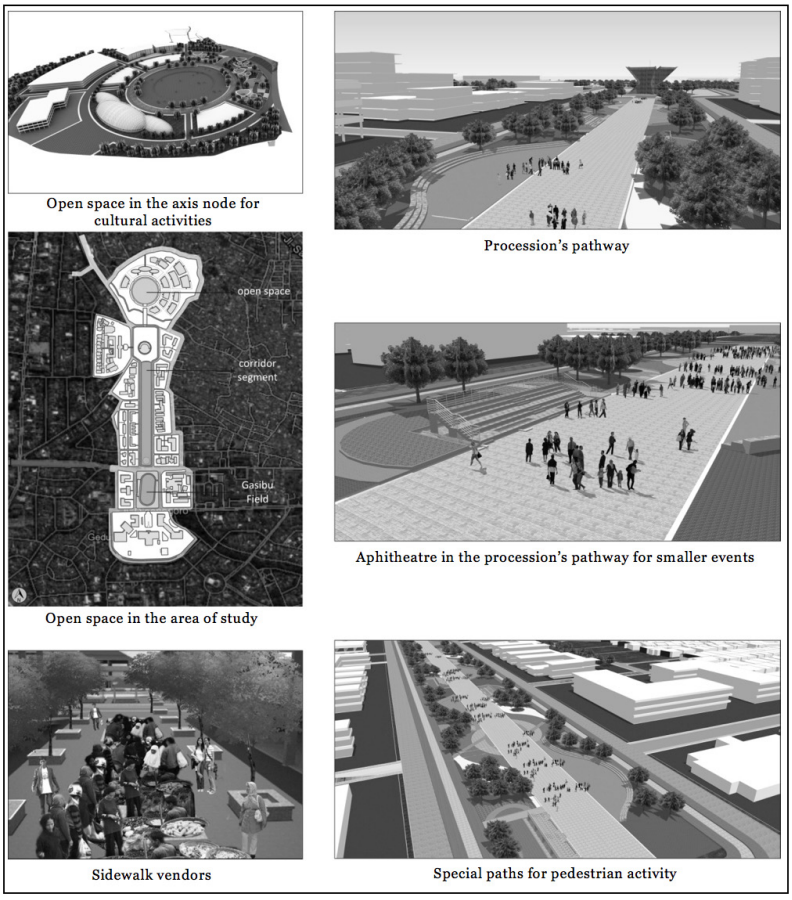

Figure 7. Spatial Design Guide Line
Source: Personal Documentation, 2014

Based on the study that I have done, the value contained in the cultural traditions that can be used as a guide in designing for example in the form of the value of togetherness, gather, unite one of the which are derived from the kirap helaran tradition. Corridor Segment Area and Gedung Sate Complex's Axis Node as a representative of public open space, can be designed with reference to the kirap helaran tradition value. For example, design of garden based on the value created by one of the traditional culture found in area, namely in the form of a procession value, a parade, barongsai performances. Therefore, planned a pathway for cultural activities with the concept of the festival as a good idea. Small amphitheatre is designed for an audience with a dynamic concept, so it does not interfere the parade or procession was going on.

Not only limited to artistic activities, the second point of the Corridor Segment Area and Gedung Sate Complex's Axis Node can also be used as an area for economic development and culinary tourism. An effort to do for example by dividing the functional of area in area designations based on time. At the weekend, area functioned as Pasar Kaget. At night, the Corridor Segment Area used for culinary night activities. While at certain times can accommodate events procession. This is one of program that can turn on the area on the whole day and evening.

CONCLUSION

After the assessment and analysis, forming of the most prominent cultural landscape in Corridor Segment Area and Gedung Sate Complex's Axis Node is historical value of the area, cultural diversity, and the uniqueness of the geographical conditions of the region. Culture is the dominant factor that leads to changes in the landscape over time. Landscape change because it is an expression of the dynamic interaction between the environment and culture. The tendency of humans to adapt to their environment to better suit the needs, they establish a new landscape based on interiority that developed on the human self. It is associated with the development of culture and urban lifestyle that continues to change. However, the landscape of the past can not be brought back to its current state is now. Therefore, it is necessary to understand how to preserve the existing landscape, for example by lifting the values embodied in the form of cultural traditions.

To keep the Corridor Segment Area and Gedung Sate Complex's Axis Node not lose the image of culture, namely the form of an artificial environment that is meaningful and filled with historical values that integrate local values and a modern values, variety of cultural activities, then you should need an effort further in forms of planning activities and arrangements for efforts to maintain and improve the quality of the existing physical environment, namely the application of the concept of cultural landscape based approach.

Cultural landscape mapped out the historical district, important events, human relationships in a area over time, and the activity of a person or group of people. Cultural landscape can be a benchmark for assessing and building living environments; one of to resolve differences between the historic environment and the environment with all the new development; facilities that accommodate all forms of culture that flourished; so natural, cultural, historic and heritage buildings become forming of the image and identity of the place.

Cultural landscape gives a sense of place and identity that form a human's interiority experience. Interiority understanding of the environment will determine their actions in response (responding) environment. So, human's interiority created because humans have the ability of imagibilitas power (the ability to bring an impression or image), because humans have a mind that made him think in the perceived of the message. Thereby, understanding of the cultural landscape can be used as a guide in setting the quantity and quality of the elements involved in the formation and structuring of Corridor

Segment Area and Gedung Sate Complex's Axis Node, in order to preserve and develop the region to continue to demonstrate the authenticity and used the advantages of area.

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THE INTERIORITY OF THE NEW ACROPOLIS MUSEUM

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ABSTRACT

The many of contemporary buildings created based on cross-pollination of design method overlaps a variety of related design territories, including contemporary architecture, interior, fashion's trend, performing arts, graphics, contemporary theatre, and sculpture. They are embedded in the building, and show the interaction between artefact, people and space. The research aim is to discuss about interiority of the museum by using phenomenological method.

By using a phenomenological investigation at The New Acropolis Museum through a Grounded Theory Research refers to Glaser and Strauss was found the cross-pollination of design method by applied a mixed-used interiority design method by re-programming and adaptive re-use.

The New Acropolis Museum at Athens built at the polemical location added further layers of responsibility to the design. It located at the foot of the Acropolis as a sensitive archeologically excavation the presence of the contemporary city and its street grid, and the Parthenon itself. The research problem is: *How the cross-pollination method was adopted in the New Acropolis Museum?*

The building's façade used the transparent materials to connect with the ancient historical and cultural of Greek antiquity. The building performed as unusual building's appearances looks like a transparent big box reflected a part of Parthenon into their façades. From inside, the Parthenon's façade always became the 'inside-out' of museum by using glasses material. The building was elected above the ancient ruin. So, glasses became an architecture's way to connect with the ancient memories.

At apart of the building's façade used a *video art movie* containing the Greek sculptures on night. All the building element varieties is related in the design territories, the contemporary architecture, the interior design, the Fashion's trend, the performing arts, the graphics design, the contemporary theatre, and sculpture are adopted in the New Acropolis Museum. Composed in unique, fun and the elegance façade. The research conclusion is a cross-pollination of design method and creativity was use in the New Acropolis buildings.

Keywords: interiority, archeologically site, cross-pollination, New Acropolis Museum

INTRODUCTION

We are live in the digital era, now!

Many of the contemporary buildings created by added the fashion's elements to enrich the building's facade. The building appearances looks are like 'supermodels'. The variety of fashion accessories contributed the facades to enhance the appearance or odor of the body of the building. In other hand, known the buildings designed based on *cross-pollination* by overlaps varieties related the design territories, including contemporary architecture, interior, fashion's trend, performing arts, graphics, contemporary theatre, and sculptures. The Architects embedded into the body of buildings to show the interaction between artefact and space became *a new iconic building* to express unusual building façades.

When the Architect adopted the *four basic of fashion elements* and *the principles of design*; color, silhouette, line, and texture into the architecture's body the building appearance became a metaphorically of fashion named a 'Fashion-Architecture' building (Ardhiati, 2014).

To enrich the design to be a 'Fashion-Architecture' building, the Architect were inserting the fashion element's applied through a various of the fashion design method; *by wrapping, by pleating, by printing, by draping, by folding, and by weaving*. They usually applied into the building façade. By inserting the fashion elements at the building façade was composed a uniqueness, fun and extraordinary façades (Ardhiati, 2014).

Recently, known a *cross-pollination method* applied by the famous Architect works. The method is also applied in a sensitive site. A sensitive site is an historical heritage site that had a complexity rules. For example is *the Master Plan of Mecca 2012* as Hadid and Foster's work. They used a *cross-pollination method* by applied an interiority design method through *re-programming* and *adaptive re-use* at the sensitive site of *Kaba'* (Ardhiati, 2012).

The Master Plan of Mecca 2012 as Zaha Hadid and Norman Foster's create by re-interpret 'Mecca City to be The Magnificent City'. By their work the *ka'ba* looks like *just a small dot* surrounded the skycraper buildings and sculptural artifacts even though it's still role as the central point of the sensitive site. (Ardhiati, 2013).

By created the *Ka'ba* as a holy artifact at a low level position by tall skycrapers made the holy ritual procession surround became *a big attractive scenery* from thus skyscrapers. A billion's of *moslem* in the white clothes looks like 'a drama'. Hadid and Foster created an interiority design method.

The New Acropolis Museum design by Bernard Tschumi, 2005 is a building in polemical location added further layers of responsibility to the design. The building erected at the foot of Acropolis, a confronted with the sensitive archeologically excavations. Acropolis of Athens is an ancient citadel located on a high rocky above the city of Athens, containing of several great architectural and historic significance include the most famous Parthenon. Tschumi, as the architect's winner of Design Competition of New Acropolis Museum 2005, he creates a new building trough a new design approach by adopted overlaps of varieties related design territories, including a contemporary architecture, interior, fashion's trend, performing arts, graphics, contemporary theatre, and sculpture as building's element to connected visitors with the ancient Greece.

NEW ACROPOLIS MUSEUM AT GLANCE

The old museum of Acropolis was completed in 1874 and underwent a moderate expansion in the 1950s. The successive excavations on the Acropolis uncovered many new artifacts which the significantly exceeded its original capacity. Post the Greek government made requests for the return of the Parthenon Marbles from the British Museum of United Kingdom, it was suggested to create of a new gallery for the display of the Parthenon Marbles. The reason is the key to all recent proposals for the design of a new museum competition. The first and second architectural competition to design a new museum was held in 1976 and 1979 follows by Greece Architects failed to produce any results.The third competition, 1989 was announced that would be international by choice of three possible sites was provided. The winner was won by Manfredi Nicoletti and Lucio Passarelli,the Italian architects. The construction delays throughout the 1990s.

Post the International (ICOMOS) campaigners exposed this oversight, Athens need new plans were adjusted so that the building was elevated above ground, on pillars. The Final Competition was open only to architectural practices, won by Bernard Tschumi in collaboration with the Greek architect Michael Photiadis. Their work has revealed two layers of modest, the private roadside houses and workshops.
The first layer is from the early Byzantine era and second, from the Classical era. They found the suitable locations for the foundation pillars the soil to the underlying bedrock and float on roller bearings able to withstand a Richter scale magnitude 10 earth quake. Post the New Acropolis Museum was build, the building performed is seem a very unique building design. The Tschumi's work of Athens was inspired to propose a research problem: *How the variety of the cross-pollination method was adopted in this sensitive site?*

THE RESEARCH METHOD

To reveal the design method of the New Acropolis Museum a research was done by using a architectural phenomenological investigation at the New Acropolis Museum at Athens at 2013. This research is based on a Qualitative Architectural Research refers to Groat (2002:18) and applied a Grounded Theory's research strategy of Glaser and Strauss (1967: 32-35) to reveal the architectural theory of the object by stated a minor working hypotheses as a *subtansive theory: The New Acropolis Museum applied the cross-pollination design method to adopted with the sensitive site*.

By refers the four steps of Grounded Theory research; 1). *by comparing incidents applicable to each category*. 2) *by integrating categories and their properties,* 3). *By delimiting the theory,* 4) *writing theory.* (Glaser and Strauss, 1967: 105-113) was found a cross-pollination of design method by mixed-used interiority design through re-programming and adaptive re-used. The paper present the result of research to discussion the objective interiority of the New Acropolis Museum.

A PHENOMENOLOGICAL INVESTIGATION

'Wow Effect' by Connected Visitor with the Ancient Greece

The phenomenological investigation started by visit to Athens, 2013. To find the New Acropolis Museum's site located is not easy, because the historic of Makryianni district is the one of tourist destination. The Museum is entered from the Dionysios Areopagitou pedestrian street, which links it to the Acropolis and other key archeological sites in Athens. The Museum stands less than 1,000 feet southeast of the Parthenon temple. The top-floor museum is the Parthenon Gallery offers more than 360-degree panoramic view of the Acropolis and modern Athens.

A phenomenological experience refers to Tjahjono, 1999 rely on her/his intuition and intellectual through three reduction as well; all subjectivity, all knowledge, and the all tradition. A phenomenological experience is also a way of looking at the object refers to Brouwer, 1983, to reveal the symptom that present themselves to be depicted through intensionalism thesis.

By walk at surround the New Acropolis Museum showed 'the wow effect'. The museum building located right above the Acropolis ruins as a part of the Unesco's World Heritage List. It is mean, the ruins protected by law because it's a sensitive sites having outstanding universal values. So, Architects must be conduct by law.

'A Wow Effect' is means a special state of mind usually referring to a special 'view'. When you're surprised by something wonderful or really great, you got the 'wow effect'. Usually the state of the wow effect is gained when a hot chick is seen. The origin of the phrase 'wow factor architecture' is uncertain, but has been used extensively in both the UK and United States to promote avant-gardist buildings within urban regeneration since the late 1990s as *Tschumi's Event-Cities (Praxis)*.

The building museum is around 8,000 square meters of exhibition space and a full range of visitor amenities. The Acropolis Museum tells the ancient story of the Athenian Acropolis. The building enrich by original collections provide visitors with a comprehensive picture of the human presence on the Acropolis, from pre-historic times through late antiquity.

At the entrance of the museum, located the display of an archeological excavation on the site about the Acropolis ruins from the 4th through 7th centuries A.D. they have a auditorium facilities include a 200-seats.

Tschumi designed by the simplicity horizontal lines, and present the Museum focusing the visitor's attention on extraordinary works of art by exhibits them in ambient natural light. This is an extraordinary experience until the top of building as the Parthenon Gallery. At the top floor, visitors stand at the same level of the original Parthenon temple outside the building.

The 'form' of the top design by simulacra of the origin temple by a rectangular with the glass-enclosed. The sky light of the top Gallery is very high and width. The building's construction by concreted which penetrates upward through all levels. At the core allows the natural light conserve the Caryatids woman sculpture. The Museum circulation devide into a chronological sequence, from pre-history through the late Roman period. The high point is the Parthenon Frieze. The architectural experiences at museum are feeling entertaining and clear of three-dimensional loop by escalator. The Museum is conceived as a base, a middle zone and a top. The archeological excavation located at below and from the orientation of the top floor toward the Parthenon. The base hovers over the excavation on more than 100 slender concrete pillars. This level are contains the lobby, temporary exhibition spaces, museum store, and support facilities.

The Architecture Drama

By phenomenological experience at the museum reveal the Tschumi's concept of the new Acropolis Museum. The building is contain with 'architecture drama' by located the most dramatic sculptures of Greek antiquity. Even though the museum located at the sensitive site of archeological excavations, they was successfully presence the museum collections. By Tschumi's smart thinking to The New Acropolis Museum is a building became adjustment in polemical. The New Acropolis Museum is a new building trough a new design approach by adopted overlaps of varieties related design territories, including a contemporary architecture, interior, fashion's trend, performing arts, graphics, contemporary theatre, and sculpture as building's element to connected visitors with the ancient Greece.

The Design's Territories

The museum building design presence a unique 'form' by replacing a sensitive site on Acropolis ruins. So, the building's polemical location added further layers of responsibility to the design. By located at the foot of the Acropolis as the sensitive archeologically excavations, the Architect presence the building on a contemporary city and its street grid and the Parthenon itself.

Tschumi design an extraordinary by adopt design's territories to express the building by approached all of territories. He roles as a Master of Architect to composed all museum elements as composed a Work of Art by a totally design in order become an unique museum building in this age.

A Contemporary Architecture Concept

Throughout his career as an architect, theorist, and academic, Bernard Tschumi's work has reevaluated architecture's role in the practice of personal and political freedom. Since the 1970s, Tschumi has argued that there is no fixed relationship between architectural form and the events that take place within it. The ethical and political imperatives that inform his work emphasize the establishment of a proactive architecture which non-hierarchically engages balances of power through programmatic and spatial devices. In the Tschumi's theory, architecture's role is not to express an extant social structure, but to function as a tool for questioning that structure and revising it.

Tschumi as Architect's winner of New Acropolis Competition 2005, adopted a contemporary architecture concept by used the connectivity wit the Old Greece civilization. He designed the museum level similar with the Parthenon's high level and imitating the originally column of Parthenon by using a stainless steel material. He built a simulacrum of the Parthenon column follows the Parthenon original plan.

The Parthenon's façade as a part of the museum in frontally view. Especially, on the night the building looks like a fashion's trend through exposed the iconic collection presented by a digital image in an animation video mapping. The building's façade became a big surface to reflecting the images. By inserting the video mapping animation on the building facade, Tschumi presented a Contemporary Theatre.

Tschumi's argue that there is no space without event, he designs conditions for a reinvention of living, rather than repeating established aesthetic or symbolic conditions of design. By his concept, means architecture works becomes a frame for "constructed situations," a notion informed by the theory, city mappings and urban designs of the situationist International.

As Architect and Lecturer, Tschumi's design research encourages a wide range of narratives and ambiences to emerge and to self organize. By his way, Tschumi's work is ethologically motivated refers to Deleuze that used the term to propose an emergent ethics that depends on a re evaluation of self/identity and body. He clain the freedom to architecture design, thus defined by the enhanced range of capacity of this extended body/self in conjunction with an extended self-awareness.

Beside he is advocating re-combinations of program, space, and cultural narrative, Tschumi also share to the user to critically re-invent him/herself as a subject. Tschumi well known the radical theories on post-structuralist architecture in the 1960s and '70s, and finally he won the commission for the New Acropolis Museum in a competition. The museum offers a seemingly placid stance, focused on the impressive Athenian light and landscape while remaining precise in imagination and sophisticated in form.

Refers to Derrida, 2007 about *Point de folie - Maintenant L'architecture*, the contemporary architecture

name trans-architecture as the *Architecture Event*. The presence of events it can be measured through the architectural structure; sequence, seriality, narrative, dramaturgy, cinematic, and choreography.

DISCUSSION

"*Any relationship between a building and its users is one of violence, for any use means the intrusion of a human body into a given space, the intrusion of one order into another*" as Tschumi quotes in *Architecture and Disjunction* (2001, p.122). His statement influences his work of the New Acropolis Museum of Athens.

He has been criticized for sacrificing human needs for intellectual purposes. Nikos Salingaros, the Greek mathematician claims that the New Acropolis Museum clashes with the traditional architecture of Athens and continues to unnecessarily threaten historical buildings nearby. Another statement from the AIA Honor Award Jury writing in 2011: "*It is very contextual and powerfully respectful of the urban fabric of Athens while doing a dance around the ruins.*" The New York Times: "*a quiet work...a building that is both an enlightening meditation on the Parthenon and a mesmerizing work in its own right*." Another statement from visitor: "*From the top floor, the wall of windows allows visitors to look directly onto the Acropolis. During the day, a reflection of the Parthenon shimmers from the top floor windows. By night, the illuminated sculptures seem to glow from inside. "It is a beautiful space that shows the frieze itself as a narrative â€" even with the plaster copies of what is in the British Museum â€" in the context of the Parthenon itself," said the building's U.S.-based architect Bernard Tschumi.*

RESULT

The result of this paper is an interiority of architecture project was found by adopted *a cross-pollination method*. The way to express the method is by used the building façade and flooring with transparent materials, the Architect successfully to communicated the visitor 'to connect' with the ancient historical and cultural of Greek antiquity. The building's role to mirroring the original Parthenon's into the building surface. So, by visual visitors feel direct to communicate with Parthenon itself inside and outside the museum. The interiority on the New Acropolis Museum become a part of the Architecture's theory how to applied at the sensitive site by logical argumentation to the Government by *a cross-pollination method* through re-programming and adaptive re-use.

CONCLUSION

Through a phenomenological experience in New Acropolis Museum of Athena, founded the Tschumi's design is using a cross-pollination method. His brilliant creativities lead him the unusual design approach to create a 'Wow Effect of Architecture Design'. Even though located in a sensitive site, Tschumi's idea accommodated by the Greece Government by using a logical argumentation by connected with the Greece traced by showing a new building appear from the ruins, and showing the all of the surface by a glass translucent materials to all of the façade.

The building museum's is also showing an interiority architecture by overlaps varieties related design territories in a contemporary architecture reflected by used the sensitive archeologically site as the pillar foundation. The interior design by the fashion's trend reflected by create the artistic nuance to exhibition the museum collection lookslikes an art gallery, the performing arts reflected by the dynamic façade on night by the greek ancient story in video art movie, the graphics design is reflected by Environmental Graphic Design integrated in whole museum area, the contemporary theatre is shown by the auditorium and conservation recorded at lobby area, the all sculpture as museum collection is the point in this building' to shown the glory of Greece civilization. By phenomenological investigation,

all the visitors feel in an the entertainment ambience. All of building's element and apart not only show the museum collections but also show how a brilliant of architecture's idea adopted to enrich the architecture's concept by inserted a story line in to the building as his monument.

FIGURES

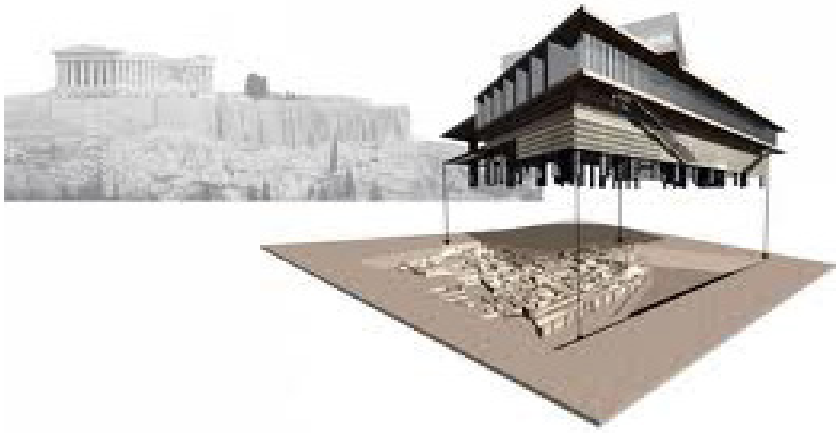

Figure. 1. Tschumi's ideas plan
Source:www.yatzer.com

Figure.2. The building located above Acropolis ruins
Source: Yuke Ardhiati, 2013

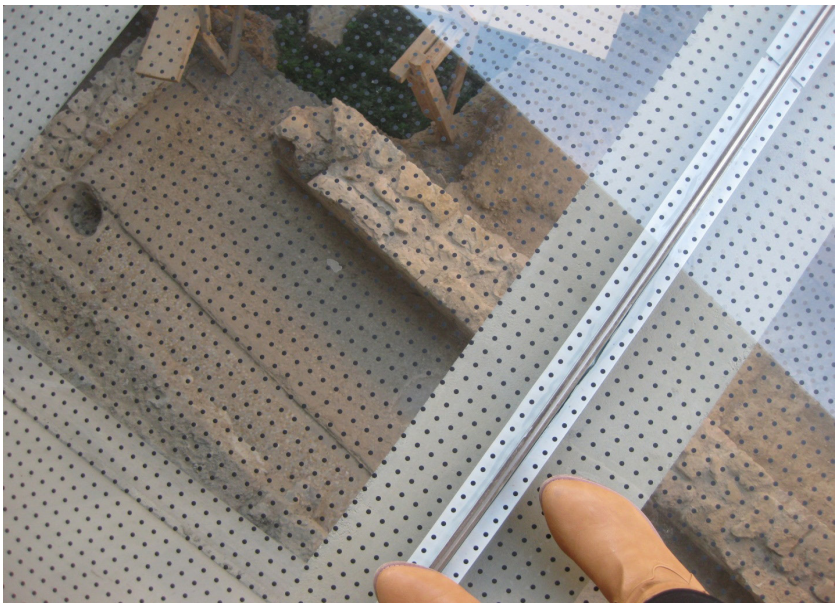

Figure.3. The glass material 'to connect' with the Old Greece civilization
Source: Yuke Ardhiati, 2013

Figure. 4. The simulacrum of Phartenon's column
Source: Yuke Ardhiati, 2013

Figure. 5.The building's façade as a surface of the digital images.
Source: http://news.gtp.gr/2014/05/21/acropolis-museum-among-amazing-21st-century-museums-world/

Figure.6. The Parthenon 'be there' on the museum by located the building's frontally from it
Source: cecakir.wordpress.com/2010/05/28/new-acropolis-museum-bernard-tschumi-architects/

Figure. 7. The original Parthenon's artifact
Source: http://www.chinesedemocracy.com/forum

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PLACE-MAKING IN TRANSIT SPACES THROUGH THE INTERIORITY LENS

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ABSTRACT

Along with increasing demands for mobility in the urban context, spaces dedicated for means of transportation are vastly built and becoming ubiquitous structure in the city. People experience it on daily basis but regard it as non-place, due to its strict functionality and lack of atmospheric quality. Therefore,transportation infrastructures, tend to become inhospitable part of the city, and often resulting negative perceptions among its users.This condition needs alternative ways of place-making.

Through a project set in the design studio (done in 2014), students from Interior Architecture study program of Universitas Indonesia, were asked to analyze issues related with transit spaces through the lens of interiority and exploring possibilities to approach the issues through design. The objective of the project is to design and build a real scale object that would enrich one's experience inside transit spaces, creating alternative narrative for them. Behavior of users who interacted with the final model become key to fully understanding the project.

This paper will begin with literature review on place-making and interiority in urban context and will evaluate how the project was conducted and its result . To conclude with, findings show when interiority is used as perspective in place-making, especially in spaces that are lacking of meaning and treated as non-place, built environment is not solely seen as physical matter but also as interplay of space, sensory and emotion which resulting sense of place and will increase user's feelings of comfort, safety and well-being.

Keywords: transit space, place-making, interiority, design studio, installation

INTRODUCTION

Mobility is one of critical issues for any big cities in the world, as well as for Jakarta, a megapolitan with 9.6 million residences. By day, another 1.09 million of commuters who travel daily from the city's outskirts add more density to the already packed city (Badan Pusat Statistik Indonesia, 2005). To facilitate urban mobility, complex system of public transportation modes and its supporting facilities are built within the city by the local government. Therefore, transportation facilities, such as shelters, terminals, stations

and airports have heightened its significance and are part of our everyday mobility, it has become ubiquitous structure in Jakarta's urban landscape.

Transportation facilities can be considered as transit spaces, which act as connectors and thresholds, spaces you go through in between your departure or arrival. They mainly function as spaces of circulation, which experienced by people (passengers,travellers) in movement, where strangers meet and cross paths but make no connection to each other, a *mis*-meeting with others (Bauman, 2001 : 95). They look typical almost everywhere and the atmosphere is mostly sterile. These characteristics are the reason why transit space is categorised as merely a place, or what Augé defined as non-place. "Clearly these word 'non-place' designates two complementary but distinct realities : spaces formed in relation to certain ends (transport,transit,commerce,leisure) and the relations that individuals have with these spaces." (Augé, 1995).

This type of space, according to anthropologist Marc Augé are spaces where people coexist or cohabit without living together (Cresswell, 2006). Regarding to how individuals relate with non-place, Z. Bauman also notes, "The main feature of the 'public, but not civil' places [...] is the redundancy of interaction. If physical proximity - sharing a space - cannot be completely avoided, it can be perhaps stripped of the challenge of 'togetherness' it contains, with its standing invitation to meaningful encounter, dialogue and interaction." (Bauman, 2001). Therefore,the transitory experience of public transportation facilites with lost connectivity ,resulting very few meaning to the passengers and leave little memory to them.

The situation regarding to transit space as non-place evoke some questions to author, what effect transit space as non-place has to its users? What happen when no connections are being made between strangers who use the space? What memories are made when experiencing transit space?what happen when people coexist in a space but they don't inhabit it? Can people inhabit transit space, and what difference will it make? Can design transform these condition and change people's experience in it? These are the key questions that started the project. Within these series of questions, a studio project for 3rd year students of Interior Architecture at Universitas Indonesia held in academic year 2013/2014 was set. This project is much inspired by a paper written by Rochus Hinkel from RMIT University (Hinkel, 2009) also his and Suzie Attiwill's design research cluster in RMIT, called Urban Interior. Their thinking and experiments are mind opener and would potentially change direction of interior education. Thus, author and three other colleagues who conducted the studio agreed that in order to comprehend the new discourse in interior design, we need to set an experiment through design studio that would able students to grab the newest thinking and implement it through their design.

The objective of this project is the understanding of interiority concept within urban scale and the idea of place-making using interiority as a way to conceive design. Aim of the project is to create design that can engage people to their environment, particularly transit space, to enrich users' experience, and encourage them to interact with others. In other words, to purposedly alter the non-place experience in transit space into a place where users can inhabit temporarily.

To accomplish the objective, students were given a live project in transit platform at train stations around Jakarta and Depok area. Place-making became the core thinking of the attempt to change non-place into an inhabited space, while 1:1 spatial installation became their creative medium and strategy to occupy the space. Due to short duration of project, only five weeks in total, the intervened area were limited. To begin with, this paper will review some literatures related to the project and will try to connect it as the project's trajectory that will also define the strategies needed. Later on, this paper will tell about the development of the project. In order to obtain findings and lesson learned from the project, students' works will be revealed and discussed.

PLACE AND PLACE-MAKING

The experience of lacking a place,or of a place characterised by mobility or movement, can be further articulated in relation to space and place (Kaye, 2013 : 9). There are various definition for space and place and they are not definite, in this paper author chose some definitions by some scholars to conclude. According to Cresswell, space is a more abstract concept than place. One would think of outer space or the spaces of geometry. Spaces has area and volume. Places have space between them (Cresswell, 2004). Augé stated that 'a place is a space where relationships are self evident and inter-recognition is at a maximum, and where each person knows where they and others belong. Therefore place is also interested in time.' (cited in Read, 2002). As according to Yi-Fu Tuan, space is movement and place is pause.

> The ideas "space" and "place" require each other for definition. From the security and stability of place we are aware of the openness, freedom, and threat of space, and vice versa. Furthermore, if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place. (Tuan, 1977)

For Tuan, people and place are bonded in an affective way, there is a sense of attachment to place. Thus, place is much more than just location, it is a space which is filled with meaning by people, and they are attached to it in one way or another. It is a meaningful location (Cresswell, 2004).

From definitions of space and place above, we can conlude that a place is not merely about location, place is space that is meaningful to people because they are emotionally attached to it, thus there's an affective bonding between place and people and connectedness between people who experience it. Hence, it is possible for space to become place, and vice versa.

Then, is it be possible to transform non-place into place? What does it take to transform non-place into place? To answer these questions, author applied the idea of place-making to deal with the non-place issue. Concepts of 'place' often emphasise the importance of a sense of 'belonging', of emotional attachment to place. Place can be considered in terms of 'rootedness' and a conscious sense of association or identity with a particular place. Rootedness refers to a generally unconscious sense of place (Carmona, Tiesdell, & Heath, 2003). According to Lavrinec, there are two tactics that can be applied to place-making and building a new sense of place : 1) reinterpretation of the existing routine scenarios, proposing alternative ones, which draw attention to the potential of a certain place, 2) reorganization of spatial structures of a public space by installing new objects, which start attracting passers-by and provoke an active interpretation of it (Lavrinec, 2011).

The understanding of space, place and non-place or placeslessness and the principal of place making is important as a starting point of the project. Through theoritical readings and group discussions, students were expected to grab the theoritical base and use the knowledge as foundation as they go further with the project.

PLACE-MAKING THROUGH THE INTERIORITY LENS

One important aspect of the project is the concept of 'interiority'. With this concept as the framework of thinking, interior spaces is no longer bounded by architectural container. As Attiwill notes, "Fixed architectural enclosures are no longer the dominant shaping and mediating element for interior and exterior relations" (Attiwill, 2004), hence interior spaces can be found at a range of scales from the clothing we wear to the city we inhabit (Hollis, Plunkett, Milligan, Hay, & Gigli, 2007). In 'Proximities', a journal article written by Julieanna Preston and Mark Taylor, interiority is defined as "The conscious and reflexive awareness of self, identity, community and others within a social environment [...]

examines the innerness of interior design as that which is felt and projected upon and within the interior environment via body as culturally lived organism." (Taylor & Preston, 2006). Another view of interiority comes from Christine McCarthy, who defines interiority as "Interiority is that abstract quality that enables the recognition and definition of an interior. It is a theoretical and immaterial set of coincidences and variables from which "interior" is made possible" (McCarthy, 2005). Thus, we can conclude that interiority is an abstract concept, that is strongly linked to how the body and its inner being experience and project meaning to space by occupying, inhabit and dwelt within. It is the essence of of not only the space, but of the people who inhabit the space. It is stable and dependent on social, cultural and technological development of our societies.

Therefore, the notion of interiority corresponds well when linked to place-making in non-place on transit space. Because as Perolini states, "Although we spend the majority of our lives inside, we fail to understand habitual experiences of encountering internal space. All interior design comes from an interiority, an experience of being in tangible physical space and from the experience of inside-ness, of constraint and containment within intangible social and psychological constructs (Perolini, 2012). Place-making from the lens of interiority is, in other words, a strategy to create a place which respect people's physical,tangible and habitual experience inside space. An attempt to create a place that is meaningful and can be dwelt within even if it's temporary.

PROJECT DEVELOPMENT

The project started on early February 2014 and the duration was 1.5 months (6 weeks), it was set as the opening project for Architecture Interior Design Studio 4 course. Due to its short duration, the schedule is pretty tight and required students to work in full speed even from their very first week (as shown in table 1). There were 48 students enrolled in the course and conducted by 4 tutors as facilitator, author were appointed as coordinator of the course. The learning method for this project was collaborative learning, therefore students were divided into 4 groups and each group was supervised by a tutor/ facilitator. This project is entitled "**MAKE|PLACE** Project", which gave clue about its content, that it was about place-making and it emphasized the importance of making through spatial installation, as its end results.

Table 1. MAKE|PLACE project timeline

1	Theoritical reading and discussion Choose site & site survey
2	Site analysis presentation Issue & initial idea
3	Design concept Finalised Design
4	Design Construction (in studio)
5	Design Construction & installation (on site) Final review
6	Reflection Design report

Source : author,2014

At the first week of the studio and the beginning of project, students were occupied with literature reading. Through intense in-group and class discussions, they were expected to comprehend project's

objective and the theoritical framework. The use of installation as tool for place-making was also discussed, since the focus of installation in this project is slightly different from common art installation. Here, installation referred to as site-specific work and become a way to explore architectural ideas, to connect ideas to objects and to use design and construction skills to actively and cleverly engage the public in a dialoge about issues they (the architects) believe are important (Bonnemaison & Eisenbach, 2009). More importantly in this process, the built piece can be straightly experienced, therefore students can observe gaps between intentions and interpretations directly and get feedbacks by its actual users. By the end of first week, considered fully aware of the project objective and its theoritical framework, students were asked to select possible site for the implementation of the project.

For the second week, students started their site observation. Transit platform at train station was selected as the required site typology, each groups had to select one location within Jakarta-Depok area. Each group independently chose their site based on the groups' judgements by several criterias such as : station's location and its connection to the surroundings, the character and behavior of passengers departing/arriving at the station, physical – non physical features, and the overall atmosphere. Site observation is an important step for the project, not only students got to experience firsthand the condition of being in a non-place, they too were able to observe several train stations as an architectural typology, how passengers interacted with the space and behaved within the space. Interviews and questionnaires were required as data collecting method, so students could have more insight to users' perspective. Each group then presented interesting points from their site and behavior observations and had been able to adequately analyse and concluded some important findings. Although, some remarks from the the facilitators were given to their sensitivity when observing intangible,psychological and emotional aspects of the site and of the user's experience of the site. They seemed to experience site phenomenons solely through their eyes, and not yet engaging their whole senses. Therefore, author noted that perhaps a quick exercise is needed to sharpen students' senses prior to observing and analysing site.

Figure 1. Transit platform at train station as required site
Source: Author,2014

The third week were the beginning of developing design concepts. Different issues were taken by each group based on their own site characteristics to begin their design approach, these characteristics consist of overall elements of site, both tangible and intangible , the human interactions and behavior that happened within the space, the innerness that created overall experience of the site. Specific issues taken by groups are, for example, one group addressed how passengers were often break rules of not jumping accross rail instead of using the dedicated circulation path, resulting chaotic situation at platform area. Another example is a group that underlined passengers' experience of waiting at the platform area, especially at night time when views around the station were visually limited, causing boredom and restricting self from interaction with others. The highlighted issue led each group to their own unique approach of the project.

Of all four student projects, different strategies were used to create the installations. Two groups emphasized on tectonics, one group emphasized on engaging users' memories, and another group focused on engaging bodily participation. These strategies were each groups' specific response to their site issue and characteristics. In the end,each groups resulting their design concept by alternating the existing and routine scenarios that happened on site, in order to develop a sense of place. Through site-specific installations, they were embedding new scripts into the site, creating a new spatial stories for train stations and its users.

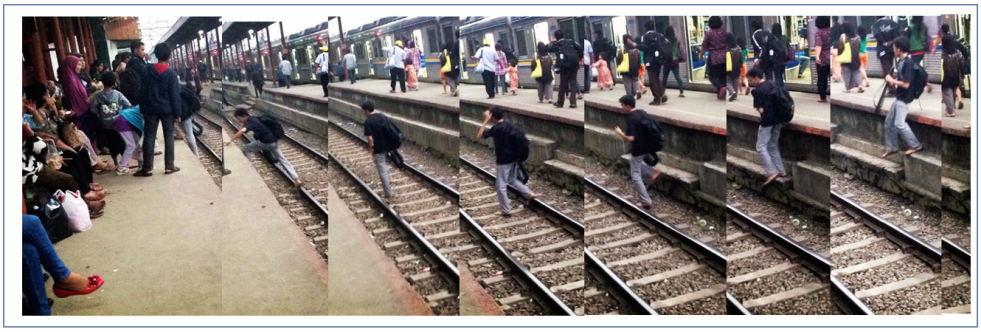

Figure 2. User specific behavior at transit platform became project's issue
Source: group 1-Citayam station, 2014

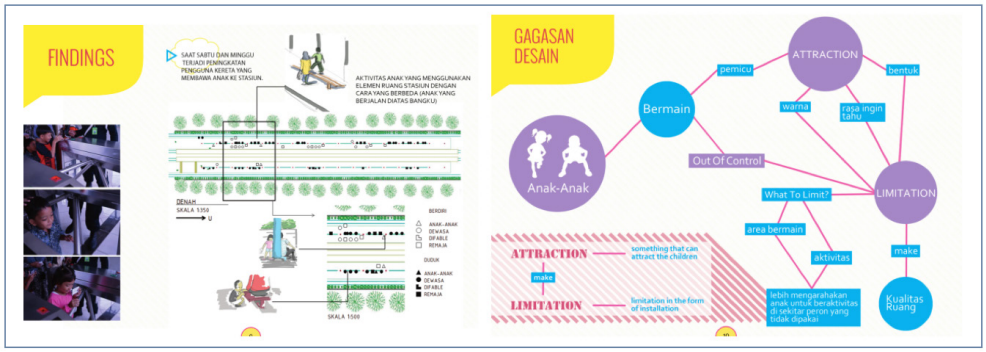

Figure 3. Design strategy as response of issue and findings from site
Source: group 3-Pasar Minggu station, 2014

Later on the designing phase, each group began to work with the creative reinterpretation of existing scenarios and translated it into initial form. Students used various method to generate forms, from abstraction of elements specific to site to tracing body movements of passengers into one fluid and continous form. One group decided to choose specific user age group and developed their design with the intention to enrich children's experience while waiting at train station's platform. Another group put their emphasis on atmospherics effect on users' experience, resulting forms that could effectively affect users' sensory and transform the space atmospherically.

The fourth and fifth week were dedicated for construction phase. At this stage, students moved from the conceptual work to built the physical model at the 1:1 scale. Their knowledge on tectonics, or the art of construction details and materiality, were the key factors to building a successful model. Ergonomic considerations also played an important role, as most of the proposed design were meant as extension of the body. Therefore, careful calculation on dimensions, proportion and scale were also the key to a succesful project. The making of 1:1 scale model also needed meticulous preparation beforehand, as

students need to organized their work and other necessities. Thus, every groups were required to plan their project timeline and budget. Eventhough this process is the most tiresome, but most students enjoy it more than the others, because it gave them actual experience and a direct opportunity to produced and test their own design.

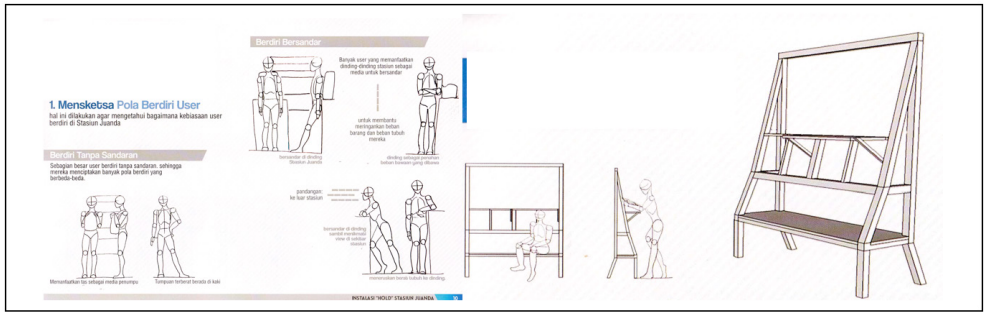

Figure 5. Final design form inspired by standing and leaning bodies and act as extension of the body, ergonomic consideration became key factors.
Source: group 4-Juanda station, 2014

INSTALLATION ON SITE

Installing the final design on site were 'the moment of truth' for each group. When the design is applied at selected location, all aspects of it were tested. The installation works on site took one to two days. Most of the works were done at night when the stations were not crowded and to avoid disturbing circulation flows (figure 6). When working on site, groups that had better preparation of their project found only minor obstacles. While for groups that weren't detail enough when preparing, several difficulties were faced, such as unsuitable material when it rains or difficulty to install objects due to miscalculations of site's condition. Final review was conducted on site for one full day. Facilitators acted as reviewers and visited each groups' location.

According to project's objective, the main purpose of the installation is place-making, an attempt to alternate everyday experience and routines at transit space through design that can engage people and place. Therefore, the important step was when the object were finally installed and can be publicly used by passengers. Each group monitored every interactions happened with the installation and conducted short interviews with the users. The information and feedbacks from users were as important as the design itself, as they could learn from users' perspective whether the design intention could be understood by users and responded as intended.

Figure 8 shows two projects and the interactions it made with user. The first project (above) intended to alter some users' negative behavior, who tend to jump across the rail for a shorter way, even when this act can actually harm themselves and others. This group's response to the situation was to design an object that works principally as a boundary to discourage user from taking the unintended path, and also function as seating space. Thus the object and the people who sat on it became a barrier. When installed, passengers who at the time were waiting at the platform occupied the installation immediately. But only few of them who could tell the installation's intent. However, for passengers getting off the train, the intention could be better understood. Some were spotted being hesitated when trying to jump and then decided to use the correct path. Some jumped anyway and went through the installation, eventhough the act actually caused more bother to them. When interviewed, some passengers looked puzzled but agreed that the installation was a good effort for the problem. In the other hand, some of them mentioned that the size of the object and the color wasn't too strong, so it couldn't be spotted right away.

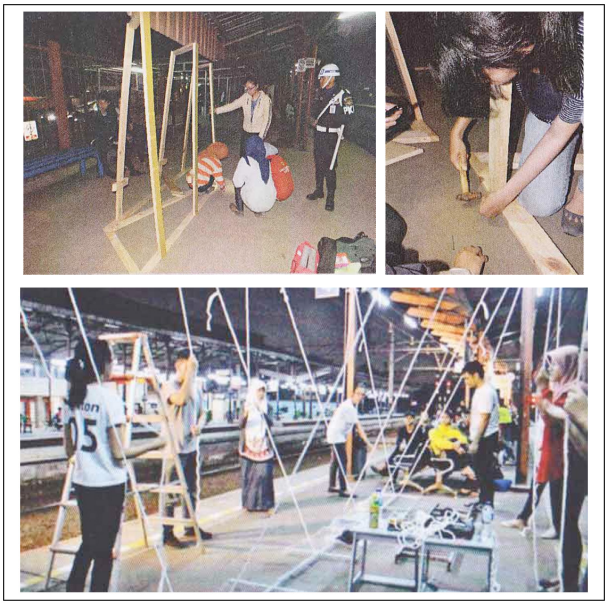

Figure 6. Installation of object on site
Source: Group 1-Citayam station, 2014
Group 2-Jatinegara station, 2014

Figure 8. User interaction with installation
Source: Group 1-Citayam station & Group 2-Jatinegara station

The second project on figure 8 was inspired by the site's unique quality of space. The group found waiting at this station at daytime was quite a relaxing experience because of the many trees and other greeneries that surround the site. But at night time the atmosphere was completely different. As surrounding became too dark, views are limited to inside space of the station, while it offers them nothing to see or do, resulting people to cut any connection with the space or with others . Based on these findings, they intended to recreate the same relaxing atmosphere at night time. Their idea came from the relaxing movement of tree leaves and the pleasant feeling of being underneath the shadow of a tree. The design was being installed above a row of waiting seat at one of the station's waiting platform. Comments from users who experienced the installation were vary, many thinks that this installation has successfully created different atmosphere on the platform. Others criticized the size of installation that wasn't quite right for the station's scale.

According to summaries of data from students' interview and questionaires, most of the responses were positive. Every respondent agreed that waiting experience in transit platform is boring and unmeaningful, hence, when they found something different at their usual and routine space, they got curious and it motivated them to find out and even tried the installation. The alternative experience presented by the installation, eventhough the scale and the intervened area is small compared to the platform's overall dimension, showed desirable and intented effect on passengers. Many of them engaged right away with the installation without hesitation. Few gave it a second thought to try but agreed that its unique presence made their waiting time more enjoyable, and told the installation gave pleasant atmoshere to the otherwise sterile platform.

CONCLUSION

This paper is intended as a reflective tool for recently accomplished MAKE|SPACE project. The project began with several questions related to non-place and transit space, most importantly with the question : "Can design transform non-place into place and enrich people's experience in it?" These questions became trigger and as the project progressed.

Doing a live project in public space is challenging and required a lot of hardwork from students and facilitators. Different and uncertain circumstances could also happen anytime due to internal or external obstacles, therefore facilitators should always be ready with backup plans. With this project, students are allowed to build and apply their design to the actual site and had iy experienced by real users. Feedbacks from users is beneficial, as it can be used to evaluate the performance of design. Eventhough preparation for this kind of project is timely, especially when it comes to getting permission from authorities regarding to the use of public facility as site. But in the end, all the efforts are worth it, lessons learned from the project were invaluable.

The project, even if it's successful in resulting many interesting design and got positive feedbacks from actual users, is still far from perfect on many aspects. Further evaluation is needed for future implementation. Author notes some points that need to be improved in the future : 1) theoritical reading and discussions need to be more intense, 2) knowledge on tectonics, specifically on detail and materiality, is very important and it'd be much help if there's another course which focus on tectonic aspects that could go in line with the studio, 3) When observing and experiencing site, students tend to engage mainly visual sensory and forget about the importance of others. Creating atmosphere, is an important point in place-making, it cannot be achieved only by object form, but also the integration of intangible elements such as lighting,sound,scent,etc. These elements show little significance in all of students' project, hence in the future these aspect need to gain its significance .

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ANATOMY OF SPACE: UNDERSTANDING INTERIORITY FOR USERS' WELL-BEING

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ABSTRACT

This paper describes an approach in interior architecture through the understanding of anatomy of space as a way to comprehend and define the interiority of architecture for human well-being. Interiority refers to the way bodies and boundaries are interrelated to one another. Studying the anatomy of space provides the opportunities to understand interiority through "dissection" method as known in human anatomy: disassembling space into its parts and elements, understanding their properties, functions and relationship, and discovering how they together form a working system. The anatomical study of space promotes the understanding of physical elements that form the materiality of interior space, not as separated entities but as parts of integrated system. The detailed analysis of each parts and elements becomes as important as the understanding of their role in supporting how the whole system flows, works and performs well. In particular, this paper argues that such whole spatial system defines the functionality of the space in relation to the bodily needs of the space users. Studying the anatomy of space becomes an important foundation for design practice that could sensitively respond to various space uses and space users, by thoroughly considering how the elements of interior spaces are created, composed and assembled to promote the users' well-being.

Keywords: interiority, space, system, users, well-being

INTRODUCTION

Interior architecture discipline bears a responsibility to address the bodily need of the users. The intimate relationship between human body and the space surrounding it becomes a primary focus in interior architecture. The development of interior practice and pedagogy needs to incorporate approaches that appropriately respond to the needs of well-being for the users, as a form of social responsibility of interior architecture (Smith, Metcalfe and Lommerse, 2012). Various body of research has indicated the role of interior environment in promoting the well-being of the users in various types of settings (Ulrich et al, 2008; Maxwell and Schechtman, 2012; Veitch, 2011).

The primary position of human as subjects is emphasised that "...in any architecture, people matter more than forms" (Broadbent, 1988, p. 453). Thus the practice and pedagogy of interior architecture must

begin with the human beings and their needs as its central aspect. Body-space relation becomes a critical aspect of interior architecture especially when it comes to the role of spatial setting to enhance the well-being of the users. Well-being refers to individuals' subjective evaluation on the quality of their life; it incorporates various aspects of life satisfaction, affect and happiness (Diener, 2000). Although subjective, the peoples' evaluation of their quality of life is inevitably related to the events and environments that they experience. In order to understand human needs and satisfaction in architecture, it is necessary to look at the individuals and the relationship they have with architecture (Broadbent, 1988).

Well-being tends to be considered as a general objective in the design of spatial setting. It presents a challenge for designers to develop certain methods and approaches of interior architecture to reach toward such general objective. In practice, interior space design needs to incorporate various space elements, each of which need to contribute to the ultimate goal to provide interior environment that promotes well-being. This paper discusses the possibility of adopting the methods of anatomical study of human body as known in medical science as an approach to comprehend and to develop the interior space as a part of human space. Anatomical study of space might offer a possibility for thoroughly understanding interior space as a system that integrates various spatial elements and how they relate to the human body as the users of the space.

The paper begins with the brief overview on the origins and scope of the term 'anatomy' in relevance to the architecture and space, followed by the discussion on the role of anatomical approach in the study of interior space. Two cases of student projects will then be presented to illustrate some possibilities in using the anatomy of space as an approach in comprehending and creating interior space.

ANATOMY AND ARCHITECTURE

The Scope of Anatomical Study of Space

The word anatomy is originated from the terms *anatomia, anatomē* or *anatemnein* which means to cut or to dissect. Anatomy is the terms commonly used in medical study, referring to "the art of separating the parts of an organism in order to ascertain their position, relations, structure, and function" (Merriam-Webster Dictionary). Broadbent (1988) mentioned anatomy as one of the human sciences that provide useful information for designers, and he defined anatomy as "systematic description of the body, usually under the headings describing ten major systems-skeletal, muscular, integumentary (skin), circulatory, respiratory, alimentary, urinary, nervous, endocrine (glandular) and reproductive" (p. 83).

Anatomy is a study of various internal structures inside the human body that allow it to function properly. A primary component of anatomical study is the method called *dissection*. To dissect means to cut into separate parts in order to study it; to study or examine (something) closely and carefully; to divide (something) into parts (Merriem-Webster Dictionary). In anatomy, dissection is a method of disassembling human body into its parts and elements, in order to understand their properties, functions and relationship, and to discover how they together form a working system. Dissection method has been known as a classical method of human anatomy, originated from ancient period. Although current anatomical study could also be conducted through other methods such as radiologic imaging, computer-assisted learning or plastic models, studying anatomy by dissecting cadaver is still a preferred method as it provides medical students with hands-on experience that allow them to experience human body structure through the use of multiple senses (Gunderman & Wilson, 2005).

The use of the term *anatomy* in architecture is not entirely new. Mansell (1979) in his book *Anatomy of Architecture* presented the styles of European architecture through analytical study of a range of architectural forms. The *anatomy* of these forms was presented through a series of cutaway drawings

illustrating the inside of the buildings. Some more recent works using the term *anatomy* include *Graphic Anatomy* by Atelier Bow-Wow (2007), *The Works: Anatomy of A City* by Ascher (2005) and *Anatomy of A Chinese City by* Batzenschlager and Pybaro (in Quirk, 2013). These works utilize various ways of representation to illustrate the inner part of buildings or cities, while at the same time providing detailed descriptions of each part.

The relevance of anatomical study of human body in architecture is also present through the idea of metaphor of human body. Forty (2000) discussed the way architecture took certain metaphors from human body, such as 'circulation' has been used to describe human movement within the building, as a metaphor of the movement of blood around the body. Such use of metaphor not only indicates "the correspondence between the flow of substances around the bodies and around buildings", but rather it enhances the view of building as "enclosed, self-contained systems" (Forty, 2000, p. 94).

The dissection method is considered as an important part of anatomical study as it provides understanding on the correlation between the structure of human body (how it is put together) and how it functions (Gunderman & Wilson, 2005). Such structure-function relation is parallel to the view of function in architecture as a biological metaphor: "descriptive of the purposes of the parts of the construction relative to each other and to whole" (Forty, 2000, p. 175), and that the correlation of parts incorporates "functional interdependence between the various organs or systems of the body" (Steadman, 1979, p. 33).

Architectural Space, Anatomy and Interiority

At least there are two key concepts emerged from the above understanding of anatomy, dissection method and how they relate to architecture and space. First, anatomy deals with the **inner** part of a body; it is basically "the knowledge of the human interior" (Gunderman & Wilson, 2005, p. 746). In medical study the term 'body' primarily refers to human body but it is possible to extend this term into any forms of 'bodies' – living as well as non-living bodies.

The study of anatomy offers the acquisition and development of knowledge of bodies by understanding their internal structure. In this way, anatomical study of space should be able to depict the "interiority" of a spatial setting. Interiority refers to "the abstract quality that enables the recognition and definition of an interior" (McCarthy, 2010). Through the anatomical study of space, it should be possible to identify each element of space and identify the quality – both physical and subtract qualities – of each element which eventually will define the quality of the whole interior space. In particular, the anatomical study of space allows the discovery of the insidedness of architecture. "What is inside is not visible or possibly not yet visible; it requires discovering" (Franck and Lepori, 2000, p. 12).

Secondly, the study of anatomy emphasizes on the importance of understanding elements as parts of certain **system**. The definition of anatomy above suggests that anatomy deals with the study of parts of body to understand their various properties: position, relations, structure, and function. The process of dissecting human body involves thorough observation to understand the properties and characteristics of body parts, but each of these parts is also studied in relation to other parts and how together they form certain bodily system.

In design process, it becomes a main responsibility of architect to address the relationship among human system, environmental system and building system (Broadbent, 1988). In this way, the physiological as well as psychological needs of human body should be balanced with the technical and functional system requirements in the building as well as its relation to environmental contexts. This process requires the way of thinking architectural space as comprising of different systems that work together.
The idea of interior space as "a system of objects" (Baudrillard, 1996) highlighted the meaning of each

interior element as a part of whole, larger meaning of space for human being. The functionality of the whole system refers to the ability of a certain object to be adapted to a certain order or system, and to be integrated into the whole scheme. The anatomical study of space requires the thorough analysis of each part of space not as separate, independent element, but as a part of the whole system of space. It allows the discovery of the internal structure of space, both the structure of design and the structure of atmosphere (Baudrillard, 1996) that both form "a single *functional* system" (p. 30) – that is the interior space for human.

Dissecting Space, Representing Interiority

If the dissection method in anatomical study of human body involves the actions of cutting up the physical human body, then how could it be applied in the anatomical study of space? Various works have indicated that the study of anatomy of space requires the sections (or dissections) and the sectional drawings as a mode of inquiry and representation.

There were some works that literally 'cut up' the buildings or objects. The works of Gordon Matta-Clark, *W-Hole House*, *Splitting* and *Bingo* were among the literal actions of dissecting buildings by applying standard orthographic techniques as "objective, intellectual approaches to dividing the form-shape of whole objects" (in Walker, 2009, p. 39). Through his cutting projects, Matta-Clark attempted to pose important questions regarding the construction, architectural form and inhabitation. The idea of interiority was challenged in terms of the extent to which the cutting of the buildings might alter and intervene with the form, experience and perception.

Dissection or cutting is also performed graphically, as a mode of architectural representation and as a way of depicting the inner part of architectural space. The importance of section as the key modes of representing interiority was evident in Periton's analysis of section drawings of nineteenth century Parisian apartment blocks. The sections were able to illustrate "the anatomy of the new metropolis... the solid containment of the interiors... At the same time, ...the simultaneous lives of the inhabitants, and the hidden links between them" (Periton, p. 300). In this way, the section drawings became a way to depict both interior boundaries and inhabitation. Quite different drawing techniques with similar purposes were also performed by Atelier Bow-Wow (2007) in *Graphic Anatomy*, utilizing sections and sectional perspectives to illustrate both the constructional details of the space and the functionality for the users.

Thus it is evident that certain forms of drawings and images, especially those that could represent the sections of space, are significant part of the anatomical study of space. These types of drawings could depict the internal part or internal structures, and thus become important in the process of acquiring knowledge in order to understand what is behind the surface – both in terms of physical structure and functionality.

ANATOMY OF SPACE IN THE PRACTICE AND PEDAGOGY OF INTERIOR ARCHITECTURE FOR WELL-BEING

The anatomical approach becomes particularly relevant to the study of interior space because the approach could depict the interiority of the space through analytical inquiry of interior elements and their relations to interior system. This approach may support the role of interior architecture as the supporting agent for human well-being (Smith et al, 2012) by defining the ways interior elements could together form the functionality of the spatial system to support the well-being of the users.

Interiority is understood as both controlled and controlling environment (McCarthy, 2010). This suggests the possible interdependence between interior boundaries and human inhabitation. Defining the

interior boundaries – comprising of spatial objects and elements – could not be performed completely without understanding the functionality required for the human needs and actions within. Both the physiological and psychological needs of the users need to be considered (Ulrich et al, 2008) and each of these needs would correspond to the specific functionality of space that could be defined into certain interior system and furthermore broken down into various interrelated interior elements.

There are various ways in which the anatomical study of space could define the process of interior spatial study, design or intervention. The following two cases will demonstrate the possibility of spatial intervention based on the understanding of the anatomy of space. These cases were the projects performed by the students of architecture and interior architecture at Universitas Indonesia. The first case was a studio-based project and the second case was a community project in which students directly interacted with the community as the space users and developed a spatial intervention to improve the quality of living space for the community.

Case #1: Anatomy of Space for Active Body

The first case was the students' studio project of creating 1:1 scale model of space for their own active bodies. The purpose of the project was to promote students' understanding of the basic physiological needs of human being to actively move while at the same time to be protected, to experience comfort and to interact with environmental stimuli through various senses.

Understanding the anatomy of space for active body requires a clear definition of what spatial system to be developed and what the purpose was. The students began by defining the main idea of the space that they will create – for example, a space for jumping, a space for experiencing tension, etc. These will become the main functionality of the system that needs to be fulfilled. The next step was to depict the properties of each element that would be involved in the spatial system and elaborated how each element interacted with human body in order to fulfil the purpose of the space for certain bodily experience.

Figure 1 illustrates some of the 1:1 scaled models created by the students in the process of exploring the idea of space for active body. The models consisted of various spatial elements; each of them was carefully thought and crafted to ensure the expected performance in relation to the human body. The process included the students' hands-on experimentation with the physical models (including testing with their own bodies) as well as the representation of conceptual ideas through drawings and diagrams (especially sections) depicting the whole system and each elements within the system.

The idea of interior space for well-being was introduced through this exercise especially by emphasizing the importance of defining spatial elements for human needs, and the importance of paying attention to every single detail of spatial elements. This becomes an important foundation for understanding further the role of interior architecture to respond appropriately to the users' physiological and psychological needs.

Case #2: Anatomy of School Library as Learning System

The second case was a community project performed by the third and fourth year students as a part of their social responsibility to the society. The brief of the project was to transform the interior library space in primary schools, from abandoned, uninteresting space into 'the heart of the school.' The intervention of the interior space began by defining how the spatial system of the library is expected to work to perform the role as 'the heart of the school.' The space of the library needed to be transformed in such a way to form a system that works well to promote literacy learning among the children – just like a human body system works well to perform certain bodily function.

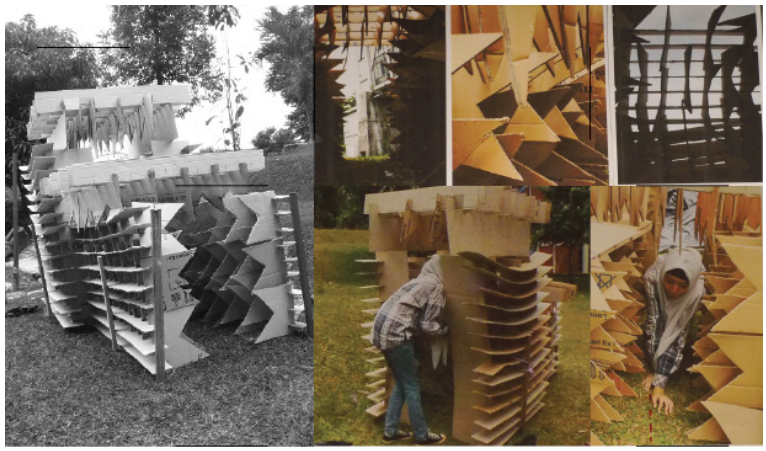

Figure 1. Space for active body consisting of spatial elements
that correspond to the body physical needs
Source: D.W. Nabilah, 2013

The functionality of the system could be possible by introducing the presence of components that contributed to that functionality. This included components that promoted various kinds of literacy learning related to the roles of library, as well as the components that offered medium of involvement, engagement and participation of the children as the main users of the library. Each required components were then crafted into different forms of interior elements or objects and positioned carefully in order to work together to activate the library space. Figure 2 illustrates the diagram of library space system that incorporated various spatial elements and objects that connected to the main functionality of the library as 'the heart of the school'.

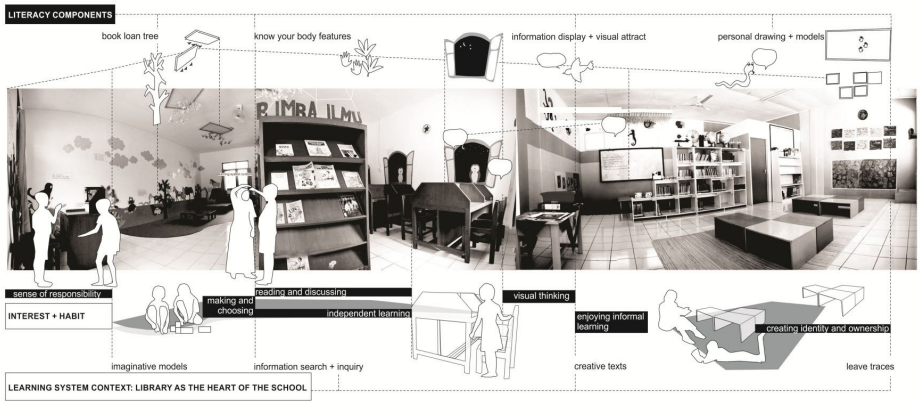

Figure 2. Elements of library space and their contribution to the whole
spatial system of the library as 'the heart of the school'

The main lesson learned from this project for the students was that the intervention of an interior

space required an understanding of the holistic functionality that was expected to work, and that the properties of the elements could only be defined after their relations to the holistic idea became clear. The process of spatial design was not merely the crafting of separated, independent elements (as might be visually observed in the final product) but how they were integrated into a whole, complete system.

CONCLUDING REMARKS

The understanding of anatomy of space offers possibility to comprehend the interior space as an integrated spatial system – just as human body, in which all elements in it have a clearly defined relationship to one another and together they contribute to make the whole system works properly. Anatomical study of space allows the inquiry into the properties and physical structure of spatial elements as well as their functionality in fulfilling certain needs of human body. Therefore the study and design of interior space through anatomical approach might become an important foundation for design practice that could sensitively respond to various space uses and space users. In particular the understanding of interior space as a spatial system for human bodily needs would promote the designers to thoroughly consider how the elements of interior spaces are created, composed and assembled to promote the users' well-being.

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The 1:1 Architectural Model as Performance and Double

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ABSTRACT

Generally, the architectural model is thought of as an expression of material exploration and experimentation, utopian ideas and speculative construction. Together with drawing, the model is the designer's main communication tool, and typically, the scaled-down model invites the viewer to look but forbids entry. The space that the scaled-down model suggests through abstraction and representation cannot be 'felt' (Merleau-Ponty), the full scale inhabitable model on the other hand elicits affective responses. And while the 'space physicality' (Husserl) of the 1:1 model remains a simulation, its potential for inhabitation makes it a temporary 'home' and the model space a strategically staged interior. The 1:1 model asks from the viewer to become a co-actor in the making of the model space, in the process completing a site-specific performative environment where exteriority and visuality are no longer privileged over interiority and haptic sense. This paper interrogates the 1:1 model as a *performance of inhabitation* and looks at the role of the full scale model in architecture exhibitions, ranging from Mies van der Rohe's 1927 and 1931 exhibitions, *The Dwelling* and *The Dwelling of Our Time* respectively to contemporary examples.

Key Words: architectural model, architectural doppelganger, exhibition, interior

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> *We have tried very hard to learn that external things are not as they appear to us--well, then! The same applies to the inner world!* (Nietzsche, n.d: 116)

This paper expands the authors' ongoing investigation into the phenomenon of the *architectural doppelganger from the perspective of site rather than subject*, focusing on the architectural model as performance, and arguing through close readings, that the relationship between the model and its realised sibling is a performative one, one that creates an event (Brejzek and Wallen, 2013).

Our research explores such architecture or spaces that shows themselves in more than one place and includes structures that have been built at different times and urban spaces observed over extended time periods. This specific field of observation and analysis comprises an expansion of the notion of the architectural doppelganger as one of 'original and copy' and rather suggests that the double is very rarely an identical twin or 'faithful' reconstruction but is much more likely to present as an uncanny construction, realised across several sites, in diverse scales and temporalities. With this recognition, it is the differences rather than the similarities between the objects that elicit critical analysis and contribute

to the evolving definition of the *architectural doppelganger.* If the doppelganger, as is suggested by the meaning of the word in the German original, really does 'walk' (German: *gehen*) and if this walk is 'doubled' (German: *doppelt*), the phenomenon of the doppelganger might be considered to describe an activity. A close reading of the architectural doppelganger therefore must include an overall discussion of the architectural model as a practice of making and representation and further interrogate the relationship between model and building, a relationship that is, as is the doppelganger, always 'self' and 'other', possessing material identity as well as representing conceptual processes at the same time.

> *Today abstraction is no longer that of the map, the double, the mirror, or the concept. Simulation is no longer that of a territory, a referential being, or a substance. It is the generation by models of a real without origin or reality: a hyperreal* (Baudiliard, n.d: 2).

As an expression of material exploration and experimentation, utopian ideals and speculative construction, the architectural model continues to occupy a critical role in the development of spatial ideas across a range of disciplines including stage design, exhibition design, interior design, installation art and architecture, yet the model has long led a shadow existence in spatial discourse.

The model makes an appearance in two distinct phases of the design process, the first being the conceptual development phase where the model is used to generate form, resolve issues of materiality and give physical manifestation to conceptual and programmatic ideas. In this phase of model making, a non-linear dialogue exists between the emerging artefact and the emerging idea, constituting an iterative and incremental self-referential method of continuous refinement. The outcome, or: outcomes of this phase are generally referred to as (a) **process model**(s). In a second, more stable phase, the model is constructed and used as the representation of a completed design, either to communicate a proposed scheme or to exhibit an existing structure. In this case, the dialogue occurs between the model and that what it represents in past or future and it is commonly referred to as a **representative model.**

Intertwined with the creation of the *process model* is the art of drawing for it is through both drawing (and, initially, sketching) and model making techniques that almost all contemporary design finds form. Intriguingly, but a topic of a separate discussion, this observation holds true for both analogue and digital models. While the argument that *drawing is thinking* is well advanced,

> *The hand is the instrument of instruments' wrote Aristotle in De Anima 3.8, arguing that the hand is both the most intimate, as well as the most complex instrument, to master. The hand can, however, be also regarded as the instrument that most directly communicates with the viewer* (Brejzek and Wallen, 2014).

it is less developed for the relationship between model making and thinking. This paper argues that the dynamic interplay between two-dimensional sketching and drawing and the three-dimensional process of modelling is a highly articulated form of spatial thinking that arises between the acts of developing and describing form through drawing and that of the carving out of a space.

The model that is characteristic of spatial design practices evolves during the intense period of design or creative development and has at its beginning objects that may have no scale, function or possibility of realisation through to objects that are precisely scaled, functional, engineered and 'life like'. With the designer's developmental shift from the process model to the increasingly resolved representational, the issue of scale increases in importance, coming to a point in a decision for any possible scale between the *finescale miniature* and the *life size model*, informed not only from a pragmatic perspective but also from an emotional and theoretical positioning. The space that the scaled-down model suggests

through abstraction and representation cannot be 'felt' (Merleau-Ponty) whereas the full-scale model on the other hand elicits affective responses. And while the 'space physicality' (Husserl) of the 1:1 model remains a simulation, or, with Baudrillard, a *hyperreal,* its potential for inhabitation makes it a temporary 'home' and the model space becomes a strategically staged interior. The 1:1 model asks from the viewer to become a co-actor in the making of the (model) space, in the process completing a site-specific performative environment where exteriority and visuality are no longer privileged over interiority and haptic sense.

> *Rather than seeing model and reality as polarized modes, they now function on the same level. Models have become co-producers of reality.*
>
> *Olafur Eliasson, Models are Real: 20.*

Life-size or 1:1 architectural models in exhibition have long been associated with an increased visitor engagement and, indeed, with a direct experience of architecture, thus shifting the architecture exhibition from a space of observation toward a 'practised space' activated by the visitor's behaviour (de Certeau, 1984). In 1927, Mies van der Rohe and interior designer Lilly Reich conceptualized and designed part of the Werkbund exhibition *Die Wohnung (The Dwelling)* in Stuttgart as inhabitable interiors ("Die Wohnung", 1927) . Fragments of future buildings were constructed in the Central Exhibition Hall, complete with furnishings and, described in a 1927 review as 'tasteful provisory buildings', the scaled building fragments were to perform the new way of living, made easier and more efficient through the use of mass-produced lighting, heating systems and kitchens and shown in a staging of the future of daily life rather than in a mere mode of a display of desirable objects (Schmidt, 1927). The exhibition was favourably received at the time, and understood as a direct and tangible answer to the question the exhibition poster posed: "Wie wohnen? (How to Live?)' with the fragmentary, inhabited interiors shifting the future of housing and living persuasively closer to reality. Mies and Reich continued and expanded their exhibition practice with the 1931 *Die Wohnung unserer Zeit (The Dwelling of our Time)* in Berlin as part of the *Deutsche Bauausstellung (German Building Exhibition)* in the exhibition hall II of the overall trade fair. Within the hall they constructed 23 living units, amongst them, clearly reflecting the overall mood in the middle of the economic crisis that was strangling Europe at the time, a 'dwelling for the minimum existence', as well as a 'spatial program for the family of an intellectual worker', a 'house for a sportsperson' and the 'house for a childless family' (Tegethoff, 1981). While the exhibition was criticized heavily for advocating an impoverished way of living in an already impoverished economic climate, statements such as that by Wilhelm Lotz from 1931 show that Mies's intention to create an exhibition as a site of experience and discovery was successful in pointing to a different future, one freed from the plush and burden of representation of the 19th century towards a hopeful future.

> *It is important and significant, that such beautiful things as these residential houses with open spaces and their lively connection between interior space and outside space have been created by a hand, driven by an artistic and innovative sense. Here, one likes to breathe, here one feels that there are still powers that have the courage to think freely and unhindered into the future* (Lotz, 1931).

In the 1931 exhibition, and in a surprisingly innovative and theatrical approach, actors were employed to sit in the chairs, smoking a pipe and walking around, thus turning the exhibition artefact into a stage. Rather than showing abstraction in an abstracted mode of representation, through scaled models, plans and drawings, Mies, in close collaboration with Lilly Reich created a fragmentary double of the future to come, as a unified entity of building, interior and furniture.

Thirteen years earlier, in 1914, the other great modernist, Le Corbusier had begun to develop a building system that was to enable the mass production of housing, called the *Dom-ino House*. As an open floor

plan structure, elements could be combined and multiplied both horizontally and vertically. While the original Dom-ino House developed through drawings, was never constructed, the open floor plan structure with a free interior was to influence Le Corbusier's spatial language immensely. One hundred years later, in 2014, on the lawns of the Giardini directly outside the Venice Architectural Biennale's Central Pavilion, *Fundamentals,* Le Corbusier's building system was translated into an abstracted 1:1 model.

Fig 1. Maison Dom-ino, Venice Architectural Biennale 2014. Source: Valentin Bontjes van Beek

In this *life size model*, realised by Dutch architect Valentin Bontjes van Beek with students from the Architectural Association in London, a twentieth century icon of modernist rational architecure is reinterpreted through the shift of scale and materiality originaly concieved of in concrete in Venice concrete is replaced by engineered wood.

In the context of curator Rem Koolhaas's overarching thematic for the 2014 architecure Biennale, *Fundamentals, understood as both a focus on the* construction elements of architecture and on modernism's legacy spanning 1914-2014, the *Dom-ino* house relates to the enduring influence early modernism's desire for an urbanistic master plan through modularity and a material exploration that would enable mass construction has had on the shaping of our cities until today. With the nearby French pavillon's theme, *Modernism, Promise or Menace*?, a spatial discourse is opened up between Prouvet's anonymous Parisian satellite city and the singular structure of the Dom-ino as a playhouse, a site for inhabitation and interaction.

Le Corbusier's *Dom-ino* house is not a complete building but rather a system, stripped of external or internal walls, windows or any other form of *fitout,* that had been devised as both a rational building system in response to a period where much of Europes housing stock has been depleted by the first world war, and a structure without loadbearing walls allowing for the free placement of internal/ external walls, facilitating Le Corbusier's planning ideology of *plan libre*.

On the lawn of the *Giardini* in Venice, Le Corbusier's iconic *Dom-ino* House prototype at a scale of 1:1 is seen like it has never been seen before. While the Dom-ino maybe one of the most recognised symbols of twentieth century architecture it has, previously to only been known through Le Corbusier's original 1914 drawings and possibly, by means of the architects wide-ranging influence, through actual

buildings one may have visited.

Van Beek's 2014 *Maison Dom-ino* is not a reconstruction but rather a spatial re-enactment, a practice adapted from performance art, an ephemeral practice that can only be remembered through audio-visual documentation or the live presentation, possibly in a different location and with a different performer. The Venetian 2014 re-enactment brings to the fore what Eliasson, through a phenomenological and relational reading, calls the 'reality' of the model as practised space – the model as performance. For the visitor of the new temporary Maison Dom-ino without walls, the experience is of a *double walking* in an *architectural Doppelganger space*. Provoked by the reference to Le Corbusier's system of spatial relations, the visitor walks at the same time through the actual space and simultaneously relates this space back to his previous mental navigations through the architect's drawings.

The Biennale visitor temporarily inhabits what appears to be the skeleton of a building only, and though a spatial experience is anticipated, such experience remains locked in the conceptual frame of an inner projection of the finished building. Evoked by the familiarity with the 1:1 model, the 2014 *Maison Dom-ino* evokes an uncanny architectural *déjà vu* or *source memory*.

The change of materiality from Le Corbusier's envisaged reinforced concrete to the Biennale's timber replaces any notion of the building's permanence with that of a temporary demountable installation. Indeed, the Venice model arrived in the Giardini in Ikea style flat-packs and will be shipped for future displays in London and Tokyo once the Biennale ends. The structure's lightness and immateriality adds to the success of van de Beek's project in suggesting but neither realising nor replacing the 1914 plans but rather by inferring that earlier, planned but unbuilt project. As an architectural double, the re-enacted *Maison Dom-ino* relates to and infers its unseen 1914 architectural other.

> *The miniature does not attach itself to lived historical time. The reduction in scale which the miniature presents skews the time and space relations of the everyday life world [...] the miniature creates an "other" time* (Stewart, 1984).

Fig.2. Model, Henan Provincial Museum
Source: Prof. Dr. Gary L. Todd

The unseen double from another time is further explored in the example of a 192 cm ceramic model from the Chinese Eastern-Han Dynasty (25–220 CE) of a house, watchtower and enclosed bridge that is

currently displayed in the Henan Provincial Museum in Zhengzhou, China. Here, the model has survived while the actual building has been lost. The viewer in the museum is locked in the uncanny relationship between the finescale artefact itself and what it represents. Unlike in the example of the re-enactment of Le Corbusier's *Dom-ino* in 2014 Venice, the authors have no prior knowledge of this building type, which arguably remains outside of their Eurocentric collective spatial consciousness, or source memory. The model is intriguing as it speaks in two directions: firstly, it relates back to the excavation site and to the uncovered historical layering of what can often be urban doubles, structures and towns built upon the remains of the previous ones. Such architectural doppelgangers exist across time, and their dialogue is one of a temporal and layered materiality of one layer on top of the other, complicated with the prevalent reuse of materials over and over again through the different built stratas.

The second direction relates to what the excavated artefact infers: it allows the viewer to construct a seemingly real historic Chinese manor house even though we have no evidence of its actual existence. This 2m high-detailed ceramic model may have been merely the Chinese equivalent of the European dolls house where the model provides but a structure for a child's imagination within specific cultural constraints. However, not knowing the model's origin does not diminish the power of this artefact as invariably the model sets up specific dialogues between materiality, scale and symbolic representation, languages that in this case remain indeterminate and beyond our reach to decipher. Inconclusive, the Henan Model sets up an inherently performative and infinite loop between visitor, object and space.

> *Large issues from small...thanks to liberation from all obligations of dimensions, a liberation that is a special characteristic of the activity of the imagination* (Bachelard, 1994: 154).

Fig. 3. Caruso St John Architects and Thomas Demand's model of the Zurich *Nagelhaus*, Venice Biennale 2010.
Source: Caruso St John Architects

Caruso St John Architects and German visual artist Thomas Demand's model of the Zurich *Nagelhaus* (Nail House), (Fig #3) is a different double yet again, the abstracted model of a demolished iconic original that had been built on another site and at a different time (Fig #4).

This collaboration between the artist and the architect became, when exhibited at the Venice Architecture Biennial 2010 as a full-scale temporary construction, the 'artificial memory of an event twice removed'

(Caruso St. John Architect, n.d). Having won First Prize in the City of Zurich 2007 competition for the revitalisation of a former industrial area in Zurich-West, the *Nagelhaus* was modelled on a residence in China's Chongqing that resisted demolition through developers for several years and as a result stood alone in the centre of an enormous building site pit, cut off from water and electricity. Its image had circulated in the international press (Fig. 4) and thus come to the attention of the collaborators.

Fig. 4. Nail house, Chongqing , China
Source: Wikepedia Commons

Their design was to encompass two buildings, small in scale and unusually modest in the framework of the wealthy city of Zurich. Constructed from prefabricated and painted timber, 24h kiosk and restaurant were in fact to look, if not temporary, then definitely similar to the slightly eerie scaled paper models by Demand that had become synonymous with his name. Fuelled by a populist media campaign and outraged by the proposed cost, the residents of Zurich voted against the project and, as happens so often in the history of architecture competitions, the First Prize was never built.

It was perhaps the pure theatricality of the nail house sitting on a ten metre high mound in the middle of a busy construction site that inspired Caruso St John and Demand to propose rebuilding the Chinese built symbol of resistance against accelerated property development in a design competition. Realized in full scale at the Biennale's main Exposition Pavilion, however, the Nagelhaus retained a central feature of the proposed original: at the Zurich site, Escher-Wyss-Platz, the two structures would have just fitted in height underneath the underpass overhead, thus indicating a dwarfing of the built structure by the demands of progress and mobility. Equally at the Biennale, the structure seems to duck underneath the ceiling of the *Palazzo dell' Esposizione*. The two structures both in plan and realisation deliberately look *out of place* and, additionally to scale and material, suggest a *foreign* origin, with Chinese red lanterns decorating the restaurant. Similar to the re-enacted *Maison Dom ino,* the 1:1 model of the Nailhouse while not fully resolved or detailed can be entered into. The missing walls of van de Beek's performative re-enactment resound with the interior of the Venice nailhouse that was made to look like a theatre backdrop with wooden bracing throughout, emphasizing the scenographic quality of the 'fake'.

The case studies introduced here to help interrogate the role of the 1:1 model as contributing to both a critical and relational practices of space differ greatly in their time and purpose of production. The re-enacted *Maison Dom-ino* from Corbusier's System B enables at first sight just a temporary performance of inhabitation, yet at the same time the experience of the structure connects the visitor back to what

psychologists call the source memory, which in this case was the first visual encounter with the architect's original drawings from 1914. The Henan example where the ancient model has survived, yet there is no building to relate the model to opens up the miniature of the model towards a world of imagination as the viewer invariably attempts to connect the model with a possible building. Finally, Caruso St John's and Demand's model 'twice removed', once from a real building with its own specific narrative, the demolished Chinese nailhouse and the second time from the failed Zurich architecture competition, is both doppelganger and performance. All of the above architectural models operate as an end product in themselves, rather than as a step toward a final design. While it is impossible to date the mysterious Henan model as to a precursor, as a parallel object or as a model taken from a built structure and scaled down, it must be understood as an independent material statement, simply because archaeological findings could as yet shed no light as to its context.

The 2014 *Maison Dom-ino* however, as much as Caruso St John's and Demand's 1:1 model of the *Nailhouse*, equally unbuilt (in Zurich) and demolished (in China), constructed and exhibited within an arts context, imply beyond their materiality, the inscription of time, both past and present. *Maison Dom-ino* points back to Le Corbusier's 1914 plans to revolutionize the disastrous post world war I European housing situation with a blueprint for modularity and mass production, a vision that remains highly influential today. In the present time of the Venice Biennale 2014, the 1:1 model acts as a stage for the visitors. The active inhabitation of the model is encouraged, with stairs to climb, platforms to cross and, as the recently added pictogram suggests, time spent to linger, to sit down, and to read. The visitor's temporary inhabitation activates the model and shifts its immediate purpose to one defined not by distant contemplation, but rather by the immediacy, the liveness and the 'here and now' of performance. In scenographic terms, structure (environment and stage) and visitors (performers) are engaged in the co-producing of space. The space incessantly authored here is a performative space, shifting, permeable and dynamic, unstable even as its purpose, or: program remains unclear. Such *making of space* is mirrored in Caruso St John's and Demand's Venice *Nailhouse* and its scenographic relation is even more transparent due to its method of construction. Unlike the Venetian *Dom-ino,* the *Nailhouse* is built like a classical theatre scenery (coulisse) with front and sides fully articulated, its interior however revealing its temporary and non-functional character. As an enterable scenography, the *Nailhouse* welcomes its visitors as actors, invited to perform the roles of the Zurich commuters who would have entered and exited the *Nailhouse* kiosk, amenities and restaurant 24 hours a day. As performance and double, both 1:1 models shift the notion of the architectural model from one of representation and functionality to one of activation and co-authorship of space. The abstraction and restraint of the 1:1 model takes it outside a conventional theatre context where illusion and make-belief govern the design and materiality of the scenic elements. Instead, theatrical conventions are unmasked and questioned not unlike Bertolt Brecht's V-effect, the alienation effect, achieved by temporary tiered stage constructions and the dissection of the illusion machine of the stage in full view. And while the Henan House operates in a traditional exhibition context as a preciously preserved artefact, the *Nailhouse*, the 2014 *Maison Dom-ino* as well as their precedents from the first decades of the 20th century, Mies's and Lilly Reich's 1927 and 1931 exhibitions, *The Dwelling* and *The Dwelling of our Time* respectively, continue to redefine the exhibition of architecture as inhabitable sites and as performances of inhabitation through the use of the 1:1 model.

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THE DIALECTICS OF THE INTERIOR

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The interior is often referred to as a *slippery* subject, (Hollis 2007: Edwards 2011: Rogers 2012). It is frequently described as a space, a discipline and a profession that is *ill defined*. At its most extreme this perception manifests itself in the view that the subject lacks a historical, theoretical and regulatory foundation, an opinion that is often expressed as a negative evaluation of the discipline of the interior. A standard cliché is that the interior lacks substance and a critical mass in a body of established knowledge.

This paper is called 'The Dialectic of the Interior'. It sets out to position two things. One, is that the 'slippery' quality of the interior is of paramount importance. Far from being a condition that should be viewed as negative, the unfixed nature of the discipline is of extreme importance to the subject. Secondly, and forming the main part of this paper, is the notion that the emphasis of this spatial, disciplinary, and professional ambiguity, manifests itself primarily in the form of a disciplinary *composite construct.* This amalgam forms histories, theories and spaces that incorporate, and are fabricated from, a number of ideas, agents and adapted conditions. These *composite constructs* are conditions that may be described by the origins of a series of *dualities*, each of which is fundamental and particular to the comprehension and construction of the interior. These dualities might often be viewed as at odds with each other. Hence I have named this paper *the dialectics* of the interior. But whilst sometimes considered at odds with each other, it is my suggestion that traditional notions of dialectical conflict, the dichotomy of one idea superseding another, and thus rendering it redundant, is itself an unnecessary diversion. Instead the *dialectics of the interior* are historical, theoretical and spatial counterpoints, joined together into one composite, a construct that affords the subject its dynamic resonance and ultimately its fundamental attributes.

The *dialectics of the interior* are formed from the twofold terms often used to describe the subject. These are dualities such as *Interior/ Exterior*, *Inside/Outside* and *Old/ New*. Then there are more complex dual or *doubled* condition terms that are used: *Public/Private*, *Fake/Real*, *Present/Past*, *Image/Reality* and so on. These are a set of terms and ultimately conditions that are complicit in the formation and existence of the interior, as well as being explicit to the comprehension of inside space. This paper suggests that the comprehension and acceptance of the dialectics of the interior ensures that fundamental to the history, theory, construction, regulation of the discipline is an ambiguity that incorporates a spatial dynamism that embodies these counterpoints and which define a spatial composition incorporating a range of dynamics.

The ambiguities and hence dynamism inherent in the Dialectics of the Interior are intrinsic to the name

of the discipline. Uncertainties about the interior are reflected in its name: *inter* is Latin, meaning in-between, among or during, latterly replaced by *enter*, a space of transition exemplified by a threshold. The threshold denotes the binary of inside and out, a condition that along with public and private, space and its image, exemplify *doubled* attributes that are fundamental to the understanding of interiority. Both Rice (2007) and Tessyot (2013) have described the doubled interior as a *twofold room*, a combination of space and image and as a fluid threshold, demarcating inside and out.

In this paper I will put forward the notion that the duality of the interior revolves around the doubled quality of a number of opposite conditions. The view that the interior is ill defined is crucial to the discipline. The perceived lack of a substantial body of knowledge, a paucity of chronologically defined 'exemplars', a deficiency of regulatory framework, affords the discipline of the interior a critical and decisive unfixed quality. This flexibility is a condition that is actually the *raison d'être* or underlying fundamental principle of the subject, they are conditions that ensure that the interior remains in an unfixed state. This paper furthers the appreciation of this critical flexibility. It argues that central to this fluid aspect of the subject is a spatial and disciplinary ambiguity, a flexibility that can be represented in the form of a composite construct, a combination of a series of elements, ideas, agents, styles, laws, governance that can be borrowed, adapted and applied to form something new; whether a history, a theory a form of regulation or a space.

THE SPATIAL EXPERIENCE IN THE COMPLEX OF MASJID AGUNG BANTEN BANTEN, INDONESIA

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ABSTRACT

The interior design of a building has an influence on the creation of communal activities conducted in the building. These communal activities will give 'spatial experience' to anyone who is in the interior of the building. A different individual may have a different interior spatial experience of the building. On the other hand, the cultural values and the condition of the environment surrounding the *Masjid Agung Banten* complex may also have influenced the interior design. The spaces in the buildings within the complex of the historic *Masjid Agung Banten* are the major important elements because they and the people in them give impressions, messages and sacred atmosphere when either religious activities or traditions are conducted there. The complex of *Masjid Agung Banten* contains historical values. Being in spaces of historical significance always brings back a glimpse of history, recalls the history and the history was through imagination, hence the strength of the past will be able to be experienced in the present. Various activities that occur in the spaces have purposes as a tribute and interpret the history. Although many studies on the historic buildings within the complex of *Masjid Agung Banten* have been done, they only provide general knowledge. This qualitative research has the objectives of giving an overview of spatial quality through someone's 'spatial experience', understanding, assessment and interpretation, to share the meaning and sensation of feelings as a result of interaction from activities that happen in the Masjid Agung Banten complex.

Keywords: The space, The spatial experience, Masjid Agung Banten, Community activities, Tradition

INTRODUCTION

Complex of Masjid Agung Banten in Banten Province, West Java, Indonesia is part of the uniqueness of Banten history, which in the present becomes the icon of Banten Province. The uniqueness gives a spectacular impact, not just a story from outsiders in the pre-colonial times, such as the Europeans, Chinese and Gujaratis, but it is also a pride for the society close to Banten history. Banten, as one of the largest Islamic kingdoms in the 16th to the -17th centuries gives a powerful impact of Islam and culture to Banten community in the present.

The Masjid Agung Banten complex is located in Banten Lama, Banten Province. The journey of the Banten Sultanate gave a history of success, greatness of the Sultan's reign and becomes an attractive point for those in the pilgrimage in experiencing, understanding and finally finding the sensation as well as interpreting the objects and activities inside the complex. The Masjid Agung Banten complex consists of several historical buildings, namely: Masjid Agung as the main building, Tiyamah as the gathering building which has Indische style, located to the south of the masjid, the minaret or tower situated in the eastern side of the mosque building, the Sundial or istiwa and Royal Tomb that is divided into two areas, to the North and South of the mosque building. Among the many buildings in the complex, this article only focuses on the spatial experience of the main building, the northern part of the royal tomb called 'makam serambi selatan'; and the southern tomb called 'ziarah kedua'. The explanation of the spatial quality is through spatial experience which has the possibility to give the knowledge contribution of space quality called interiority.

Research Metodology

This research began in 2011 and is still on going, conducted in the Masjid Agung Banten complex in Banten Province, in West Java. Each observation takes approximately one week. The spatial experience has given the meaning and sensation of space. Direct observations on religious activities inside the masjid agung and the pilgrimage tradition to the Sultans' tombs starts from 8 a.m. until 4 p.m. daily, but in March, 2014,the activities start at 8 am to 10 pm to get the spatial sensation and to get to know the kinds of activities held at night. During the research, the data was obtained from literature and the interviews with local people carried out with the aim to support personal experience.

Spatial Experience: In Theory and Process

Spatial system influences people's space experience process. This system is the integration of the three dimensions of physical elements and certain space, which are interconnected with activities. That system has a close relationship with the social and cultural conditions that occur within complex. The spatial experience can be created because the interaction between people and space could give the sensation of space. The spatial experience also involves the matter of aesthetic, social, environmental activities and functions (Morello; Piga, 2013). To better understand the term spatial, Frampton (1974) has an explanation on the word originally from the English word 'space' which comes from the latin word '*spatinum*.' Whereas the German word for 'space' is *raum* which relates to the English word 'room' which means 'space.' Thus, spatial experience has the same meaning as experience of space.

There is a variety of spatial experience in each building, depending on the physical condition and culture, but the spatial experience of a mosque and its surroundings gives a different and special impression compared with other buildings. This is because it is not only influenced by physical things and culture, but also by the spiritual and beliefs, something unseen but affecting peoples' inner selves (*batin*).

The importance in spatial experience is to find out the quality of the space, not only experience it, but also understand, give assessment and provide interpretation of the space. During the experiencing, understanding, assessing and providing interpretation of a space, a person is in a concious condition. Coghlan (2010) supports the statement, that the process of spatial experience begins with experiencing and understanding. In the process, a person is not only using the five senses to calculate physical factors, such as to see the material, the lighting, the colour and the shape; to listen to the voice from surrounding activities; to touch the texture of material surface, and to smell, such as detect the smells from the surrounding (Ching, 1996; Schittich, 2008), but also includes the memory and imagination matter, such as remembering, thinking, feeling and imagining. It should be remembered that spatial

experience will work and the advantage obtained if it happens in sequence. Knowledge in interiority is possible to be shared with the suitability of the design of physical factors with environment conditions and requirements, such were the supporting statements by McCarthy (2005), in her article – Toward a Definiton of Interiority, as follows:

> 'Interiority is not red, it is not plastic, and it is not 3x5 mm, but it is the possibility of the colored, the dimensioned, and the material manifestations of an interior that might be plastic, might be 3x5 mm, and might be red.'

ACTIVITIES SURROUNDING MASJID AGUNG BANTEN: RELIGION AND TRADITION

Currently there are two general activities in the Masjid Agung Banten complex. The religious activities carried out either in the mosque building or the east porch (*serambi*), are solat, reciting Al-Quran, preaching and the traditional activities, such as pligrimage in the royal tomb of the first Sultan Banten involving certain rituals. There are two parts of the tomb which has always been a place of pilgrimage, the northern area called *makam serambi utara* and the southern area called *makam serambi selatan*. The northern cemetery has a special mausoleum consisting of seven main tombs, which are the tombs of Sultan Maulana Hasanuddin and Queen, the tomb of Abdul Fathi Abdul Fatah or known as Sultan Ageng Tirtayasa, the tomb of Sultan Maulana Muhammad, the tombs of Sultan Nazarudin Abdul Fadhal and Queen and the tomb of Sultan Abu Naser Abdul Kohar. Nowadays, the mausoleum is surrounded by the tombs of families or others with good contributions in Banten.

The southern cemetery is situated near the tiyamah building. There are eleven tombs inside mosque building, and the scale of the space is almost equal to the pewastren. Pewastren is the special praying area for women. The pewastren and a tomb is under one roof with the main prayer hall, but separated a block wall. The tomb's area is located directly behind the pewastren which was built between the years 1580 to 1586, at the time of Sultan Maulana Muhammad. However there is no record in history when the tomb was built. It was suggested that the tomb might have been built after the destruction of the Banten Sultanate by the Dutch and when the centre of the government activity moved into Serang. Banten Lama was deserted, the conditions removed from the attention of the public.

Islam and local culture have a dominant influence on Banten activities around the mosque. Many religious activities such as prayer, reciting Al-Quran and preaching are carried out in the mosque. Interesting activities happen in the Masjid Agung Banten Tomb area, besides the rituals of pilgrimage, reciting the Al-Quran and praying, which should not be implemented in the tomb area. This condition is supported by a statement from Juliadi (2007) in his book – *Masjid Agung Banten: Nafas Sejarah dan Budaya*, that the existence of Masjid Agung Banten as 'breath of the history and culture of Banten' became 'the spirit' of islamic social lives, but those other activities began to change the religious, the knowledge and the historical value into a value of superstition or magic and the people performing the ritual pilgrimage believe it will bring a blessing to their life. Actually, the mosque complex as the tangible cultural heritage are closely related or connected with intangible cultural heritage. One of the intangible cultural heritage is social practice that happen surround mosque complex especially in royal tombs area (north area), such as ritual. Over the thousand years, animism as a belief in Java including Banten, before the coming of Buddhism and Hinduism. There is the similar ritual with animism ritual, such as meditation in sacred place. Meditation consequently happen in Masjid Agung Banten complex, especially in royal tomb of Sultan Maulana Hasanuddin and other than meditation are recite a certain surah, burn the *kemenyan* or incense. The interview in August 2013 with Tubagus Abbas Wase, a caretaker member of the Masjid Agung Banten complex, called '*Kenadziran Kesultanan Banten*,' supported the statements that the Banten community or even those outside Banten, have a strong belief that doing a special ritual at the tomb of Sultan Maulana Hasanuddin as the first Sultan of Banten, could give safety and welfare to

their life (*zahir batin*). It is also believed that every Thursday night (*malam Jumaah*) the spirit of Sultan Maulana Hasanuddin surrounds his tomb.

Figurer 1. The Crowd of People in Front of the North Tomb (The First Ziarah) Gate (photo by author, 2014)

Figure 2. Pilgrimage Ritual Activity at the North Tomb as the first ziarah (photo by author, 2014)

The Masjid Agung Banten is visited by many people every day and the tombs are their goal. The intensity of people varies, but Thursday nights and Sundays have the most activities, and can be so crowded by 'the ocean' of people, especially at the north tomb as the first ziarah (fig.1 & 2). The south tomb as the second ziarah or the mosque is in the opposite situation from the north tomb, with the exception of the east porch of the mosque which might become a relaxing space for the people.

Religious activities at the mosque will increase during the Jumaah prayers, Eid and tarawih prayers during Ramadhan. Besides prayer activities, the mosque will be lively during breaking of fast, and the local tradition Al-Quran recital during Ramadhan.

Figure 3. Pilgrimage Ritual Activity in South Tomb as the second ziarah (photo by author, 2014)

THE SPATIAL EXPERIENCE IN MASJID AGUNG BANTEN AND IN THE SULTAN'S TOMB

Masjid Agung Banten is an ancient mosque and also called *Wali* era, built at the time of Islam spreading and growing in Java by *Walisongo* around 1400. This kind of mosque built along the North coast of Java usually has a special roof design called 'tiered roof' or in *Bahasa* Indonesia referred to '*atap tumpang*.' The *Wali* era mosques are Indonesia's traditional mosques.

Spatial experience in Masjid Agung Banten as the ancient mosques is loaded with the meaning of history that always flashed back to the past, remembering and experiencing the history by using the mind, therefore the strength from the past can be experienced in the present. In addition to the history meaning, the experience inside the Masjid Agung and tombs area has a unique and interesting value, because it involves so much feeling (*perasaan*), and feeling is part of the interpretation in the final step of spatial experience. Masjid Agung Banten and royal tombs as public symbols, as places of high imageability because include to sacred places that has power and meaning relate to local and national history.

The Spaces: Masjid Agung

Masjid Agung Banten was initially built as a place to meet the needs of Muslims for religious activities which were increasing at the time. The mosque was an essential feature of the religious centre situated in the West of the town square of an Islamic kingdom in Indonesia (Tjandrasasmita, 2000). The main building of the mosque has the most sacred space in the Masjid Agung Banten complex. The floor plan of the mosque is 25x25 m, but the interior of the main space looks rectangular-shaped, with the size of 25x19 metres. It is different from other ancient mosque forms that are usually square, and this happenned because the mosque interior is divided by *pewastren* and the south tomb.

Figure 4. The Interior of Masjid Agung Banten (photo by author, 2013)

The Layout and Form

The form and layout of the mosque can be seen from various points of view. From the knowledge of interiority, the plan and interior of the mosque are made in wide-scale and a simple shape in order to accommodate the crowd. It is better to use the material and form which can provide comfort at the time of worship, where the surface of material is smooth, not rough, and the forms will not cause injury. If seen from the influence of the culture, the nature of the ancient mosque in Indonesia is influenced by forms of Javanese architecture namely *Joglo*. *Joglo* is one of the traditional Javanese Houses related to the Javanese elite. *Joglo*, is probably the original Javanese culture, as there was no previous culture influence, because the figure of a *Joglo* was never found in paintings or carvings on the walls of any temple or *candi* (Tjahjono, 1989). The interior design of the mosque is very simple, there is no special Islamic art such as calligraphy on any element design, walls are in white paint, the mihrab also has nothing special except for decoration details on each side, there are two pilasters, contrasting the wood mimbar with reddish brown colour on the outer and green on inner, with an interesting assortment of decor and roof shape similar to a pagoda roof, because of which the mimbar becomes a very interesting element in the mosque interior. The simplicity of design is close to the rules of Islam, that it is best not to use a lot of decorations, thus the focus can be on worship activity. Seen from the influence of philosophy, Soedarno (1988) stated that traditional buildings, especially mosques, were built according to the rule of local traditional philosophy. This rule is generally inherited by generations orally and in writing, usually written in special books, such as the books of *Primbon Sabdo Pandito*, *Primbon Betaldjemur* or *Primbon Kawruh Griyo*. The books usually have the rules and tradition that rooted in the past and growing into a future, such as the direction of the building, the layout and building plans, the rituals during building construction and the materials used.

The Entrance

There are three entrances to the mosque, in the north with a rectangular shape, the second entrance from the *pewastren* room and the main entrance close to eastern porch (*serambi*), with five arc-shaped doors with scale similar to human height, 160cm, in contrast with the size of the door of religious buildings in general. The philosophy is, anyone who enters the 'House of Allah SWT' has equal value, needs to bow and feel small in front of Allah SWT and the opinion about the door size being probably a tribute to the mosque; this is also available in the Hadith and al-Quran, Surah at-Taubah, verse 17-18, concerning those who glorify the House of Allah SWT.

The Pillars and The Footings

Inside the mosque there are 24 octagonal wood pillars standing as the substantial structure, supporting the five-tiered roof. The pillars contains a spiritual meaning, according to the late Hatta Kurdie who was interviewed on March 2011, who considered pillars as the medium to send prayers (*doa*) from the real world (*alam nyata*) to the highest place, the place for Allah SWT. A repetitive pillar arrangement creates 'vertical' lines and a rhythm in the mosque space. The repetition of these pillars gives the impression that the space is tall and strong. These pillars standing on stone footing, in the Indonesian language is called '*umpak*,' the shape is similar to the pumpkin, the symbol of prosperity in Chinese culture. But the opinion evolved, after looking at the bottom of the stone where there are ornaments with different motifs on each stone, and due to those motifs, the stone shape is more like lotus flower buds. The relation between the form of the lotus and a mosque building is that the Lotus has a relationship with the Islamic belief closely related to the Malay (Mohamad, 1984; Azizi; Aldrin, 2003).

The Accoustic, The Lighting and The Circulation

At the time when Masjid Agung Banten was built, surely there was no electronic ware to support the circulation of sound inside the mosque. The distinction of the mosque is the noise that occurs outside the space, not disturbing the activity inside the mosque because it is protected by the 60 cm wall thickness, which helps the quality of the interior accoustics. Initially, when the imam preached about Islam, he sat or stood in the centre of the space and people sat in front of him. In the year 1323 Hijriah or 1900 CE, there was a waqf from Nyai Haji Irad Jonjang Serang which was the mimbar. The data of the waqf was written on the front of the roof of the mimbar in Arabic letters. Although the damaged letters made the sentences imperfect, there is a clear meaning. Whenever the imam gives a sermon, he will use the mimbar, and nowadays it can be seen that the mimbar is placed above a rectangular-shaped base, sized 385cm x 194cm with a height of 90 cm. There are 5 steps to reach the mimbar. When the imam speaks on it, at the higher position, it is possible to attract attention from people without using the microphone.

The wind circulates through the holes at the roof level, the windows and air-shaft in the walls, and supported also by the existence of five ceiling fans to banish the heat if the too many people crowded inside the room and give the circulation of wind that cools evenly. A dreary room gives a nice and spiritual ambience, from morning to night, using natural or incandescent light, with an impression of religion and sacred feeling. The relationship between spatial element, activity, culture and tradition of the neighborhood, is closely related to spatial interpretation by the people. The combination of physical elements make it possible to create the quality of space, moreover it is able to give the 'spirit' to the space (Bacon, 1974) and the spirit give the impact to personal experience that gives peace of mind, but different person will give different interpretation in the final step of spatial experience.

The Sultan's Pilgrimage: The North Tomb and The South Tomb

The North Tomb became the first place for local pilgrimage. This tomb is divided into three spaces based on honor hierarchy, which are the north tomb porch that can be accessed from north tomb gate, a tomb of Sultan Maulana Hasanuddin inside special mausoleum called '*cungkub Hasanuddin*' and cemeteries that surround the *cungkub*. The centre of the area is the *cungkub*, the tomb of the first Sultan of Banten Sultanate. According to a hierarchy of the honor, the interior of the *cungkub* became special, the floors covered by carpet with patterns of prayer mats (*sejadah*), equipped with ceiling fans and lights. Every Thursday night, the door of the *cungkub* is opened and everyone undertaking the pilgrimage can cross in, enter the room from the north entrance and exit from the tiny green wood door in the west side. There are three steps to reach the interior of *cungkub*, the steps act as the differentiator of community

strata. The *cungkub* is divided into two zones, the row of seven tombs where one is the tomb of Sultan Maulana Hasanuddin. This zone is separated from the other by an engraved wood partition, if seen from the west window outside the *cungkub*, the tombstone of Sultan Maulana Hasanuddin is covered by a white cloth or in Indonesian Language called the *kain kafan* and *kain kapan* in Malay. *Kain kafan* is the cloth in which dead bodies are wrapped in. In the other zone the tombs are closer to the entrance. Pilgrimage activities in cungkub are allowed, but only particular to people.

Figure 5. The *Cungkub Hasanuddin* in North Tomb (photo by author, 2014)

The area gives the impression of clean, bright and formal, especially the porch in front of *cungkub*, although intermittently smelling of flowers and *menyan* from the pilgrimage activities. The walls are white, the porch floor is covered by light brown marble which also cover the tombs below it, only a part of tombstone could be seen in random position. Based on the interview with the pilgrim group, the smelling of flower and menyan gives the mystical feeling especially for the person who has a mystical purpose and they usually feels the power from the spirit that they believe through the ritual. A philology expert in Bantenologi, Yadi Ahyadi, who was interviewed in March 2014, said initially the area around the *cungkub* did not have a roof, and the floor was not covered by tiles, but the pilgrimage activity in the north tomb has been increasing everyday; probably that was the reason for the renovation in the porch and in the surrounding area of the *cungkub* – covered by white and brown tiles, with the purpose to make the visitors comfortable. This situation can be recorded as an evidence that the first Sultan of Banten Sultanate was a very respected and charismatic person who pierced the boundaries of history, until the present. In this tomb, the people felt the power of the spiritual, cultural, historical and the magical. The reason why the tomb of the first Sultan of Banten Sultanate is always lively, had already been written a long time ago in the historical literary works of the kingdom (*sastra keraton*). The writing is in *Sadjarah Banten*-BR 625 (library code), page 308 of couplet or in the language of Indonesia called '*pupuh*' 41-42, translated by Yadi Ahyadi, from *Pegon* script to Indonesian language. *Pegon* script is in Arabic alphabets, but the spelling is in the ancient Javanese language. The couplet was written as:

> '41. Maulana Bagdadh angandhika Ki Mas jenengaken andhika andunga sadaya para wargi ngaminken tan karya sampun jumeneng Maulana Hasanuddin ing kini; 42. Wes ingistrinan Maulana jumeneng nata puniki punika jenengiki Panembahan Surosowan junung nandhaer sampun karsaning manglalili kawarnaha susuhunan wikur jati;...'

Indonesian language translation:
'41. demikian Maulana Bagdad berkata 'Ki Mas ini namanya engkau yang berdoa, semua warga yang mengamini, sudah bertahta Maulana Hasanuddin di sini; 42. Dan terlaksana Maulana bertahta menjadi raja ini namanya Panembahan Surosowan itu gelarnya sudah terlaksana kehendak pada wali sekarang tersebutlah Susuhunan Gunung Jati;...'

The couplet above according to Yadi is about the coronation of Sultan Maulana Hasanuddin, prayed for by many people and blessed by the Kings. The prayers and the blessing had an indepth meaning, that would make the Sultan appreciated and respected until much later, until today in fact.

The spatial experience around the *cungkub* gives an inner impact without any pressure such as the feeling of fear among the hundreds of ancient tombs, probably due to the open area, the natural light during the day and the light from lamps at night. The open area, without walls as boundaries, will give special feelings, such as 'light', 'open', 'warm' and 'comfortable.' The opposite feeling is found at the southern tomb. In the south porch it is darker than the north. Probably due to its position between the mosque building and the tiyamah, the natural lighting was not maximum, because the morning sunlight comes from the east side only. Initially there were no buildings with roof between the tiyamah and the mosque, as shown in the picture of Masjid Agung Banten taken in 1874 by Woodbury&Page found in a photography studio in England. Presently, the materials of the interior is still original, the maroon tiles give the ancient effect on the space. There is an uncomfortable feeling at the south porch, especially inside the south tomb. Lack of lighting and air circulation created the 'weight' and 'pressure' effects. The two windows in the south wall and the east door are totally locked, the south door is not allowed to be opened, except for particular occassions and persons only. There are 11 tombs in the space, although only 10 tombs are surrounded by green wood fence and covered by transparent blinds. Three tombstones inside the fence are covered by white cloth.

There are two differences between the two tomb areas in the Masjid Agung Banten complex, namely the spatial existence and the spatial experience. The meanings of the spritual, tradition and magical are influencing the intensity of pilgrims and peoples' behaviour due to ritual activities. From the differences, there is one purpose, that is to honour the ancestors. In the north or south tombs, there are various shapes, sizes and details of tombstone, but dominated by white colour painted on every tombstone. Field research have showed the variety of ancient tombstone and divided in general based on the famed person, into six groups, namely the *balok*, the *meru*, *torana*, *gada*, *kurawal* and special forms, the statement supported by Asis (1976). In general, the form of the tombstones is still in good condition, but sometimes the inscriptions or the details could not be seen clearly because of age or covered by white cloth. It is not easy to open the white cloth because a special ritual is needed to open it. In the case of tombstone size, those bigger and higher are due to who the person is, because in the north tomb inside the *cungkub* of Sultan Maulana Hasanuddin and the south tomb inside the mosque building, the size of tombstone is bigger and higher if compared to others in the cemetery area. The variety of tombstone forms give the impression and the meaning of diversity in religion and traditional culture between Islam, Hindu and Javanese.

CONCLUSION

From observations and through the process of spatial experience, the conclusion of this article is the existence of the cult of Sultan Maulana Hasanuddin as the first Sultan of Banten Sultanate. That was showed by the intensity of people and pilgrimage ritual activities surrounding the north tomb. The pilgrimage ritual is not a new activity, many are also found in Central Java, where this tradition was influenced by the pre-Islamic culture of Hinduism-Buddhism. The tomb differences between the North and South give the knowledge that elements of design – physical, cultural, spiritual and belief, strongly influence people's spatial experience. The spatial quality was specified by the interpretation of people after they

experienced, understood what happened within the surroundings and then produced assessment on the space. The spatial experience was determined by the interpretation of each individual affected by the integration of physical elements, culture, history, spirituality and belief as well as the feeling of spatial sensation as the logic consequence of people's interaction with the integration of the spatial elements and the activities. It is proved that the spatial existence is able to influence the activities or behavior of people, and also that the activities or people behaviour are able to affect the spatial availability.

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WHAT MAKES INTERIOR ARCHITECTURE/DESIGN NECESSARY AND POSSIBLE?

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ABSTRACT

The recently launched *Interiors Declaration* by the International Federation of Interior Designers/Interior Architects (IFI) attempts through its tenets to define interior architecture/design's unique contribution as a profession. Based on the view that the *Declaration* does not go far enough in articulating the personal and social value of interior architecture/design, this paper responds by exploring the profession's defining qualities through closer examination of what it says it wants (its aesthetics) as well as what it believes it should do (its ethics). As highlighted in the paper, interiors are significant in and to our everyday life at all levels of interaction and experience. Integral to this is the phenomenon of interiority and associated concepts of proximity, intimacy, and possibility. Also significant is a pedagogy that helps interior architecture/design students engage a radical self, extending their capacity for purposeful and transformational change – so that they can become desiring and designing selves engaging with others to effect purposeful and transformational change.

Keywords: interior architecture, interior design, interiority, aesthetics, ethics

CONTEXT

Interior architecture/design forums and publications regularly ponder interior architecture/design's position in relation to other professions and society as a whole. Invariably there is much posturing about its value as well as frustration that such value is not being recognised. This then leads to further debate of its status and what might be necessary for it to be legitimised as a credible profession along side other professions such as architecture, law, 'even nursing'.

For many, the main issue to address is a lack of universally accredited education and certification, in other words an inability for the profession to regulate itself; for others, it is an issue of being able to differentiate its expertise based on a codified body of knowledge (Anderson et al, 2007). For Anderson et al, however, the issue is more to do with the failure to define "...what is unique about the work of interior designers within the framework of the profession's ethical obligations to society" (p. viii). Some may argue that we now have this in the form of the *Interiors Declaration*, an example being its declaration that we "...use space responsibly...practice our profession with highest regard for engaging

the world's economic and natural resources in a sustainable manner...design for health, safety, well-being and the needs of all". The problem with this as noted by Anderson et al when referring to other similar claims is that all design fields can legitimately make this claim as they can for the provision of ecologically responsible design services. According to Anderson et al, unlike other design fields however, interior designers do have a primary obligation for a sub-set of ecologically-responsible design because of how we are educated to work at an intimate scale, that is, an obligation "...to provide for human well-being and quality of life through responsiveness to the physiological and psychological needs of humans in interior environments" (p. ix).

In this respect, Anderson et al present a point of view based in human ecology and the need to address environmental and social issues at deeper aesthetic, emotional and spiritual levels. But what does this mean and how do we operationalise it in practice and education? This paper attempts to respond to these questions commencing with an exploration of the essential issues facing the world (what makes interior architecture/design necessary?!) and of the critical and unique role for interior architecture/design in helping to address these issues (what makes interior architecture/design possible?!). The paper concludes with a discussion of what this means pedagogically and professionally.

WHAT MAKES INTERIOR ARCHITECTURE/DESIGN NECESSARY?!

Our world is characterised in various ways; often in confused, confusing and narrow ways with writers emphasising only parts of what is a highly integrated, complex and dynamic whole. According to former education academic and author Sir Ken Robinson, population growth and technology are the key triggers of change. For him, "Many of the challenges we face are being generated by the powerful interaction of these forces" (Robinson cited in *Think Quarterly*). Environmentally, we are only too aware of the impact of population growth and pollution on natural habitats and ultimately on health and well-being. But diminishing natural habitats and expanding built environments also contribute to alienation from nature, disembodiment and to what Robert Pyle describes as 'the extinction of experience' (Pyle cited in Kellert, 2005, p. 84).

What we are seeing then is the creation of certain conditions which further impact on people emotionally and existentially, as well as physically; an impact manifest in various ways, including: pessimism, ignorance, apathy, uncertainty, hopelessness, inertia, indecision, disempowerment, fear. As expressed a few years ago by Ziauddin Sardar, contemporary times have become 'postnormal'.

For Sardar (2010),

> ... the spirit of our age is characterised by uncertainty, rapid change, realignment of power, upheaval and chaotic behaviour. We live in and in between periods where old orthodoxies are dying, new ones have yet to be born, and very few things seem to make sense. Ours is a transitional age, a time without the confidence that we can return to any past we have known and with no confidence in any path to a desirable, attainable or sustainable future...We are disempowered by the risks, cowed into timidity by fear of the choices we might be inclined or persuaded to contemplate.

Such a situation he suggests demands a rethink of our ideas on progress, modernisation, efficiency and a shift to respecting the importance of social virtues, individual responsibility and ethics, and the role of imagination. Integral to this, I suggest, is the role of design and design learning, and, of particular relevance to us, the specific role of interior architecture/design.

WHAT MAKES INTERIOR ARCHITECTURE/DESIGN POSSIBLE?!

A Unique Role for Design

The scenarios of global change and resulting conditions and impacts just presented are for the most part perceived as problems to be solved. Increasingly acknowledged as wicked problems, greater emphasis is being given to the need to be 'creative' and to use abductive as opposed to just inductive and deductive forms of cognition. This has contributed to the emergence of what is labelled 'design thinking' and its translation to non-design disciplines such as business. While such a disembodied approach is problematic for several reasons, what is informing and driving it is perhaps even more problematic. As noted by Nelson & Stolterman in their book *The Design Way* (2012), much of our political agenda and media rhetoric regarding global challenges now and for the future is underpinned by perceptions of these as potential problems of unfulfilled human need requiring problem-solving (p. 110) (albeit, creative problem solving).

However, as Nelson & Stolterman (2012) remind us, "People desire to flourish and not just survive" (p. 110). While Nelson & Stolterman realistically and seriously acknowledge basic needs and the need and right for these to be met, they also propose: "...people desire to be more than "needy" creatures" (p. 110). As they go on to state: "Desire is the destabilizing trigger for transformational change, which facilitates the emergence of new possibilities and realizations of human 'being'" (p.110). In this respect, design facilitates a "...positive impulse born out of the desire to create situations, systems of organization, or concrete artefacts that *enhance* our life experiences" (p. 111).

According to Nelson & Stolterman, the common response when confronted with particular situations is to regard these as problems to be solved inviting a reactive and exclusive focus on what they describe as "that-which-is (description and explanation), [rather than] that-which-ought-to-be (ethics and morality), and without consideration for that-which-is-desired (desiderata)" (pp. 105, 106). With this, and any situation involving people and the future, "Desiderata (of body, mind, heart and soul) [they affirm] make design possible and necessary" (p.117). Desiderata also demand that designers interact more with the users with all parties engaged in naming, reflecting on and examining desires. In addition, they help direct attention to the experiential and existential roles of material culture; to aspirations of quality, beauty and fulfilment, and, as emphasised by Nelson & Stolterman, the emergence of new possibilities and realizations of human 'being'" (p. 110); aspirations that we as interior designers are not embarrassed to acknowledge and engage with.

Desire, they write, "can be understood as the 'force' that provides us with intrinsic guidance and energy. Desires constitute what we long for. As humans we use our desires as a way to understand how we can fulfil our lives and how we can become more human" (p. 111). Expanding on this, they describe how desiderata help to aim and name one's intentions (p. 113) with this intentional aesthetic quality differentiating design from other forms of action.

As they highlight, intentional change through this focus on desires and aspirations encompasses three dimensions: what we want (our aesthetics); what we believe ought to be (our ethics); that which needs to be (corresponding to reason) (p. 106). Connecting back to Sardar, a focus on desires is what I sense is necessary to help inform the shift to respecting the importance of social virtues, individual responsibility and ethics, and the role of imagination that Sardar argues is fundamental for a more hopeful future. More specifically, Nelson & Stolterman propose that desiderata help initiate a certain kind of design action, capacity, or agency, linking this human capacity to human achievement in a highly productive way, central to which is imagination.

As they say: "The capacities that become important to the designer, when desiderata are the focus and starting point of design, are those abilities that allow a designer to compose, imagine, and make good professional judgments. Engaging with desiderata, as that-which-is-not-yet, demands creativity and innovation. It requires attention, imagination, and communication in order to manifest a world not yet seen" (p. 117).

Design and desire are integrally linked through intentionality inviting us to be proactive, purposeful and hopeful as opposed to reactive, reactionary and unsatisfied. Design then is a grounded and purposeful activity. At the heart is the notion of a productive making and embodied engagement including imagination, intuition, interpretation, emotion particularly empathy, reflective and critical thinking, different types of thinking, communication and collaboration. In contrast to, or perhaps more than, the arts and sciences, it relies on judgement. Unlike in the arts and sciences, everyone can and does design. As such everyone contributes to a design and material culture. Indeed, as stated by Nelson & Stolterman, "...it is our very ability to design that determines our humanness" (p. 11). With design touching nearly every aspect of our experienced world (p. 12), [a world experienced for the most part in interior environments] it is as such, immensely significant albeit surprisingly unrecognised (p. 2).

Now more than ever we must, as Nelson & Stolterman put it, "...pick up these frayed design threads, and weave them back into new patterns, integrating their wisdom into a more holistic fabric of life" (p. 21). Herein is a unique role for interior architecture/design.

A Unique Role for Interior Architecture/Design and Implications for Practice

In differentiating design from other traditions such as science and art, Nelson & Stolterman describe design as 'other-serving' as opposed to 'self-serving'. As they put it: "A service relationship is a distinct, complex, and systematic relationship, with a particular focus on responsibility, accountability, and intention. Designed products .... only have value and meaning because of this intentional service relationship" (p. 42). For Nelson & Stolterman, 'service' does not mean servitude, but rather it is a relationship among equals focused on intentional change (p. 44).

As we are reminded by Anderson et al (2007) when citing Sullivan (2005), "the commitment to provide service to the public that goes beyond the economic welfare of the practitioner" is an ethical undertaking which characterises a profession. In their words, there is "...an essential aspect of professionalism unaddressed by interior designers: the social compact to do good", and as they argue in support of Sullivan, it is only through addressing this obligation that the practitioner's skills, knowledge and aspirations acquire social value (p. vi). For Anderson et al, articulating this as an obligation does not differentiate interior architecture/design from other professions and is of very little help in understanding how interior architecture/design can make a unique contribution.

In response, they highlight how human ecology is about understanding the interrelationship between personal action, society and the environment and that as interior architects/designers we can negotiate this interrelationship through sustainable design, construction and management; through design that improves quality of life by applying knowledge of environment and behaviour; and through facilitating access to the things that help fulfil human needs such as housing (Kaup et al (2007) in Anderson et al, 2007, p. x). And as they further argue, interior architecture/design has a primary role here because it operates at the intimate scale of interiors (Anderson et al citing Gurel & Potthoff, 2006) with a "focus on the intimate movements, needs, and emotional concerns of the users of interior space, as individuals and in connection with others" (Havenhand, 2004, p. 40 in Anderson et al, 2007, p. x). While not fully explored, Anderson et al also infer a higher order, aspirational role for interior design that involves engaging more aesthetically and more deeply at an existential level and which, as explored further

on, appears to align with Nelson & Stolterman's view of a transformational role for design through a focus on that-which-ought-to-be (ethics and morality) and that-which-is-desired (a deeply satisfying and fulfilling life).

In previous research by Franz et al (2011), Lindquist & Franz (2012), and Franz (2013a,b), interior design practice is regarded as having at its core the human body and habitation, or more to the point, inhabitation; the latter term more effectively acknowledging the 'intimate', multidimensional and dialectic relationship of people, objects, systems, and spatial elements. 'Interior', 'the interior' and 'interiority' are understood as powerful existential constructs with 'interiors' significant in and to our everyday life at all levels of interaction and experience.

In her paper, 'Toward a Definition of Interiority', Christine McCarthy (2005) invites us to consider interiority a quality of every interior and every inside but also a quality that defies the specificity of particular interiors and of access into an interior. With respect to its origin, she describes how it was associated with a moral notion of truth and grounded in circumspection. Current definitions also present it in this latter way, for example, "the quality of being focused on one's inner life and identity" (Collins Dictionary); "the quality of being interior or inward; inner character" (Oxford Dictionary). According to McCarthy (2005), interiority forces intimacy and sensual possibility because it is a quality associated with limited space, closeness and, correspondingly, an emphasis on relationships. The closeness brings one face-to-face with the human condition, with the need and ability to control but also anticipate and look to a horizon of possibility and transformation. Habitation as a possibility of interiority is inhabitation. For McCarthy (2005), "Interiority is hence an explicit manipulation of an environment to achieve and construct a desired space"... [and desired outcomes]. "Desire, space, and control coincide in interiority. It is the desire that specifies priorities and a notion of 'appropriateness' that interiors are constructed to meet" (p. 115).

Interiority pervades our everyday across time and irrespective of space or the space. The 'everyday' has been the subject of much architectural discourse influenced largely by the work of Michel de Certeau, and Henri Lefebvre whose interest in the spatial nature of everyday life underpinned his lifelong project to examine modernity and its meaning (Upton, 2002, p. 708). For Lefebvre, "Everyday life is sustenance, clothing, furnishing, homes, neighbourhoods, environment..." (in Upton, p. 708). Everyday spaces, then, like the home and the workplace, [and other spaces most of which are largely 'interior'], are what Crawford (1999) describes as the connective tissue that binds everyday lives together (in Upton, p. 707).

As Upton elaborates in his effort to distinguish 'pure' discourse models of the everyday that consider only the social side, "The navigation of everyday spaces, the ordinary, unexceptional sites of most of our sensory and intellectual experiences, is the primary arena within which selfhood and personhood are forged" [integral to which I would suggest is interiority]. "In the give and take of everyday life we learn the personal and social meanings of our agency" (p. 718). In other words, "the power to organise space and time"... [as is the power of interior architecture/design and interiority]..."...gives considerable power to shape self and society" (720). But what is about the everyday that makes it so powerful? The following discussion suggests that it is everyday's aesthetic dimension.

For Irvin (2008): "Aesthetic attention to the domain of everyday experience may provide for lives of greater satisfaction and contribute to our ability to pursue moral aims" (p. 29); "...our everyday lives have an aesthetic character that is thoroughgoing and available at every moment, should we choose to attend to it" (p. 30). As Irvin goes on to say: "We continually detect signs of dissatisfaction or discomfort within ourselves and attempt to alleviate that discomfort. When we achieve 'an adjustment of our whole being to the conditions of existence,' we experience 'a fulfilment that reaches to the depths of our being' (p. 32). In summary, Irvin presents the following as reasons for being more conscious of aesthetics:

- Self knowledge [and empowerment]
- Hedonic reasons – "we deserve better than to have our ordinary pleasures, the ones which animate our day-to-day existence, dismissed as insignificant, and our ability to appreciate them accordingly diminished" (p. 40). "If we attend to the aesthetic aspects of everyday experience, our lives can come to seem more satisfying to us, even more profound. And, of course, through attention we may learn to build upon and enhance the aesthetic character of experience" (p. 41)
- Moral reasons – "The aesthetic aspects of everyday life take on obvious moral relevance insofar as they affect my tendency to do or pursue what is morally good" (p. 41). "One way in which the aesthetic character of everyday life has moral significance, then, is that attending to this aesthetic character may reduce our tendency to cause harm in attempts to satisfy our needs" (p. 42). In addition "if we become more fully and explicitly conscious of how aesthetic considerations structure our choices, we are in a position to find ways to satisfy our aesthetic preferences while realizing our moral values more fully" (p.43). "Attending to our aesthetic preferences gives our lives a more satisfying texture". "Enquiry into the aesthetic character of everyday experience, then, holds the promise both of greater satisfaction and of more effective moral agency" (p. 43).

These reasons I propose have significant relevance for interior designers and invite how they as practitioners, how the environment that is designed and its physicality and materiality; and how the occupants of the environment can have greater aesthetic and ethical/moral agency and be more engaged in desiring and designing a better future. Indeed, as stated by Nelson & Stolterman, "...it is our very ability to design that determines our humanness" (p. 11). With design touching nearly every aspect of our experienced world (p. 12), [a world experienced for the most part in interior environments] it is as such, immensely significant albeit surprisingly unrecognised (p. 2). Possibly more than any other design discipline, the interior architecture/design discipline I argue is for the reasons previously highlighted best placed to take the lead here – and, in this regard, education has a central role to play not only through its substantive curricula but also through its pedagogy; a pedagogy that helps students engage a radical self, extending their capacity for purposeful and transformational change – so that they can become desiring and designing selves engaging with others to effect purposeful and transformational change.

Given that our concerns and desires in relation to design learning are about the relational encounter among individuals through which many possibilities for growth are created (Zembylas, 2007, p. 332), the fundamental issue for design learning is therefore not, as I have stated, one of curricula alone, it is also one of pedagogy.

PEDAGOGY OF DESIRE

A few years ago frustration with a lack of pedagogical guidance in design education led me to explore old and emerging pedagogies in mainstream education. One of the pedagogies that stood out as having potential relevance for design was the pedagogy of desire given relatively recent emphasis by educators such as Erica McWilliams, Frank Pignatelli and Michael Zembylas. At that stage I was teaching first year interior design with a junior academic and together we decided to see how adaptive the pedagogy was for the design studio class we were taking. The outcome has been presented and published in several places including the DesignEd conference in Hong Kong in 2011 (Franz et al, 2011) and the IDEA Symposium in 2012 (Linquist & Franz, 2012).

Seeding Hope

In exploring the nature of teaching and learning, Pignatelli (1998) refers us to the work of Herbert Kohl

on becoming a teacher and to the central role played by hope. "Seeding hope", he says "is at the centre of the art and craft of teaching...Creating hope in oneself as a teacher and nourishing or rekindling it in one's students is the central issue educators face today" (Kohl in Pignatelli, 1998, p. 337). Already, there is resonance here with what several authors acknowledged in this presentation regard as a growing sense of hopelessness and helplessness and the impetus to find purpose and build agency both for teachers and students. In this respect, Pignatelli turns to the work of John Dewey and to what he regards as the central role played by need and desire. For Dewey as cited in Pignatelli: "Need and desire – out of which grow purpose and direction of energy – go beyond what exists, and hence beyond knowledge, beyond science. They continually open the way into the unexplored and unattained future" (Dewey in Pignatelli, p. 337).

While Dewey groups need and desire together, Pignatelli and others, such as Nelson & Stolterman, regard desire as being far more productive than need. Desire has associated with it greater energy and force, that is, greater potential for developing not only "awareness of future possibility" (Pignatelli, p. 347) but also capacity to act on this awareness.

Pedagogy of Desire Mobilises

As expressed by Zembylas (2007), pedagogy of desire, "mobilises creative, transgressive and pleasurable forces within teaching and learning environments. It also enables a new view on affect in education as a landscape of becoming..." (p. 331). The language here reflects a Deleuzian and Guattarian influence in terms of their understanding of desire as an immanent force; one that Zembylas highlights as central to the production of creativity, novelty and change. Therefore, for Zembylas, pedagogy of desire, "...is a pedagogy of the subject and the relation between subjects and objects and artefacts" (p. 338). Already we see a correlation with design particularly interior design and its concern for the interior as a site where architecture, body and object intersect.

Significantly, both for design and education, desire is an existential as opposed to a libidinal force; a force possessing immense transformative power (Zembylas, p. 338) personally and publically. In a pedagogic context, then, Zembylas sees the purpose as exploring "the various social, aesthetic, material and political manifestations of one's existence and its connections to others" (p. 340). In this regard, it cultivates 'ethics through aesthetics', or as Pignatelli puts it: "It disrupts the giveness of the way things are and nourishes acts of courage and compassion" (in Zembylas, p. 340).

One of the likely challenges to pedagogy of desire is its perceived privileging of the self. As Greene (1973) puts it: Such "...privileging of oneself as a distinct being in the world, this expression of desire, is not meant to jeopardize the value of educators to form commitments and do socially responsible - and, hopefully, transformative – work". Rather it brings to the foreground an important dimension of this work; what Greene calls "the shock-receiving capacity" in ourselves – that is, the capacity to be moved deeply, made uneasy and discomforted - such that these shocks might give rise to indignation, renewed understanding and, it is hoped, purposeful action" (Greene cited in Pignatelli, p. 350).

Engaging the Radical Self

In this respect, a pedagogy of desire aims to produce and engage a radical self. "As Martusewicz (1997) points out, part of the desire that pushes us to ask about this world is a desire to understand ourselves in this world - that is, 'the desire (and the anxiety) to face the other that both is and is not "me"" (Martusewicz cited in Zembylas, p. 334). To summarise and paraphrase various authors such as Pignatelli and Zembylas, a radical self is one who takes responsibility for designing their own existence, who is intensely desiring of reform and transformation despite risk, disruption and ambiguity; who contests intentions to control

preferring to adopt a nuanced, textured approach to life; who embraces uncertainty because of the impetus it provides to move beyond the world that is. As a subject of desire, a radical self is beyond oneself, stretched in an ongoing state of becoming (Pignatelli, p. 339).

In this respect, then, teaching is as Pignatelli describes it "...supple, nuanced, hopeful, sometimes inspiring, and always moving beyond what is obvious and apparent" (p. 343). Drawing on the work of Bruner, Pignatelli recommends that learning tasks be chosen "for their amenableness to imaginative transformation and...presented in a light to invite negotiation and speculation" (p. 341). What is important, he emphasises, "are the multiple ways teachers come to read the situations and possibilities their students bring with them (whether confined or not) and how they set upon the challenge of acting upon these readings" (p. 343).

In summary then a pedagogy of desire is a holistic embodied approach; one that celebrates the role of emotion and corporeality in teaching and learning, seeing it as the source of expressive and transformative power; one that through interior architecture/design is grounded in a politically aware aesthetic reality that is future and other oriented.

In conclusion, the paper advocates for the cultivation of ethics through aesthetics as central to exposing and exploiting the defining qualities of interior architecture/design. This, the paper argues, is what makes interior architecture/design necessary as well as possible.

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RE-READING THE "INVISIBLE CITIES": TRANSLATING TEXTS INTO SPATIAL IDEAS IN INTERIOR ARCHITECTURE

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ABSTRACT

Published in Italian in 1972 "Invisible Cities" of Italo Calvino is a combination of short stories about the cities, which contains the imaginary dialogues between a wandering Venetian, Marco Polo and Emperor Khubilai Khan. Cities were narrated by Marco Polo according to certain themes, in a way that makes reader feel as if they were wandering through different corner of each cities. This paper will explore how narrative and text could act as vessel to re-read, translate and conceive space. To begin with, an exercise is done in Interior Architecture Design 5 studio in Universitas Indonesia. Students were asked to read the book and pick one city which later should be explored and translated spatially through sketches, collage and models of various medium. The "Invisible Cities" provides rich and imaginative text, thus reading it would liberate thoughts and evoke senses, resulting creative interpretation when reconstructing narratives.

In this re-reading and translating process, students learn so many spatial vocabularies. Learning spatial experiences how to translate and reconstruct something about positioning and replacement, border and limits, inside and outside interpretation, tectonic and how the students will have so many scenarios that incorporates many elements, such as material composition and building structural.

Narrative as a tool for better understanding of spaces, its fabric, materiality and the senses that they evoke. Furthermore, narrative text also convey sense of time, which will add another dimension to space. Narrative is used to unveil layers of meanings and elements that consisted in space. Through the "Invisible Cities" understanding of space and its whole dimension is becomes one puzzling but pleasurable experiment.

Keywords: Narratives, Details, Senses, Reconstruct, Spatial Ideas

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INTRODUCTION

> "[..] Instead of creating mere objects of visual seduction, architecture relates, mediates and projects meanings. The ultimate meaning of any building is beyond architecture; it directs our consciousness back to the world and towards our sense of self and being."
> (Pallasma, Juhani, The Eyes of the Skin, p.11)

To understand fundamental character of building and its interiority is one challenging task. When conducting Interior Design Studio 5 course, the writers realized that some exercises are much needed to help students sharpen their senses when trying to reconstruct spatial experiences and strengthen their research during Interior Architecture projects.

Thus, an exercise was developed aiming at sharpness improving for students when reading space and its many details and layers that construct and characterized it. Narrative text is seen as an effective tool for this exercise, as it is able to evoke emotion and senses while describing in detail about events that took place in time and space. The "Invisible Cities" by Italo Calvino was selected because it contains the perfect ingredients for the exercise. Its rich and imaginative description of cities, provide readers with enough stimulations to dig further into the text and creatively interpret it.

In this exercise, students were given freedom to each choose one city from the book and have to reconstruct narratives based on the selected text using the understanding of space they have, including the involvement of memory and experience. These students were asked to explore the experience of their senses through text and narration, whether if it will be visual experiences, auditory, or even a haptic sensory based from the characteristic of cities described by Marco Polo.

These exercise involves several supporting media such as short films and videos to learn the understanding of space and place, and the space in between. After this process the students also have conducted a series of field studies to learn the context and the project site.

RESEARCH METHOD

Reading experiments were carried out in by using "Invisible Cities" by Italo Calvino. Students are required to choose one city from total of the thirty five city narratives. After reading the text throughly, students are required to make spatial scenarios based on the text. In the later development, the scenario should be represented in various media, such as images, drawing and scoring, diagrams, and other creative medium. Final output of the development is in form of maquette models. This paper will discuss some interesting project examples resulted from the finished exercise.

THE MAKING OF SPATIAL EXPERIENCE

Overview of the Experiment

This paper will analyse some selected cities only, they are *Raissa*, *Despina*, *Isaura*, *Phentesilea* and *Olinda*. The students responsed the text from various point of view that was unique from one another, including the media to represent their ideas about the city they choose. The result of this experiment can be represented in form of scoring and painting, diagrams and charts, sketches, maquette models, and collages.

Raissa, the City of Sadness there runs an invisible thread that binds one living being to another for a moment, then unravels, then is stretched again between moving points as it draws new and rapid patterns so that at every second the unhappy city contains a happy city unaware of its own existence.

Raissa, the City of Sadness, was choosen by Shilta Finella, told a story that portrayed sadness. Its city life was full with nightmares that continue to repeat, before bed and after waking up. The atmosphere described in the text as reclusive, secured, dark, locked, and pent up blank. When developing the scenario, the words reclusive, secured, dark, locked and pent up became keywords and could provide free interpretation and be viewed from different angles.

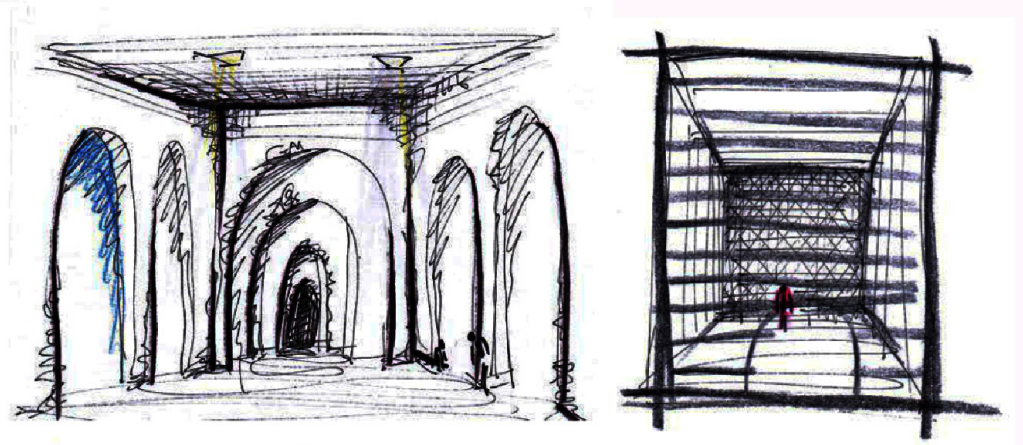

Figure 1. Illustration of *Raissa, City of Sadness*
Source: Sketches courtesy by Shilta Finella (Nim. 1006775602)

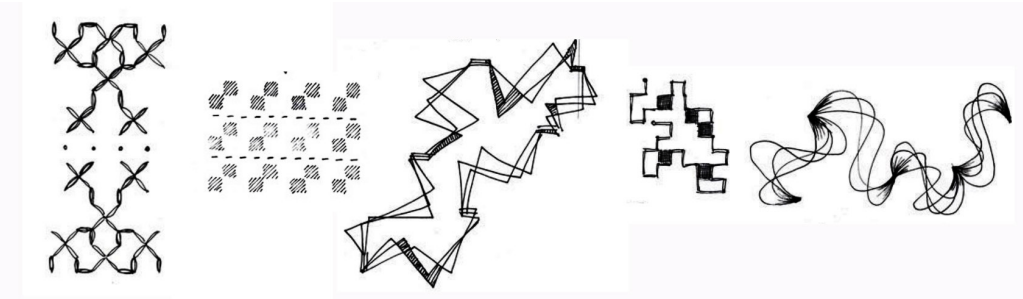

Figure 2. Grid system as a method reading *Raissa, City of Sadness*
Source: Sketches courtesy by Shilta Finella (Nim. 1006775602)

Figure (2) shows sketches of pattern as a response to the text. Shilta perceived the text and later translated it in the form of a tall structure and something that was covered. There is also a kind of system that limit the movement of the space in outer space. The method she used is the grid system, something that is very regular, measurable, repeatable, patterns of symmetry and dis-simetri is used as an approach to help the locking and interlocking systems. Since this city is so connected with something reclusive and blocking. The grid system helped to explain how reclusive and dark blocking could be achieved, as shown from the sketches.

The second city is *Isaura, City that Moves Entirely Upward*, was choosen by Febby Diasry Nesita. Her approach represented tectonic experiment that richly explores form and atmosphere. All the sketches are connected with the nature of water and cause-effect actions regarding to that issues. Water pressure was read as source of energy inside the ground and pressed up onto the surface of the earth.

> Isaura, city with the thousand wells, is said to rise over a deep, subterranean lake. On all sides, wherever the inhabitants dig long vertical holes in the ground, they succeed in drawing up water as far as the city extends, and no farther. All the columns of water, the vertical pipes, the plungers, the drains, all the way up to the weathercocks that surmount the airy scaffoldings of Isaura, a city that moves entirely upward.

Figure 3. Sketches model *Isaura, City that Moves Entirely Upward*
Source: Sketches made by Febby Diasry Nesita (Nim. 1006685286)

Figure 4. Sketches The Continuos City, Phentesilea
Source: Sketches made by Satria Putra Pamungkas (Nim. 1006685462)

> Penthesilea fantasy is fantasy when we are being in a town. You advanced for hours and it is not clear to you whether you are already in the midst city or still outside it. Like a late with low shores lost in Swamps, so Penthesilea spreads for miles around, a soupy city diluted in the plain; pale buildings back to back in a mangy fields, Among plank fences and corrugated iron sheds. Every now and then at the edges of the street a cluster of constructions with shallow facades, very tall or very low, like a snaggle-toothed comb, seems to indicate that there from the city's texture will thicken. But you continue and you find instead of vague spaces, then a rusty suburb of workshops and warehouses, a cemetary, a carnival with a Ferris wheel, a shambles. you start down a street of shops scrawny roomates fades amid patches of leprous countryside. If you ask the people you meet, "Where is Penthesilea?" they make a broad gesture roomates may mean "Here" or else "Farther on", or "All around you," or even "In the opposite direction."

Penthesilea city, the third city tells about a city which spatially is puzzling. Is this city has an escape path to connect with other different places? Is there any meaning at once in a time if all wee see is the same from time to time, because all sight in the city is only repetition of things? Satria approaches Penthesilea as an experimented mapping its using *Penrose Stairs*. A variation of the *Penrose triangle*, a two-dimensional depiction of a staircase in which the stair makes four 90-degree turns as they ascend or descend yet it forms continuous loop, so a person could climb them forever and never get any higher. Clearly this is impossible in three dimensions.

Cherina La Rubatt, whose reading *Despina,* brought some interesting viewpoints that each turned out

differently. The first view is a view that is intended to be taken from the perspective of an overland. While the second view is the view of the sea. Unlike the first case, the second viewpoint is equipped with mind-mapping scenarios. Placing it into a kind of two different conditions while juxtaposing with each other. The fundamental difference is used as material for reading *Despina*. Like a broken bottle illustration in a big wall as an element that has a charge of noisy, brutal, intense and artificial. While the desert conditions classified as cargo clean, deluxe, relieved and natural.

> *"Despina can be reached in two ways: by ship or by camel. The city displays one face to the traveler arriving overland and a different one to him who arrives by sea. In the coastline's haze, the sailor discerns the form of a camel's withers, an embroidered saddle with glittering fringe between two spotted humps, advancing and swaying; he knows it is a city, but he thinks of it as a camel from whose pack hang wine-skins and bags of candied fruit, date wine, tobacco leaves, and already he sees himself at the head of a long caravan taking him away from the desert of the sea, toward oases of fresh water in the palm trees' jagged shade, toward palaces of thick, whitewashed walls, tiled courts where girls are dancing barefoot, moving their arms, half-hidden by their veils, and half-revealed. Each city receives its form from the desert it opposes; and so the camel driver and the sailor see Despina, a border city between two deserts."*

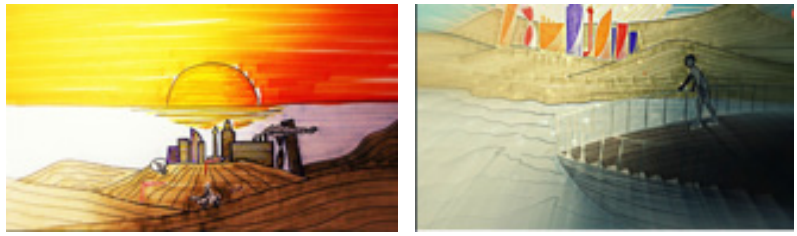

Figure 5. Sketches Despina, *City of the Border*
Source: Sketches courtesy made by Cherina La Rubatt (Nim. 0906517760)

As a city that can be achieved either by a ship or camel, desert conditions and sensation is illustrated with something clean, deluxe, relieved and natural. Dry desert character and has a very different character with water into a kind of two things that are opposite to each other. To extract the keywords of *Despina,* mind mapping was used as a method, its summaries are of opposite condition, opposite, two-way condition, fetched and away.

Several studies were conducted by Cherina La Rubatt to represent *Despina.* Through maquette model, atmospheric ambience was captured and resulting some interesting views. Figure (6) shows the view from two different and opposite direction. Using an extreme scale comparison, the model shows both view from the land overlooking the border of the city and view of the city from the sea. The boundary is represented with a coil-like shape and at a certain point of time, with the change of time, intensity and direction of the sun. Character of the model also changes, daylight movement creates light and dark composition at its openings, while also projecting gleams of light onto the surface of the sea. The maquette models shows experiences of space that is formed by the physical border and its causal relation with adjacent space. Exaggerated scale of the border, extremely distant from human scale, is intended to produce grand and mesmerizing atmosphere from any viewpoint.

Last reading of the cities was about *Hidden City, Olinda*, that was choosen by Shanti Amelia Purnomo. The illustrations tell that *Olinda* is a city that is likened to something that was blossoming and woke up with a circular character. The *Hidden City, Olinda* is about developing and enlarging, just like flowers, which have certain character of blossoming.

Figure 6. Final maquette model of overland view *Despina, City of the Border* (left)
Final maquette model of sea view (right)
Source: Sketches courtesy made by Cherina La Rubatt (Nim. 0906517760)

> "When you walk and go around in Olinda, everything seems inconstant. Path goes into concentric circle and all the surrounding such as house, garden, kiosks, people reveal itself and slightly enlarged. And all the Olinda has blossomed one from the other. Developing and enlarging. You praise the distant city to the stars. Olinda itself does not much strongly appeared as the other cities. Experiencing Olinda is like lost in the old city. This old city is about to getting larger and bigger and circling all around its path. And within circle there are already blossoming, the next Olinda and those will grow after it."

The shape and whole of the three-dimensional has enlarged to top, like a flower calyx that will spread into larger size with the following lines of layering the whole of the surface area. Final models then developed are as follows. Final model was developed from ideas about the wide, infinite and blossoming. The final models was grounded on the idea about infinite possibility of growth within the implication of time. Using the idea, this student was able to create a spiral shape that raising systems used on the interior that would thereby react to limits on top, creating certain spatial for the ceiling to uncommon experience in *Olinda*. The next performed was to form circular coils that build a certain structure leading to a single point at the top. From the point (0,0) on the ground and move freely to a certain point on the surface of the ground. Coils are selected using the gyre and braid. Meetings between the coil structure with each other causing a spatial potential atmosphere was very interesting. The material has twisted yarn character that gives another possibility in a space character, something which is highly plastic, has a cavity and light.

Figure 7. Sketches *Hidden City, Olinda*
Source: Sketches courtesy made by Shanti Amelia Purnomo (Nim. 1006685475)

Olinda City maquette model has a structure that composed of multiple representations of material that gives specific information. Like wearing a sort of brownish material and coarse textured to inform about the existence of something that sustain in *Olinda* from past to present. Spiraling upward which indicates something about the infinite rhizomatic futures growing telling about *Olinda*. Other material is organic form mouldable form of something that is an element of flexible memprovoke city Olinda city to keep growing and dynamic. While the smooth white surface element that represents the landscape overview *Olinda* which extends along the city.

Figure 8. Sketches *Hidden City, Olinda*
Source: Sketches courtesy made by Shanti Amelia Purnomo (Nim. 1006685475)

Figure 9. Maquette model development of *Hidden City, Olinda*
Source: Maquette model courtesy made by Shanti Amelia Purnomo (Nim. 1006685475)

FROM TEXTS INTO SPATIAL EXPERIENCES AND KNOWLEDGE

Some works of these students provide an interesting scenarios that successfully delivered experience of reading the texts of the book "Invisible Cities" by Italo Calvino and gives some important and interesting points. The texts act as instrument that can be used as a way to sharpen students imagination and perception, and also to broaden their architectural knowledge and understanding of space.

The first interesting point is the ability of text to provide a lot of possibilities to be translated using various approach and media. In the execution of exercise, generally, the first approach to the text is to translate it into scoring and painting. The resulting paintings are very interesting, imaginative and in some cases had already conveyed identifiable spatial quality, such as depthness, darkness and lightness, positive and negative and many more. For example, in the first case, *Raissa* grid pattern were explored, the student was trying to understand about simmetrical positioning and composition, with some added spatial qualities such as blocking, reclusive, closed and darkness.

Spatial translation of grid pattern is developed through models and it already displayed space forming elements, such as a wall, a room divider or partition or ceiling. Grid acts as spatial distribution pattern with a particular order, such as repetition. But playing with grid also cause something that is contrary, a dis-order.

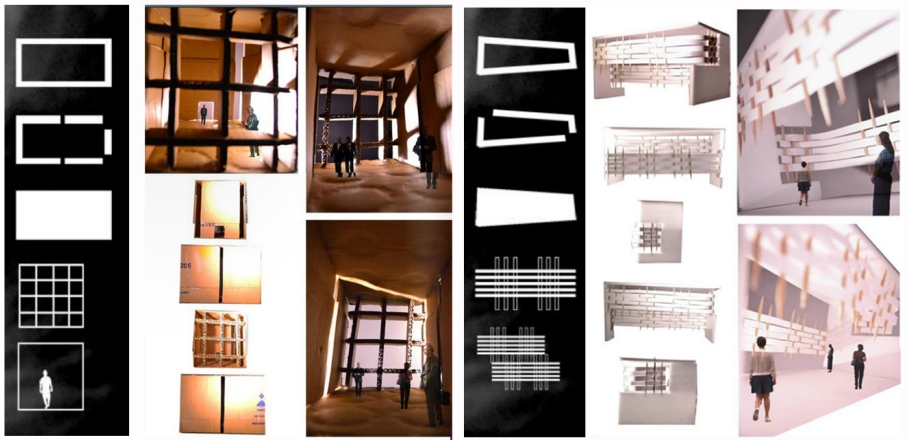

Figure 10. Illustration Grid Pattern in *Raisa, City of Sadness*
Source: Sketches courtesy by Shilta Finella (Nim. 1006775602)

Some spatial pattern on figure (10) tells the reclusive, locked, dark, rapid, and pent up situation. This is related to the concept of sadness city. In adjacent with it, the atmosphere is portrayed as dark, enclosed, protected, confined and unconfined.

> Since tectonics in architecture is defined as "the science or art of construction, both in relation to use and artistic design. It refers not just to the activity of making the materially requisite construction that answers certain needs, but rather to the activity that raises this construction to an art form. "(Maulden, Robert, MIT, 1986).

In the case of *Despina* and *Isaura*, tectonic shows important part at the development of interior architecture space. In *Isaura*, as shown in figure (11), attractive tectonic is what successfully reconstructed and build the experience of space. Twisting away from the point (0,0,0) above the surface. The twisting-up form, cause the building become characterised by series of unique solids and voids. With the scale particularly grand to human , barrier systems, walls, ceilings and building skin produced different spatial experiences. Explorations of maquette models already showed playful experiments in furniture systems, interconnection of forms and their relation in space and also provides clear scenarios on how human interact with and within the space.

When developing *Despina*, Cherina La Rubatt was conducting a small research which investigate ideas about composition and positioning as shown in figure (12). This research indicates a possibility that it could be the composition of the balance, between the arrivals of the direction of the ocean when using boats and immigrants from the desert with camels. With the approach of some specific mathematical formulas, she tried to illustrate the placement and angle of arrival from several different direction. One illustration shows materiality of space that could represent the state of chaos and violance through the existence of broken bottles. Also the presence of smoke and breeze to signify noise and intensity. With careful thought on materiality, perception and memories that are attached to it, this project succeeded in conveying senses through spatial attributes.

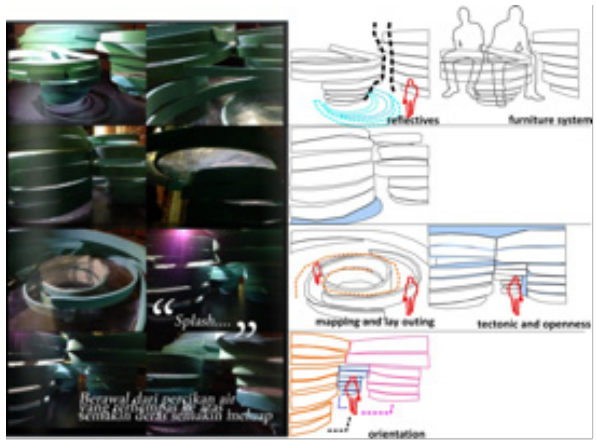

Figure 11. Maquette model *Isaura, City that Moves Entirely Upward* (left)
Drawing illustration by writer (right)
Source: Sketches made by Febby Diasry Nesita (Nim. 1006685286)

In translating *Phentesilea*, the approach is just like a game orientation with views, mapping the city, and playing with layouting probabilities. The process of translating and mapping city by involving senses of the user as the moving elements while interacting in it. As in the illustration of the model mockups, all senses of the user is given the portion to be analyzed, feel and memory recording vital points in its path by using the method of limiting the typical form and similar openings.

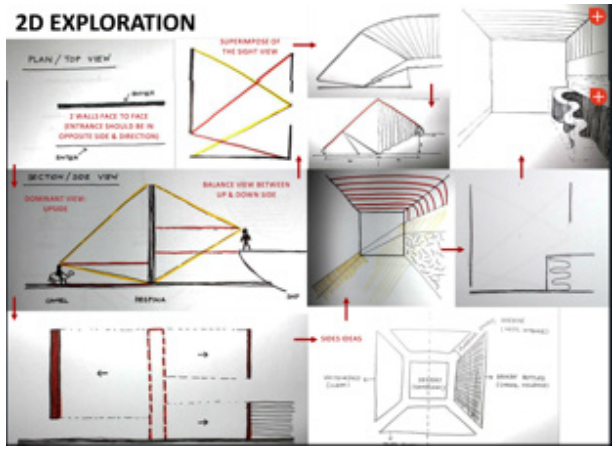

Figure 12. Research of Despina, *City of the Border*
Source: Sketches courtesy made by Cherina La Rubatt (Nim. 0906517760)

The idea *Penthesilea* is experienced the city constantly. A continuous pattern that bring anyone who traveled in it carried in an ambiguous atmosphere that can not be answered easily. *Do they have nearly ended their journey, whether still in the middle of the journey, lost feeling and seeing something that is before we move forward, or actually we have been on the end of the trip?* Several scenarios were created town plan or mapping approach *Penrose Stairs*. Some scenarios that indicate the presence of exploration lay-outing is quite diverse, ekpsperimen first scenario (layout A) a movement of urban space resembles a labyrinth, swirling, repeating and such without end or even dead ends.

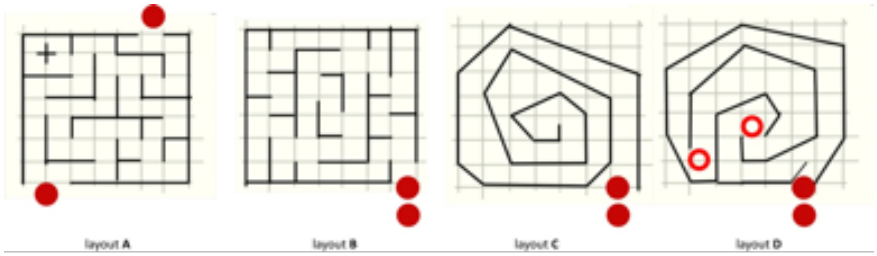

Figure 13. Mapping the labyrinth The Continuos City, Phentesilea
Source: Sketches made by Satria Putra Pamungkas (Nim. 1006685462)

Scenario labyrinth city for *Penthesilea* not show the character and distinctiveness of the city specifically. The scenario is like imagining the city and we have to find a way out by themselves. The drawback is the shape of space and experience changing, depending on the point where we will go, to the left or to the right lane, or turning, or a combination of the left and right lanes. Scenario mapping the next town (layout B) is a labyrinth city but have determined the pattern of entry and exit from one door. The form of the walls were made symmetrical and similar, for the purpose of space users can experience the freedom of choice, but with the experience of the same shape. Although in practice, this type of mapping labyrinth will not focus the user space, and even later be easily realized due to the continuous symmetrical shape. Scenario mapping the next town (layout C) is a scenario with a one-way form of circulation space with the incoming and outgoing access. Made with twisted shape like a winding staircase and turning on *Panrose Stairs*. The walls were made of similar but not the same. Actually this scenario, it almost led to a goal continuity mapping in the city, but unfortunately still encountered a dead end at the end of the trip. The last one scenario city mapping in figure (D) is confusing twisting plan, running one direction, its boundary wall made with varying structures but very typical and the most important thing the continuity path is well maintained. This mapping scenario has the access to enter and exit, in circle layout. At the moment we are at the point in this mapping, there will be some sort of disorientation position has been where we are. We could be in the starting point, the midpoint or may already be at the end of the trip.

Very interesting town had showed *The Hidden City, Olinda* with its maquette models. Ceiling and wall as the transformation of Olinda that grows to rhizomatic spreading. Massing with this white organic volume is a reflection of each city elements that are inherently powering Olinda to develop its potential. The structure of some parts of the city in the form of a material that looks old and sturdy and the natural brown natural color into individual material elements that join the organic elements that represent landscape Olinda. By the time it becomes very blurry and there is never a definite, we will find something very definite in Olinda. By following events are unusual and experiences that are imaginary.

Figure 14. Maquette model development of *Hidden City, Olinda*
Source: Maquette model courtesy made by Shanti Amelia Purnomo (Nim. 1006685475)

CONCLUSION

"Perception is not a private mental event, nor is our own body just one more thing in the world alongside others[..] Perception is both intentional and bodily, both sensory and motor, and so neither merely subjective nor objective, inner nor outer, spiritual nor mechanical."(Maurice Merleau, Ponty, *Phenomenology of Perception*, 2013)

Narrative as a tool for better understanding of spaces produced very intersting process and results from the students, as shown previously in this paper. They were able to synthesize the text they have already read, perceived the narrative with all their senses and reconstructed it spatially. Even in subconscious level, when they were actually never acknowledged nor visited that "place", only by reading the text, they are already able to sharpen their ability to sense the atmosphere, then reinterpreted it well.

Reading the text bring our perception and memory to drive all the sensory and our motoric to translate ideas we perceive in a very structured and organized way. When we learn about translating spatial experiences and reconstructs space from it, we would encounter important keywords such as positioning and replacement, borders and limits, inside and outside interpretation, tectonic and spatial scenarios, atmosphere, material composition, and building structure. Narrative text can act as powerful tool understanding spatial complexity, as it becomes a vessel to unveil layers of meanings and elements that consisted in space.

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TEXT-EXTRACTING PROCESS: A METHOD IN DEVELOPING A STORY

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ABSTRACT

This paper examines how a story has an important role in an interior architecture design method. The story is extracted from creative interpretation of a narrative text through a creative analytic and synthetic thinking process and is presented as diagrams. The story is considered to be a system of a journey which in turn implicates on how the design is experienced.

In extracting a story from a narrative text, two simultaneous steps need to be taken: defining the settings of the text; and defining the plot of the text. As a result, we could get a new understanding of the story of a narrative text. This understanding would then be used to develop the design as a track of creating new experience.

Interiority positions human in an important role. Human becomes one of some considerations in an interior architecture design process because it is human who is later going to experience the design and memorize it. Moreover, how we manage to think and develop the way human experience the design becomes important too. The story from a text-extracting process will help us on this task because this story which creates a new experience is hoped to result in an effect on how human would memorize the design. And the text-extracting process itself takes an important role as part of the method in an interior architecture design process because it impacts not only on the way we develop and think creatively about the design, but also on our ability to create something from nothing as a skill.

Keywords: story, text, diagram, method, experience

INTRODUCTION

"How can I design something *greatly*?", "Can I design something which could give great impact on human as the users?", "Will my design be memorable?" Those are some questions that may have once crossed the mind of a designer. This kind of questions is really important, especially for those who take interior architect as their career.

To be great, a design needs to be *close* to its user. A great design should embrace human since human is for whom we are designing. Thus in order to achieve a great design, what we need to do is to seek

the quality that can make human feel *close* to our design and use it as tools. What quality do we need to achieve? How do we get this kind of quality?

In the field interior architecture, the very word interiority positions experience as an important design consideration because human is the one who interacts with the design, the one who experiences it since "*an experience is inherently active*" (Caan, 2011: 163). Based on Caan's statement we can say that to be experiencing means that the human is the one who needs to be participating. Hence, what make human a human, its body, mind, and senses, will altogether help human recognize the things, works, and everything that happens in their environment, and this is "*therefore an important design consideration*" (Caan, 2011: 163) as "*Architecture is a thing in so far as it renders itself to be experienced*" (Psarra, 2009: 87). This is the quality that we need to achieve in a design, a quality of an experience, a quality in which a human actively participates in the design.

But then, a question comes up: what kind of experience are we supposed to create in our design? Furthermore this question will bring us some qualitative questions,

> "What and how do I feel?," "Does this experience make a difference?," and, if so, "What kind of a difference does it make?". These are some of the questions that need to be asked, and answered, by design and using design language (Caan, 2011: 163).

This gives us perspectives on what we need to be concerned with. Those questions, concerning the qualitative, sensory knowledge, are somehow undeniable for in a design process they will be "*necessary to inform conceptual and pragmatic design decisions that interweave functional and structural requirements with the designed spatial arrangement, organization, accessibility, visibility, and the intended overall experience*" (Caan, 2011: 163).

STORY

In a design process, creating an idea about an experience of what and how the design is going to be felt should be made first. And of course the idea must be unique as it is important to create a different kind of experience. Caan (2001: 163) states that "*Design has the greatest experiential impact when crafted for the journey, its discovery, and the arrival*" It is clear that a *great* design is one which could give a great effect to human when he/she is experiencing it. So, the architects' idea about the experience which is served as a sequence of experience, a journey, will be a factor to achieve a *great* design. Caan also states that in order to create the experience that the architect desires, he/she "*must be able to choreograph a narrative sequence*" (Caan, 2011: 163). It is not just a sequence of experiences; the sequence needs to be in a narrative one so that the journey will become a story. Thus, the path that a human takes in experiencing a building will become a story of a human fulfilling the nature of interiority.

Settings

One could achieve a narrative sequence of experiences by extracting a narrative text. A narrative text is simply defined as "*a text in which the narrative agent tells a story*" (Mieke, 1997: 16). As it tells a story, a narrative text comes up with a story's structure which is uniquely different from one text to another. This uniqueness exists because each story's structure of the narrative text is generated from different elements. These elements are developed in a number of various ways, depending on the goal of the narrative agents' intention.

Mieke (1997) defines elements of the narrative text as preliminary remarks, events, actors, time, location, remarks and sources. Actors, time and location are what we call settings (Black and Bower, 1980). In this paper, settings are the element of the narrative text which are going to be headlined in extracting the

narrative text. By developing the settings, which are basically unique as they originate from the goal of the narrative agents' intention, and by adopting them into the design process, we will be able to create a different and unique experience.

Plot

One could not simply achieve a *great* design only by creating unique experiences. The unique experiences must be developed as a sequence so that it will be memorable and remembered. A design will become valuable if it is remembered. And to be remembered, a sequential experience needs to be "*the critical path that provides the transition from the beginning state to the ending state of the story*" (Black and Bower, 1980: 237). What Black and Bower mean is that the sequential experience we are about to extract from the narrative text should have a beginning, an ending, and most importantly, a part which bridges the beginning and the ending as the critical point of the story.

In a narrative text, these three states are known as the plot, which consists of episodes. Each episode is generated from subgoal and outcome (Black and Bower, 1980). Hence, the critical point of a narrative text actually exists as the episodes. Moreover, how the episodes are generated will affect the story and will determine how much of the story could be remembered.

So, in order to extract a story from a narrative text, two simultaneous steps should be taken. The first is defining the setting and developing it to gain the unique experiences, and the second is defining the plot and developing the experience from the episodes of the plot to support the unique narrative sequence that is achieved from the first step in order to make the unique experiences memorable.

The objective of the process of extracting a narrative text in this paper is to achieve a story of memorable and unique sequential experiences in a form of a journey. In order to explain the extracting process, the authors use the thesis project of one of them as a reference. In the thesis, the author develops the story by extracting a children story book titled *Elliot the Elephant*. The author uses the story resulted from the text-extracting process as the tools to develop spatial experience in his thesis design project.

EXTRACTING ELLIOT THE ELEPHANT

Elliot the Elephant is a children story book which tells a simple story about a calf named Elliot who has lost his voice, makes a journey and meets other characters, and tries to get his voice back by finding the cure. This book tells a simple narrative text with drawings representation. The book consists of nine scenes each of which contains of one or two sentences and a drawing which gives the reader a representation of the sentences. This book is used in the thesis project because as it is a children book, it is hoped to be simple enough to be analyzed yet quite potential to be extracted to develop a story.

Defining Settings

On defining the settings, the authors use what is served in the book. Sentences and drawings are used to define the whole narrative settings as those build the plot of the story.

Actors

Using the sentences and drawing, the authors could define the actors contributing to the Elliot the Elephant text. The authors firstly define the actors who are considered to have contribution to the story and those who are not, following Mieke (1997: 195) who states "*it helps first to select which actors must be taken into consideration and which not*". This step needs to be taken because some actors might not

have contribution or if they have, this kind of actors have no functional structure which means they will not affect the undergo of the story (Mieke, 1997). The considered actors are then grouped into primary actor and secondary actor. Figure 1. is an example of how defining actors step is being taken. The figure is the fifth scene from the Elliot story. In defining the actors from the story of Elliot, the authors combine the data from the drawing and sentences.

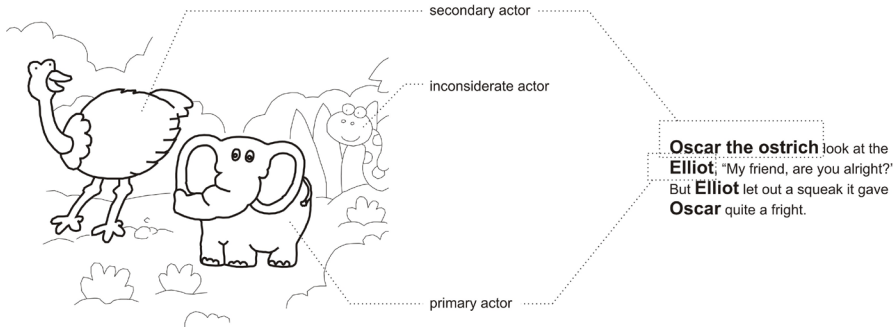

Figure 1. Defining the actors from the fifth scene
Source: Author, 2014

In Figure 1, the authors define the considered actors from the unconsidered ones simply by doing a cross-check with the sentences and the drawings. Shown in Figure 1, the drawings show that there is an actor, the snake, who does not appear in the sentences, so the snake is the unconsidered actor as it does not have any influence on the ongoing of the story. This step is taken for the whole nine scenes of the story of Elliot and from the data, the authors find that the primary actor, Elliot the Elephant, actually appears in every scene (see Figure 2). Moreover, the secondary actor only appears on scenes three, four, five, six, seven, and eight (see Figure 3).

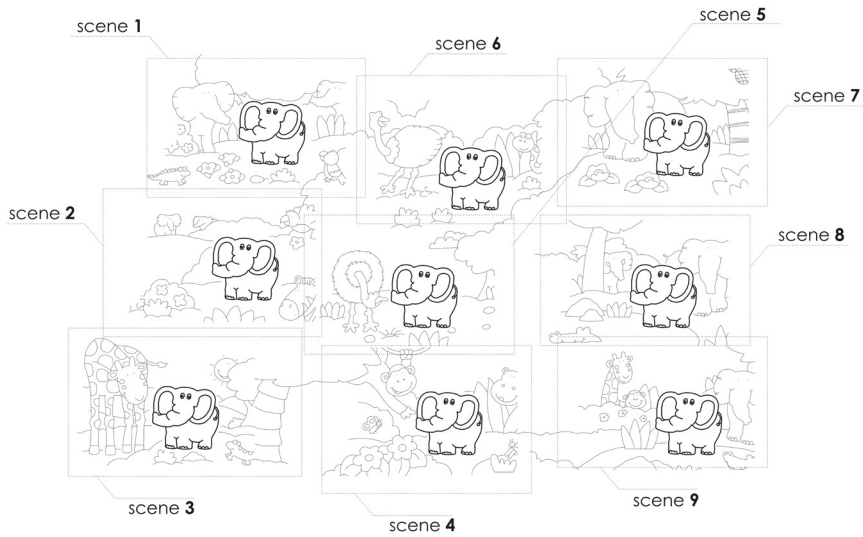

Figure 2. The appearance of the primary actor
Source: Author, 2014

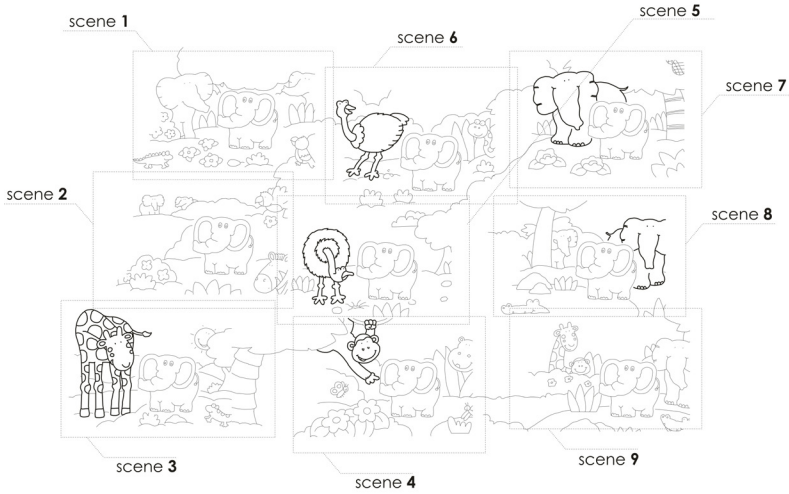

Figure 3. The appearance of the secondary actors
Source: Author 2014

Location

Just like defining the actors of the story, on defining the location from the story of the Elliot, the authors use the sentences and drawings data to define the location where the scenes take places.

From the Figure 1, the sentences do not give any information about the location, and "*when location has not been indicated, readers will simply supply one*" (Mieke, 1997: 215). But, the drawings from the fifth scene at Figure 1 is complete the sentences data by giving a slight information of where the scene takes place. The data does not give the information of the exact location; the data only gives information about a place where there are plants around. The information of the location actually exists in other sentence of the story of Elliot. From the sentences of the second scene, "*He wondered through the jungle trying hard to speak*", the authors conclude that the whole scenes of the story of Elliot actually took place in the jungle. This conclusion was made based on the fact that the sentence which reveals the information of the exact location only appears once and the fact that every drawing of the scenes of the story shows the same character of location.

Time

In the story of Elliot, defining the time is another matter. The authors find that the time should be defined as the whole not only as the separate data. This is important because the goal of the whole text-extracting process is to achieve the story, a journey of sequential experience. Hence, on defining the time from the story of Elliot, the authors stand on their beliefs that the time should be defined as a sequence too.

"*Sequence is a logical concept*" (Mieke, 1997: 214). Hence, one should find the logical order from the time data. From the story of Elliot, the data of the time appears in the third scene. The data are revealed from the drawings in the third scene. The drawings show the existence of the sun, which means that the third scene was at noon. Since the authors do not find any other clue revealing the time of the story, the author then assume that the whole story happened at noon.

In spite of the data on the time when the story happens, the authors believe that this data is not that important for the text-extracting process since it does not reveal any sequence. The authors then used the scenes from the story to define the sequence, and found a logical construction of the time of Elliot's journey in having back his voice. What Elliot did in the whole story, meeting one character to another, actually shows a logical order of sequence. Based on this fact, the authors then defined how the sequence was constructed (as shown in figure 4). The authors use the considered actor's role in defining the sequence. Order arises from the acts of the primary actor (Elliot) who is meeting and interacting with the secondary actors. By defining the sequence using the acts of the primary and secondary actors, the sequence then emerges as episodes. Each episode contains the meeting between the primary actor with every secondary actor.

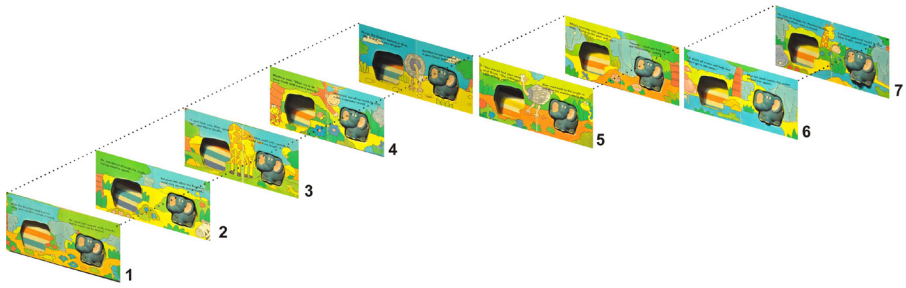

Figure 4. Episodes of Elliot the Elephant
Source: *Elliot the Elephant: Loses His Voice*, 1998. Reilustrated by author, 2013

After defining the settings of the story of Elliot the Elephant, the authors decided that for further step in extracting the story, the location would not be considered. This decision was taken because as it is explained on the location defining section, the location of the story is only in the jungle where from the sentences and drawings data, the jungle does not take part in the resolution of Elliot's problem. Hence, the authors come up with a conclusion that the location does not have an important role in the whole story.

Defining Plot

In defining the plot in order to get the memorable and unique sequential experience in this second step, the authors simply use diagrams. Diagram is used as a tool to project the sequence that happens in the story. This subtlety is taken because a diagram is "*operating between form and word, space and language, the diagram is both constitutive and projective*" (VIdler, 2000: 6). These characteristics of a diagram make it able to perform the sequence in a spatial context.

In defining the plot from the story of Elliot, the authors take two actions. The first is defining the beginning and the ending of the story to determine the general idea of the story. The second is defining the critical path which consists of the episodes in which the settings of the story develop the whole narrative text. This second step is taken to obtain the information on how the general idea is being developed as it shows the sequence of the story which is bridging the beginning state and the ending state.

Beginning and Ending of the Story

In defining the beginning and ending states from the story of Elliot, the authors use the sentences on the first and last episodes of the story. At first, the authors just make an assumption that the sentences from the first episode represent the beginning state of the story, and those from the last episode represent the ending state of the story (Figure 5).

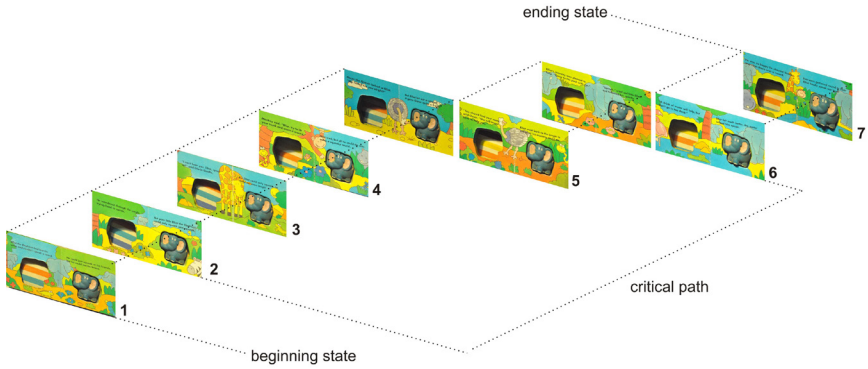

Figure 5. Beginning state, ending state, and critical path
Source: *Elliot the Elephant: Loses His Voice*, 1998. Reilustrated by author, 2013

The sentences from the first episode are: "*Elliot the elephant had lost his voice and couldn't speak a word. He could just squeak to his friends, but he could not be heard*". From these sentences, the problem that happens to the primary actor is implicitly created. It declares that Elliot had lost his voice, and instead of uttering words, Elliot could only squeak.

The sentences from the last episode are: "*He was so happy he shouted loudly and soon there was a crowd. Everyone gathered round to hear Elliot finally speak out loud*". From these sentences, the problem that is stated on the sentences of the first scene is already solved. This condition becomes clear as it is said that Elliot, who had lost his voice before, now could finally speak out loud. But, in the sentences of the last scene, what made Elliot could speak again and how this happened –the solution of the problem– are not told. This solution of the problem is what bridges the beginning and the ending state of the story.

Critical Point of the Story

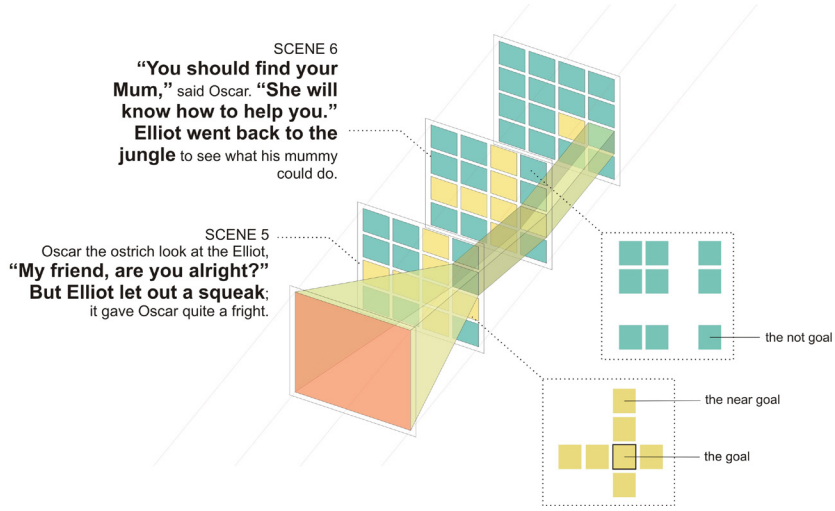

Figure 6. The operation of an episode
Source: Author, 2014

In defining the critical path, one by one, the authors operate the episodes of the story of Elliot and present them as diagrams. Figure 6 shows how the authors operate an episode and present it into a diagram. In Figure 6, the acts of Elliot and Oscar as written in the sentences are performed as layers of outcome. These layers specifically show how every act results in a different condition.

What the authors do in Figure 6 is repeated for all episodes of the story of Elliot (see Figure 7). Each episode, except for the first and last episodes as they are not the critical path, results in a different diagram. From this state, the authors then perform a whole diagram that is the result of all episode diagrams combined (see Figure 8).

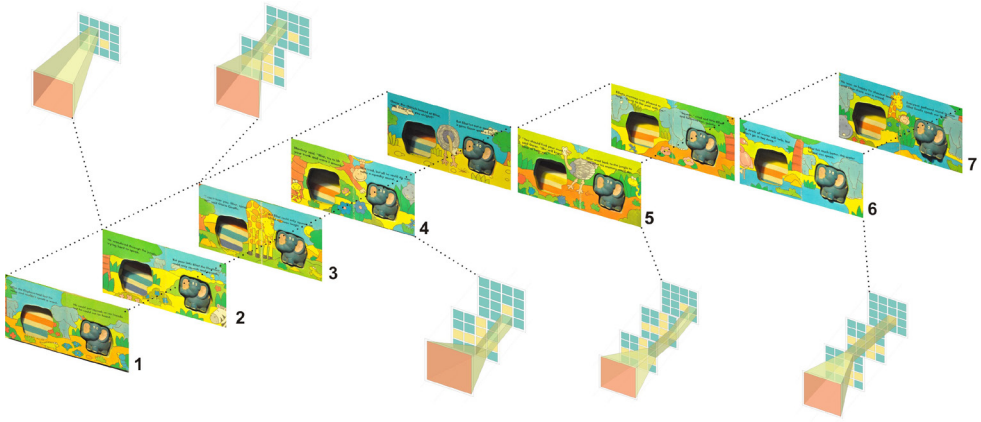

Figure 7. Performative diagram from of each part of sequence
Source: *Elliot the Elephant: Loses His Voice*, 1998. Reilustrated by author, 2013

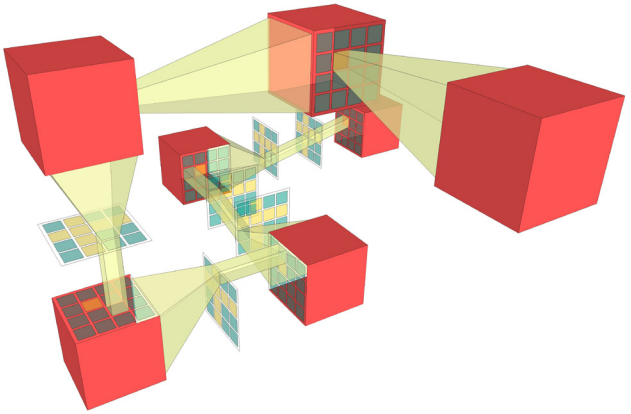

Figure 9. Adopted diagram (programming)
Source: Author, 2013

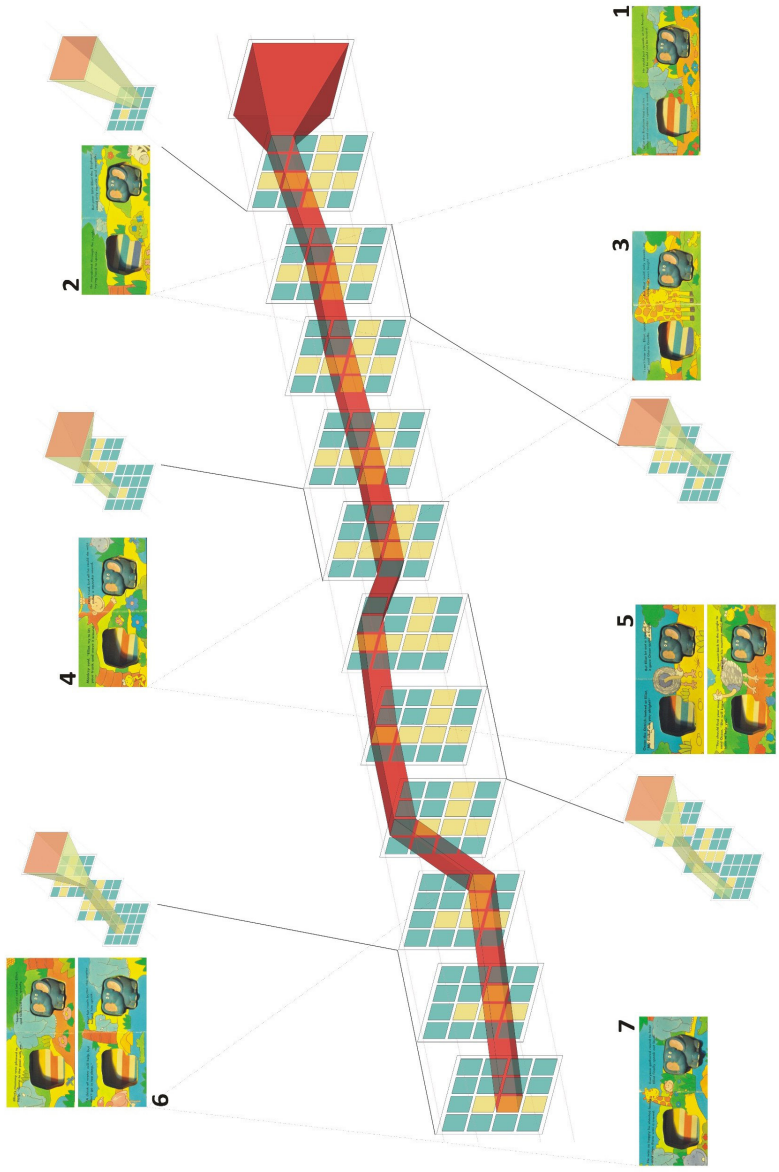

Figure 8. Combination diagram
Source: Elliot the Elephant: Loses His Voice, 1998. Reilustrated by author, 2013

At this point, the process of extracting a narrative text is over. What is shown in Figure 8 is the last step of the whole process. The diagram shows a unique sequential experience as a journey which has a beginning and an ending.

From this step, for the needs of the thesis project, the diagram shown in Figure 8 is adopted into the design process in developing the programming and converted into another diagram (Figure 9).

CONCLUSION

The two steps of the extraction of a narrative text process that are explained in this paper are a simultaneous stage which helps an interior architect create an idea of a journey of experience for the building he/she is designing. These steps encourage the architect to be more creative and critical at the same time.

The process of extracting a narrative text is exceptionally potential for developing a certain experience purpose. The infinite possibilities it offers to achieve certain experience make this process a fine method especially in interior architecture design, since in interior architecture, the interiority embraces the human and what they experience.

Furthermore, the narrative-text extracting process at some point could broader the mindset of the architect when it comes to designing a building, since from this process, we learn that we could use many unpredictable things around us and learn from them: their existence, how they work, and what they mean, and adopt them into our design, with the hope that it will has a character.

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IN SEARCH FOR DESIGN IDEAS: INTERIORITY

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ABSTRACT

Design as an idea is something that comes into our senses virtually unnoticed to become a particular issue of design knowledge in general. Most of the literature addresses the issues as design methods or design thinking. The discussion centers on how to question design. Design may end up becoming styles of different designers or architects, such as Le Corbusier, Louis Kahn, Frank Gehry, etc. This paper seeks to analyze and deconstruct *design* in its etymological form, namely, *signum* as a noun and then as a verb *signāre*, to sign, then Latin *dēsignāre*, to mark out. It is argued that design entails two acts of *imaging* and of *marking out* or making it real.

Keywords: design, signum, folds of rational souls, coil of matters

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INTRODUCTION

This paper challenges a discourse of design ideas that focuses simply on *thinking* – it is straightforwardly conceived as an intellectual exercise, as a method or system approach. Creativity in design demands more than *logos* and methods. It inquires sensitivity that responds to external stimuli especially *signs*. Most of the literature on design focuses on thinking and knowing, among others, Peter G. Rowe (1987), John Heskett (2002), Nigel Cross (2006, 2011), and Bert Bielefeld (2008). Design issues have long been associated primarily with intellect.

Rowe (1987: 5) argues:

> "I am concerned with interior situational logic and the decision-making processes of designers in action, as well as with theoretical dimensions that both account for and inform this kind of understanding."

Cross' argument (Cross, 1982: 221-227), is based on the epistemological issues, namely, on how designers know that they know. He argues that the central concern of design is 'the conception and realization of new things' – things to know, ways to knowing them, and ways of finding out about things. He expands knowledge related to design and finds out two 'cultures' have long been dominating social, cultural and educational systems. He, then, introduces a third 'culture' called "Design with a capital D":

From the RCA report, the following conclusions can be drawn on the nature of 'Design with a capital D':

- The central concern of Design is 'the conception and realisation of new things'.
- It encompasses the appreciation of 'material culture' and the application of 'the arts of planning, inventing, making and doing'.
- At its core is the 'language' of 'modelling'; it is possible to develop students' aptitudes in this 'language', equivalent to aptitudes in the 'language' of the sciences (numeracy) and the 'language' of humanities (literacy).
- Design has its own distinct 'things to know, ways of knowing them, and ways of finding out about them'.

He went on further to contrast the sciences, the humanities, and design under each aspect. We may then become clearer of what we mean by design, and what is particular to it.

The phenomenon of study in each culture is:
- in the sciences: the natural world
- in the humanities: human experience
- in design: the artificial world

The appropriate methods in each culture are:
- in the sciences: controlled experiment, classification, analysis
- in the humanities: analogy, metaphor, evaluation
- in design: modelling, pattern-formation, synthesis

The values of each culture are:
- in the sciences: objectivity, rationality, neutrality, and a concern for 'truth'
- in the humanities: subjectivity, imagination, commitment, and a concern for 'justice'
- in design: practicality, ingenuity, empathy, and a concern for 'appropriateness'

On the other side, Heskett, an author of several books on design, tries to convincingly argue further, but he is a little bit tautological in explaining design by asserting,

> "Design is to design a design to produce a design," (Heskett, 2002: 5).

> ". . . The first is a noun indicating a general concept of a field as a whole . . . . The second is a verb, indicating action or process . . . The third is also noun, meaning a concept or proposal . . . The final use is again a noun, indicating a finished product of some kind . . ."

However, in the next page, he manages to uncover its essence that,

> " . . . design . . . can be defined as the human capacity to shape and make our environment in ways without precedent in nature, to serve our needs and give meaning to our lives."

What follows is that design *should* not reproduce or copy what already existed in the past, but *should* create something new.
What I would like to discuss is the idea that design in a mode of discourse, namely, unravels the idea of design in architecture as something that exists in the process of becoming and presencing. Or in the Derridaean sense, it seeks to deconstruct the very idea of design. It is a metaphysical phenomenon. Gomez's argument (n.d) has an interesting hermeneutical discourse about architecture:

> "Architecture possesses its own 'universe of discourse,' and over the centuries has seemed capable of offering humanity far more than a technical solution to pragmatic necessity. My working premise is that as architecture, architecture communicates the possibility of recognizing ourselves as complete, in order to dwell poetically on earth and thus be wholly human. . . The products of architecture have been manifold, ranging from the *daidala* of classical antiquity to the gnomons, *machinae* and buildings of Vitruvius . . . from the gardens and ephemeral architecture of the Baroque period to the built and unbuilt "architecture of resistance" of modernity such as Le Corbusier's La Tourette, Gaudi's Casa Batiló, or Hejduk's "masques." This *recognition* is not merely one of semantic equivalence, rather it occurs in experience, and like in a poem, its "meaning" is inseparable from the experience of the poem itself. As an "erotic" event, it overflows any reductive paraphrasing, overwhelms the spectator-participant, and has the capacity of changing one's life."

Gomez underlines the "force" of understanding design in architecture through a hermeneutical approach where the sensory experience plays crucial role. *Design/architecture* should be understood as something that appears – a sign-image – as perceived in our mind.

Popper (1972) argues that ideas are derived into two categories: 1) designations or terms or concepts; and, 2) statements or propositions or theories. There are always both objective and subjective concepts and propositions (Bochenski, 1968). Knowledge is always subjective – this is my or your knowledge. While, discourse analysis usually refers to the use of written language, speech, as well as semiotic event markers, the work on discourse is inevitably subjective. Diane MacDonell argues that,

> "Work on discourse, then, is itself not neutral. The questions it poses concerning the historical and material existence of ideologies, discourses and their meanings concerning the ways in which individuals are constructed as subjects, and concerning the relations between theory and practice involved in "speaking for others," are questions that some would prefer never to raise. For there stand, behind the work on discourse that emerged and developed at the end of the sixties and in the seventies, the ultimately political questions of how and how far the society in which we live can be changed," (McDonell, 1991).

INTERIORITY AND EXTERIORITY IN ARCHITECTURE

Better understanding of architecture demands more than simply grasping its material image or technical things of the building, we need to explore what and why it comes to being – to unravel its process of having quality – design ideas. Deleuze (1993) profoundly inspires us to unravel the duality of architecture as being, that is, interiority and exteriority in architecture. He argues that Baroque architecture signifies the 'bottom layer of skin exposed' (coils) and 'upper layer of the souls, rational souls' (folds). The folds diversify themselves in many different directions. They are not fixed as the coils are. The folds result from the self-perception.

> When we discover that souls can have no windows to the outside, we will need, at least at first, to think of this in reference to the souls above, the rational souls, which have risen to the other level ("elevation"). It is the upper level which has no window: a darkened compartment or study, furnished only with a stretched cloth "diversified by folds," like the bottom layer of skin exposed. (Deleuze and Strauss, 1991: 228)

A material interiority, the interior being embodied in the material substance, is both inseparable and changing. William A. Cohen asserts that the souls give meaning to materiality.

> . . . a self at once bounded in the body's material substance and open to being changed and reshaped. The interior being is both inextricable from the flesh and mutable; its identifications (masculine or feminine, dominant or submissive, master or student) shift fluidly, while it remains fundamentally embodied (Cohen, 2003: 443-476).

The discussion particularly addresses a new **sub-discipline of architecture** in the Universitas Indonesia – *interior* ***architecture***. This is meant to be conceived completely different from that of the *interior* ***design*** where *design* is a discipline. *Interior* is an adjective that gives more information about or qualifies the noun, i.e., architecture. It is architecture, but it focuses more on its interiority. It is about interiority of architectural space: the human life-cycle space. It ranges from a very micro, a self-secluded space, to a macro-urban space. In the urban space, interiority subsists within its urban exteriority.

This discussion will seek to unravel, untangle the terms *interior, architecture* and *design*. Interior (Patridge, 1983), as an adjective means being placed on the inside or is something 'placed' in between. The state of being in the interior or *interiority* clarifies the quality of the corresponding noun. For this reason, *interior architecture* refers to a quality of architectural space that instigates the rational souls of the material object. *Interiority* is a subjective concept about psychological existence – a mental image of being in the inside. It results from sense-stimuli in conjunction with the act of perceiving and perception. Merleau-Ponty (2002) asserts that perception results from sensation out of which is perceived as a unit of experience – sign.

In such a view, interiority is subject to being perceived differently by the different subjects. It has nothing to do with logics of a fix or the resemblance of appearances of things. It concerns a process of presencing, becoming or having quality. In the design realm, as Johnson (1999) argues, interiority is then about inner life – the life of thought, the life of heart, the life of dream and memory of *the designer*. It is about how he perceives a thing in his heart and mind as he is confronted with what he 'sees' as the *signum* of being, of the interiority he is *confronting* as well as *imaging*.

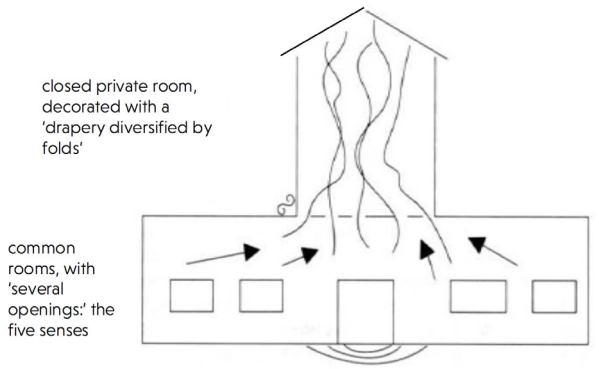


Figure 1. The Baroque House (an allegory)
Source: Deleuze, *The Fold: Leibniz and the Baroque*, The Athlone: London, 1993, p.6

Our senses produce sign-image from what we 'see' in the act of perceiving of a being or becoming. The 'object' of our thinking is perceived as metaphysical being which is not external to our mind. It is in the mind. It is something like an *illusion*, - a *deception*, since it has nothing to do with the *real,* it does not state the objective *thing* but rational souls, the folds of being (Patridge, 1983). Interiority in this sense is about a communication between the two levels, between the two labyrinths, between the coils of matter and the folds in the soul. Coils of matters could be rightly understood as the manifestation of architecture. As a human life-cycle space it is tangible in terms of its shape. Interiority at this level is materially perceptible in elements such as furniture, lighting, decorated walls and columns. At the second level, folds in the soul refer to "folds of self-spaces mediating interiority". It is the soul of interiority, a metaphysical space that illuminates the coils of matters.

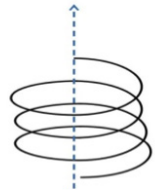


Figure 2. Coil: "Linearity" of Repetition & Difference - *Exteriority*

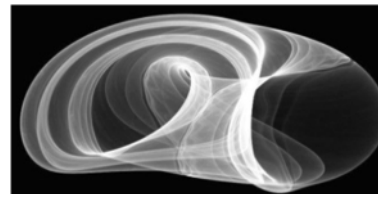


Figure 3. Folds: "Stretched clothes" or Bifurcation or Chaos – *Interioirty*
Source:
Left: http://lcmattson.deviantart.com/art/Folds-Study-sketch-304180720, 27.0614;
Right: http://speculativematerialism.files.wordpress.com/2013/07/ lorenz_attractor.jpg, 27.06.14

DESIGN: AN IDEA BETWEEN *SIGNUM* AND *DĒSIGNĀRE*

Design as a subject and its analysis apparently has not been given much special attention. Generally, the 'design' becomes part of knowledge and an application of certain disciplines, such as architecture and engineering techniques, so most of the design idea is analyzed as a means, a method to produce a product. In this sense, design is a process that sets rules in order to create or produce something. Design in this context becomes partly empirical as a way of thinking and acting.

The etymology of the word 'design' is derived from the Latin word *signum*, a distinguishing mark, a sign, a signal. *Sign* refers something to human senses that is perception – an *image* – before it is presented as special marking in various media such as wood. The noun *signum* derives a verb *signāre*, to sign, then Latin *dēsignāre* (*dē*- word affixes that show intensive use), to mark out, and Late-Latin to name, becomes Medieval French-French *designer, which* means 'designer to design'.

Thus, the term *design* as a verb is a derivative from an act of perceiving about something - a *sign*. Saussure sees a sign as combination of the form of something – its image – a *signifier* (as perceived by human cognition) and its meaning – *signified* (the content as understood by a human as the sign user). As a form of communication then design becomes the object of discussion related to mark the sender and receiver of a sign. I will not discuss the design from this approach, but the design as a *sign*; whether these signs are already given, such as an expression or an indication. In further understanding a sign, Derrida criticizes Husserl to say that the sign had meaning (without having to be given by a human):

> "Husserl begins by pointing out a confusion: The word "sign" (*Zeichen*) covers, always in ordinary language and occasionally in philosophical language, two heterogeneous concepts: that of expression (*Ausdruck*), which is often wrongly taken as a synonym for sign in general, and that of indication (*Anzeichen*). But, according to Husserl, there are signs that express nothing because they convey nothing one could call (we still have to put it in German) *Bedeutung* or *Sinn.* Such is the indicative sign [*indice*]. Certainly an indicative sign is a sign, as is an expression. But, unlike an expression, an indicative sign is deprived of *Sinn* or *Bedeutung*; it is *bedeutungslos*, *sinnlos*. But,

> nonetheless, it is not without signification, by definition there can be no sign without signification, no signifying without the signified. This is why the traditional translation of *Bedeutung* by "signification," although the time-honored and practically inevitable, risks confusing the whole text of Husserl." (Derrida, 1973: 17).

According to Derrida's language it is the text, not the speech, and the meaning, namely, the relationship between the signifier and signified, that is not static or fixed but *différance* – and was never completed. *Dēsignāre* refers to the activity marking very carefully and with an 'accurate emphasis' (intensive). The activity of marking a process is a sequence of human thinking initiated by the perception that produces an image, from which eventually results in a conception. The problem between perception and conception is the language, when 'we' say or explain 'sign'. Popper warned that,

> ". . . they believe that it is not our interpretation of what is 'given' to us by our senses. Our senses tell the truth, but we may err, for example, when we try to put into language – conventional, manmade, imperfect language – what they tell us. It is our linguistic description which is faulty because it may be tinged with prejudice."

It is clearly comprehensible that understanding and communicating or explaining signs will further incite the problem of *language*. *Language* in architecture is usually developed by and among practitioners. However, with the increasing number of schools of architecture around the world and in the academic environment a *language* in architecture also develops. Geometry and graphs are the technical language in architecture. Signs in architecture design are interpreted into graphical scores such as floor plans, elevations and sections. In this regard, *signum* or rather *dēsignāre* is a way or form of communication in which sign has been delineated or portrayed by the human mind and then has to be delivered to others. The crucial issue in architectural design questions:

Is there, if at all, any difference between perceived *signum* and *dēsignāre* in the design process which is manifest in the models and drawings?

Is it contentious to formulate propositions, theories on architecture for *signum* vis-à-vis architecture design or *dēsignāre*? The first concerns metaphysical *being* in that it is not '*nothing*'. The latter concerns a manifestation or the presentation of *being* into *something* in an empirical world.

Signum is about image, perception and imagination. What and how do humans perceive things? On imagination, Baudelaire in the 19th century asserts,

> "*Tout l'univers visible n'est qu'un magasin d'images et de signes auxquels l'imagination donnera une place et une valeur relative; c'est une espèce de pâture que l'imagination doit digérer et transformer*. (The whole visible universe is but a storehouse of images and signs to which the imagination will give a relative place and value; it is a sort of pasture which the imagination must digest and transform,)" (Baudelaire, 1859: 16).

A famous quotation of Einstein is,

> "Imagination is more important than knowledge. For knowledge is limited to all we now know and understand, while imagination embraces the entire world, and all there ever will be to know and understand," (goodreads, n.d).

Images are everything, a kind of phenomena that has been perceived and stored in the human mind or brain. These include events and natural worlds that are pictured and stored in the mind. This is the *interiority* of imagination and perception. It consists in signs and symbols. *Signum* results from an inception.

DESIGN INCEPTION: *INTERIORITY* VIS-À-VIS *EXTERIORITY*

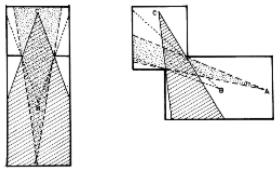
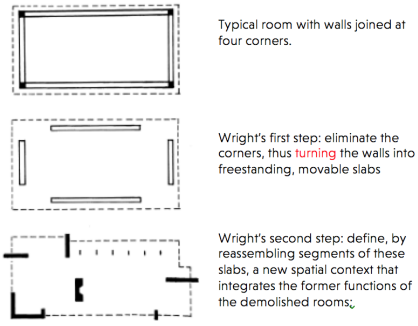
Inception from Latin *incipere*, to begin, derived from *incapere, in* + *capere*, to take, an act, instance of beginning. Design inception refers to an act of beginning to design – *signum*. It is *signum* of what we "see" in our mind. It could be an index, icon or symbol. The design process will then *change* the perceived and conceived facts and then it will be changed into a different *being* that was never in existence before. Understanding *being* is to grasp what appears in our mind. It is the folds or rational souls of being.

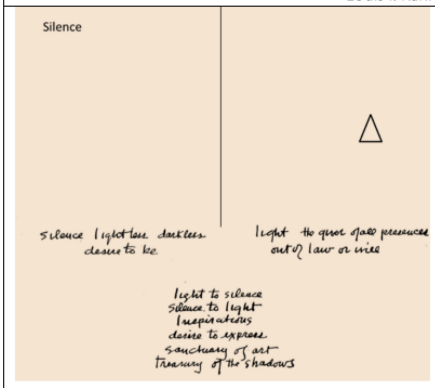
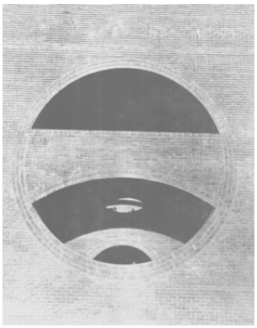
Imagination, until the 1980s, had been ignored as a source of knowledge, as Casey clearly states,

> "Ever since Plato declared imagining to be mere pseudo- or shadow- knowing-a form of *eikasia*, the lowest species of mental activity-Western philosophers have striven to put imagination in its place: a strictly subordinate place," (Casey, 1976: 202-225).

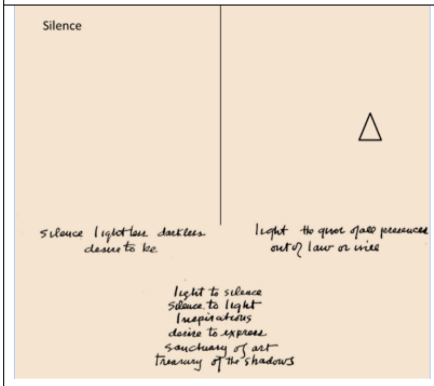
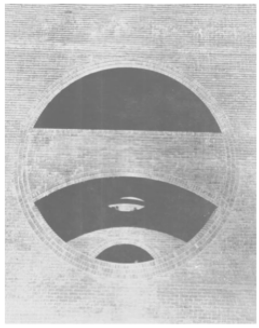
Empirical science dominated the so called *scientific* enterprise until the 1960s, especially in the advent of the movement against positivism in social sciences, such as in *antipositivist sociology, psychoanalysis,* and *existentialist philosophy.* Imagination in the process of design inception will sieve images related to architectural phenomena, a process of having quality, a spatial quality in the state of being in the interior, that is - *interiority*. It is a mental process. In such a process, the sign-image is then expressed as codes. These codes are then conceived by our mind. They are affirmed by word(s) or concept(s) and supported and defended by propositions, theses, and theories.

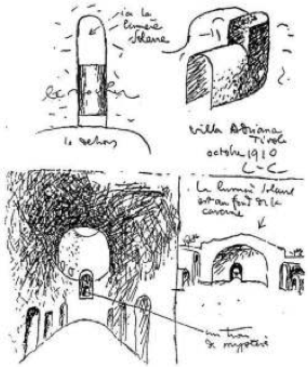
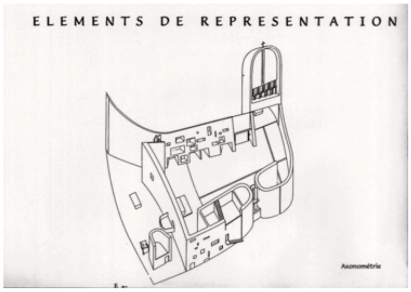
CASES: WORLD ARCHITECTS

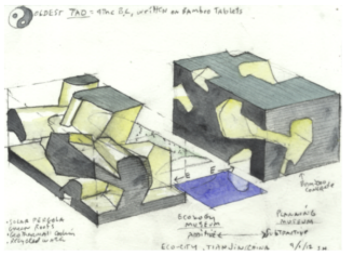
Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Frank Lloyd Wright – *Destruction of the Box*	
 Source: Brooks, H.A., 'Frank Lloyd Wright and the Destruction of the Box'. *Journal of the Society of Architectural Historians,* Vol. 38, No. 1 (Mar., 1979), pp. 7-14	 Typical room with walls joined at four corners. Wright's first step: eliminate the corners, thus turning the walls into freestanding, movable slabs Wright's second step: define, by reassembling segments of these slabs, a new spatial context that integrates the former functions of the demolished rooms; The Schematic Plan of Usonian House Source: Brooks, H.A., 'Frank Lloyd Wright and the Destruction of the Box'. *Journal of the Society of Architectural Historians,* Vol. 38, No. 1 (Mar., 1979), pp. 7-14

Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Louis I. Kahn – *Silence & Light*	
 Source: Le Ricolais, R., *l'architecture d'aujourd'hui* , No. 142 (Frevier-Mars., 1969), p. 6	National Assembly Building, Bangladesh  Source: Le Ricolais, R., *l'architecture d'aujourd'hui* , No. 142 (Frevier-Mars., 1969), p. 6

Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Antoni Gaudi – *ad majorem Dei gloriam*	
"We own the image. Fantasy comes from the ghosts. Fantasy is what people in the North own. We are concrete. The image comes from the Mediterranean. *Orestes* knows his way, where *Hamlet* is torn apart by his doubts." (Source: http://en.wikipedia.org/wiki/Antoni_Gaudi, 07.07.14) Michael Rose: "He truly worked *ad majorem Dei gloriam*, for the greater glory of God." (Source: Rose, M., 'Antoni Gaudi: God's Architect'. In *Journal of the Institute for Sacred Architecture*. Vol. 3, No. 2 Issue 4. 2002, p.12.)  http://kerryjiayilin.files.wordpress.com/2010/05/gaudi09.jpg	"Do you want to know where I found my model? An upright tree; it nears its branches and the branches bear the twigs and the twigs bear the leaves. And each individual part grows harmoniously together, magnificent since God the artist create s it." (Source: Gössel, P. (ed.), 'Gaudi I Conet, A'. *Modern Architecture.* Taschen GmbH, 2007, p.334) 

Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Louis I. Kahn – *Silence & Light*	
 Source: Le Ricolais, R., *l'architecture d'aujourd'hui* , No. 142 (Frevier-Mars., 1969), p. 6	National Assembly Building, Bangladesh  Source: Le Ricolais, R., *l'architecture d'aujourd'hui* , No. 142 (Frevier-Mars., 1969), p. 6

Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Le Corbusier – *Architecture is the masterly, correct and magnificent play of volumes brought together in light*	
 Source: Le Ricolais, R., *l'architecture d'aujourd'hui* , No. 142 (Frevier-Mars., 1969), p. 6	Chapel, Ronchamp  Source: Découverte d'une architecture, *La chapelle de Notre-Dame-Du-Haut Ronchamp, Le Corbusier*, January 1999. http://www3.archi.fr/CAUE25/IMG/pdf/Ronchamp1999.pdf, 15.07.14

Signum: Rational Souls – *Interiority*	*Dēsignāre:* Coil of Matters/Methods – *Exteriority*
Steven Holl – *buildings that satisfy the spirit as well as the eye*	
 Source: http://studiothree2012.blogspot.com/2012/10/sketches-at-moma.html, 17.07.14	Eco-City, Tanjien, China  Source: http://arch2o.com/wp-content/uploads/2013/03/ Arch2o-Tianjin-Ecocity-Ecology-and-Planning-Museums-Steven-Holl-Architects-25.png, 17.07.14

CONCLUDING REMARKS

Signum, signāre and *dēsignāre* are three distinct concepts that derive *design*. *Design* conveys an idea that signifies a sign-image as well as its subsequent representation. It entails a manifestation from what is perceived and conceived both objectively and subjectively. While objective knowledge unravels the "contents" of being as perceived & conceived, subjective knowledge provides explanation, proposition over what is "seen" as a mental pattern of the human brain. What is "objective" refers to what is "out there" as experienced. Design as subjective and metaphysical concept cannot be a fixed proposition, theory. It defers any fixation.

Since design is a metaphysical concept. Creativity in design can be sufficiently attained as long as the design process is instigated from a proper mode of thinking, namely, contemplation. It will then derive ideas from what is confronted in the mind – a sign. To materialize the sign to become design objectives, it is then has to be objectified or reified into something real in architectural terms – a real, geometrical and architectural space.

Finally, as a phenomenon of interiority an alluring basic question comes across to my self is that how could I *see architecture* simply in the mind and not something present out there?

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BODIES COVERING - INTERIOR SPACE. CONSIDERING CLOTHING AND ITS RELATIONSHIP TO INTERIOR DESIGN.

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PROLOGUE

The BA Design courses at the New Design University (NDU), based in Austria, attempt to offer a broad design education, not limited to the specific subjects of one course. In the second year of undergraduate studies the students are offered the opportunity to participate in an interdisciplinary project run by an invited, visiting professor, which seeks to broaden the students' viewpoints on their field of study, to confront current issues and seek to broaden contemporary dialogue within design education.

Often these semester projects introduce a related area of design, as is the case in the projects introduced in this paper. Patricia Hepp[1], professor from KISD – Cologne International School of Design and an interdisciplinary designer, working in the field of textile design and exhibition for artists, who works practically and theoretically with the subject of 'clothing', requesting and developing design strategies in this field.

INTRODUCTION

'Interior Architecture begins at the lining of my clothing' from 2010 and 'Body Coverings: Textile Spheres in Space' from the winter semester 2013 are the titles of two studio-based, student projects carried out at the NDU describing the concern to research the relationships between the body, its coverings and the designed space that surrounds us.

The aim of the projects was to look at the design of space from the inside, from the point of view of the individual that moves in the room. This point of view is the personal 'self' in the surrounding enclosure. The identification of the 'designer of space' (Architect, Interior Designer) with the person that acts in that room is intended. A further aspect the project offered was an investigation into material itself, that of textile and clothing as well as that of building fabric and enclosure. Essentially, material, both for the fashion as well as for the building industries, with its flat, two-dimensional character becomes three-dimensional as soon as it is wrapped around or applied to the body or frame.
Regarding our skins as a shelter or protection for both body and personality, both projects focused on

the analogies of clothing, to the 'second skin', and to interior design and the 'third skin' or the enclosure, without a given location or host building.[2]

The resulting body shelters can be explored and revealed as information boards of the personality inside. Textiles and materials were researched not only for their functional properties as physical protection, but also as shelter for the psyche and as information boards of the personality inside.

Student works and installations visually described the concern to research the relation of the body, with its body covers, and the designed space that surrounds us, looking at transitions, from the body surface – the skin, to covering surfaces – our clothing, to interior architecture and architecture.

Finally the resulting interspace, between body and the surrounding surfaces came into focus. The transition from the inner, private body coverings to the outer coverings, the public domain, became self-evident. The experiment of reversing body coverings, the outside to the inside became a playful consequence. Requesting and even exchanging conventions of inner and outer spaces became a challenge to find new design concepts.

In the first project the emphasis lay on experimentation without a given host building. In the second, follow up project, a new group of students was again asked to consider and engage in this conceptual model, but this time in the temporary accommodation of a disused textile factory – 'The Glanzstoff'.[3] The old factory space was brought into focus and the students were asked to use this as the site and the enclosure of their investigations. Palimsest, layers of the past, both from the building fabric, but also difficult memories of the past, were added to the task and addressed by the students.

The perception of the "designed space" inside was provoked - with direct reference to one's own experience of the space. The students were asked to investigate the ratio of inside to outside, from the private shell to the public enclosure and analysis the subjective space between self, body and surroundings and what gaps open up between them.

TOOLS AND TACTICS

In both projects, the methodologies used and tools and tactics of the projects were similar. By means of an initial photographic research the students dealt with the question of where architecture begins. 'Space Creation Situations' were documented and presented. This photo work sensitized not only the spatial dimension of clothing, its importance as a protective covering but also the many spatial situations in the immediate vicinity. In the next step, these surrounding units, the spheres, were discussed for their benefits and their function for the individual. Privacy, the working spheres, spheres of retreat and communication spheres were recorded graphically by means of diagrams, as a statement of the student's own personal Living Units, similar to those of Andrea Zittel project 'Living Units', a diagram of human covers, A-Z Studios 2005 [4]

This was followed up by impromptu experimental investigations textiles and materials, also documented in a photo series. Here the students were able to experience different qualities of textiles made from transparent light fabrics, foamed rigid material up to heavy, thick fabrics. From these free investigations a list of requirements arose.

Based on this preliminary work, the formations of psychological spheres through physical spaces were constructed, relating to their users' needs. The different needs of these spheres were developed - whether they are suitable to work, to retract, to communicate or for contemplation. It was investigated to what extent textile rooms could fulfill these tasks; which could be mobile, temporary or changeable.

The range and scope of these full scale installations was varied and wide-ranging. Here the students could show how these developed textile spaces communicate and what atmosphere they can produce.

RESULTS

The resulting projects from the first project appear free and artistic. The aim was not to succeed in the solution of a certain function of a room, such as designing a shop interior, but to develop a project, that deals with a concept. As a result of this process, a full size prototype was requested, to avoid useable scaled models, and in order to solve the construction details at full scale.

In the second project, where a host building was given, it was interesting to observe that within the large space and unlimited possibilities the temporary NDU Hall in the Glanzstoff many students found the need for "cocooning", physically and mentally - the intimate space within a space, privacy was sought. Project work concerned itself with creating safe havens: places to chill out, to relax or for the targeted concentration and communication in small units.

Conversely, it was a luxury to observe and start a discourse with the students into the positive reactions such generous spaciousness such as that offered by the Glanzstoff can have on the course content of such programs and how this affects current interior design dialogue. These large and architecturally undefined spaces can open fundamental questions for interior architecture to grow and stimulate the discussion on the role of space and atmosphere.

PRESENTATION AND CONCLUSION

It was hoped that both studio projects would challenge the conventional ways of thinking about interior architecture and clothing, revealing the potential that can be gained by an increasingly fruitful dialogue between the two.

A requirement of the main project in both semesters was to develop a final presentation with the character of performance and a celebration not unlike that of a Fashion Show, rather than end presentation 'pin ups' the students were used to. The year groups collaborated in this, to transport the whole concept in all its different aspects of each project. Some of them are wearable devices, some are more static objects; some expressed the concept in film form. Each student or group of students had to take over responsibility for the final presentation – the graphics, announcement, choreography, stage design as well as the situation of the audience, or the sound and light system.

Finally, the results of the design project were documented by photographer Craig Dillon in cooperation with the students. Here the experience of storytelling could be introduced to the program, where the students worked with the photographer explaining and guiding him through the individual works. Interestingly, this gave the students an opportunity to reflect on their actions and the resulting projects and allowed them the opportunity to direct and guide the photographer in order to best describe the projects through this photographic record.

REFERENCES AND NOTES

[1]Patricia Hepp and I came together through a series of events which led our paths to cross. In 2009, I made a small lecture and workshop on the request of Chris Lefteri at 'In-Cosmetic 2009' in Munich after being invited by Chris to talk about bridging the gap between the materials industries and the cosmetic design community and the development of the nanotechnologies. Workshops and talks were held to discuss the links between architectural skins and our skins as the functional interface between inside

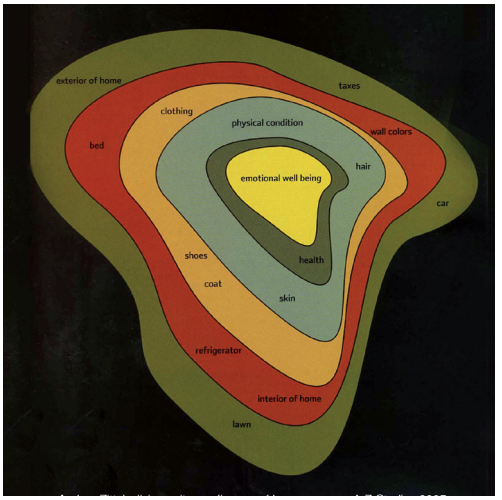
and outside. At this time I was developing the concept of 'interspace' related to building facades and presented different instances of architectural skins as multi layered structures not unlike our own skin, precisely organized to perform and deliver specific functions.

Also presenting was Nancy Tilbury from Kingston Uni's Post Graduate Fashion MA. She presented her short film 'Digital Skin and Living Materials' set in 2050, where Couture becomes a biological experience. Clothing is assembled by gas and nano-electronic-particles, where tailoring and cosmetics are constructed by 3D liquid formations, including swallowable technologies exciting the mind, body and soul through physical expression.

Back in London, and discussing Fashion, Architecture and Cosmetics, Chris Lefteri brought my attention to Patricia Hepp, a former colleague of his at the RCA, and her investigations considering clothing and its relationship to interior design taking the starting point as the works of Andrea Zittel. The diagram embodied for me the current ideas of 'Interiority' in architecture, limited not only to the psyche of the inner self, but related to all of the elements that affect the quality of human life: emotional wellbeing, skin, clothing, interior of home, exterior of home, all the interdependencies and their relating interspaces.

[2] Here we have to acknowledge the work of Anni Albers, "The Pliable Plane: Textiles in Architecture," Perspecta The Yale Architectural Journal 4, 1957. Abridged and reprinted as "Fabric. The Pliable Plane," in Craft Horizons, 18, July-August 1958 http://albersfoundation.org/teaching/anni-albers/texts/#tab4

[3] The Glanzstoff factory was a major employer of the population of the town and closed in 1999 and has lain disused since. The main material produced was viscose rayon fibres and materials. 'Glanz' is German for 'Shine' and 'Stoff' for Fabric. The Glanzstoff factory has a difficult past. For the working population of the town it provided the main income to many of families but under extreme conditions due to the processes involved. Until the late 80's the town would smell of the chemicals used in the factory and this was seen by many as a major health hazard and gave the town a negative reputation. St. Poelten has only recently begun to come to terms and to actively research into the period between 1938 and 1945. Forced labour was made to work in the factory during the Second World War and housed in a nearby detention area destroyed soon after the war.



[4] Andrea Zittel: 'Living Units', a diagram of human covers, A-Z Studios 2005

ASSISTING INTERIOR DESIGN CLASS USING ONLINE 3D APPLICATION

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ABSTRACT

Learning visual subject that involves creativity, technicality and drawing skills is very challenging, time consuming and sometimes very frustrating. It requires passion and patience in order to understand and master the skills. Our study focuses on implementing a method to assist the students in understanding visual subject particularly perspective drawing in interior architecture programme at the College of Fine Arts and Design (CFAD), Sharjah University. An online 3D application known as Autodesk Homestyler has been used to assist sophomore students to understand perspective drawings. The main problems for these students are difficulties in visualising and understanding 3D space, scale, proportion and object depth in perspective drawing. Implementation of this method allows the students to understand the subject effectively. Samples of student work, before and after the implementation are shown to demonstrate the effectiveness of this method. The result shows that traditional drawing skills that enhanced and aided by the technology such as online 3D application will give more promising result and this hybrid method has great potential for future development.

Keywords: 3D application, interior architecture, Homestyler, visual subject, perspective drawing

INTRODUCTION

This paper discusses about the experience in teaching and assisting sophomore students in Interior Architecture to understand perspective drawings, space and its interior design context at CFAD. These students have been introduced to the fundamental drawings, line quality and basic perspective in year one level. It is highlighted to the students that the fundamental of drawing is very important for design communication particularly in the initial stage of design process. Unfortunately, this is insufficient for sophomore level. Indeed, perception of space, forms, scale and surroundings are very complex design process (Imam 1999). We introduced a method which combined a traditional design skills; sketches and drawing assisted by online 3D application by Autodesk known as the Homestyler. The uniqueness of this 3D simulation technology has attracted many interest in its potential and has been widely used in many industries (Sun 2013). In this exercise, we highlighted the importance of freehand drawing. (Tolba, Dorsey et al. 1999) explains, "*Freehand sketching has long had appeal as an artistic medium for conceptual design because of its immediacy in capturing and communicating design intent and visual experience*". According to (Whale 2002) , there are some circumstances in the field or art and

design, which the use computers for drawing would seem to confer few tangible benefits. The use of these combined methods initiated due to lack of understanding 3D space visualisation and difficulties in visualising perspective drawing. This hybrid method has given a significant contribution in assisting students to understand design elements in perspective drawing. Lawton (2007) sees this as a bridge creating balance between two domains; visual arts and sciences.

In this exercise, students have to complete unit 3A: Understanding and Exploration of Space as one of the university's requirements before they can proceed for the next following years. This unit is designed to stimulate investigation into the pragmatic aspects of design, including human behaviour, universal design concepts, ergonomics, structure, materials and construction, and their integrated application in creating interior and architectural spaces in conjunction with recommended research of contemporary architectural and interior design examples. We evaluated the students' perspective drawing skills based on the first stage (proposal), second stage (using online 3D application) and final stage (improvement of the drawing based on both stages (1 and 2)) . The early stages fully utilized traditional media such as pens and pencils as a means for communication (Dorsey 1998, So, Kanaya et al. 2007). Using online 3D application is very effective (Sun 2013) and the design process would be better with the use of computer application to simulate its process (Jun 2012). The effectiveness of this method is demonstrated with the given samples of students' work before and after the implementation.

ISSUES

From the observation, it is found that the students have some issues in understanding the perspective drawings and how to visualise objects like furniture and accessories from perspective angle. In addition, majority of the students are still facing proportion and scale problem. Most of the drawing elements are not well scaled and proportioned with its surrounding. The depth of the objects in the drawing are always incorrect. This is also related to the skills in orthographic drawing projection which affects the presentation drawings particularly perspective drawings. Our first attempt to overcome this is by suggesting the students to evaluate and visualise the surrounding environment, mock-up model and take photos for perspective drawing reference. The problem with the mock-up model, it cannot be constructed until the drawings have been finalised and reference photos from surrounding do not match with the design scheme.

METHODOLOGY

To facilitate this problem, further investigation was carried out and we proposed to adopt online 3D application to assist this. Autodesk Homestyler was chosen to assist the perspective drawing problem. The use of this application was justified based on its available as a free online 3D tool for interior architecture purpose, have numerous numbers of furniture library and not depending on extensive hardware requirements.

Firstly, we identified the problem by evaluating a series of students' drawings and categorised the problems into several categories such as scale/proportion, lines quality, object depth, vanishing point and drawing details. Figure 1 shows some of these problems in the drawing. Some of the elements like windows look flat and no depth. There is incorrect vanishing point for perspective which resulting strange object angle and orientation. Floor tiles are flat and proportion are wrong.

For the next steps, students used their draft plan as reference to reconstruct 3D plan in Homestyler. Furniture and accessories were placed accordingly to the plan. Cameras were placed and perspective angles were set based on individual basis. The images can be produced in three styles; basic snapshot, high-resolution snapshot and 360 panorama. Students can choose the best angle as their perspective reference. The entire workflow for this process is shown in Figure 2.

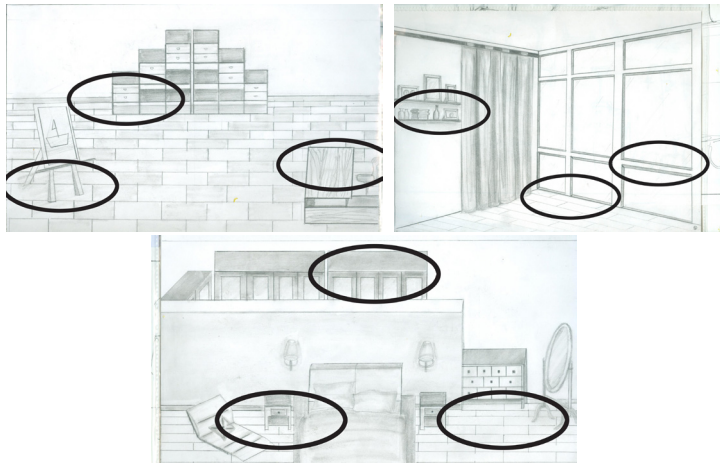

Figure 1. The first perspective drawing based on proposed plan using no references
Source: Student exercise on perspective drawing

Draft plans → CAD Plan (Homestyler) → Furniture/accessories placement → texture/lighting → camera setting → rendered images

Figure 2. The workflow of creating reference perspective in Homestyler
Source: Homestyler file of student work

In this case, basic snapshot is recommended for perspective drawing reference. Images from snapshot were used as guideline and comparison. Student can justify the right angle of perspective, object depth, scale and proportion of the whole design in their drawing. Figure 3 shows the camera setting used in Homestyler to create reference perspective image.

Figure 3. The main interface of Homestyler
Source: Homestyler file of student work

RESULTS

The implementation of this hybrid method, online 3D application and traditional drawing have helped students to understand interior spatial context, able to visualise and imagine perspective in 360 degree. The reference created in Homestyler helped students to evaluate how the actual final design looks like. In addition, quality of the drawings can be improved by doing more drawing exercise and the previous perspective drawing problem were solved with correct design elements, proportion and scale. We carried out a survey to evaluate the effectiveness of this method. 26 students participated in this survey and some of the significant findings are presented in the following figures (Figure 4,5 and 6).

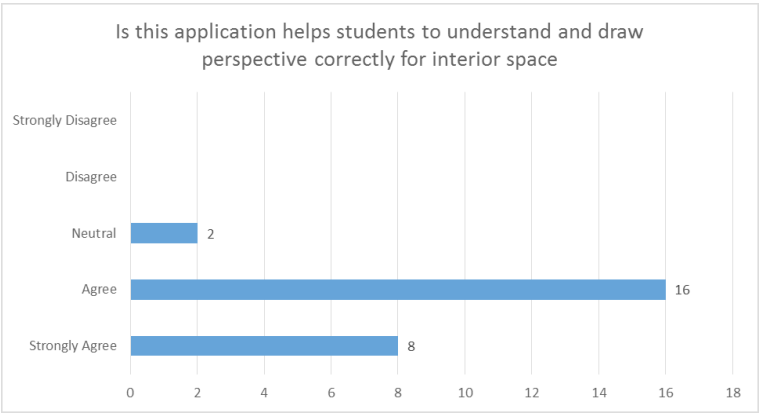

Figure 4. Is this application helps students to understand and draw perspective correctly for interior space
Source: Survey for using Homestyler

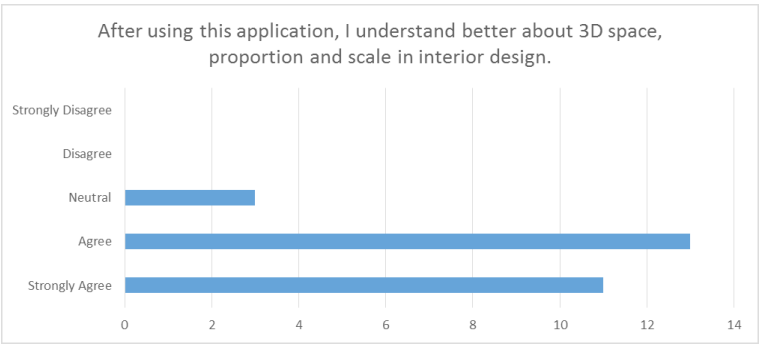

Figure 5. After using this application, I understand better about 3D space, proportion and scale in interior design.
Source: Survey for using Homestyler

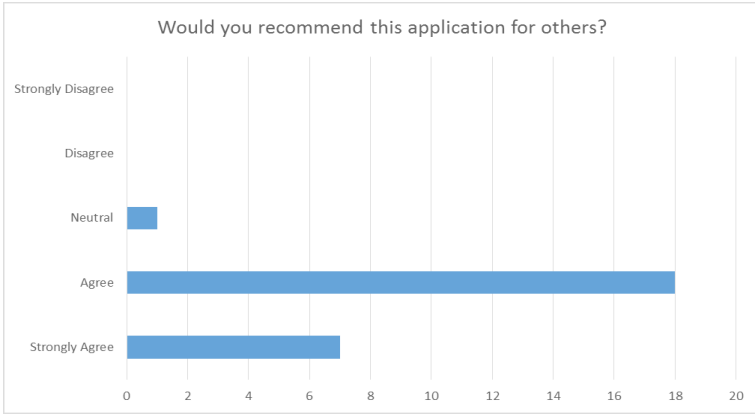

Figure 6. Would you recommend this application for others
Source: Survey for using Homestyler

From the findings, it is found that the use of Homestyler as a tool to assist students to visualise space and to draw perspective drawing has given a significant result. Figure 7 shows the quality of the drawings produced after the implementation compared to the early development in previous figure 1. It can be seen that the perspective vanishing point, scale, proportion, line quality and framing of the perspective were well presented and properly drawn compared to the early drawings.

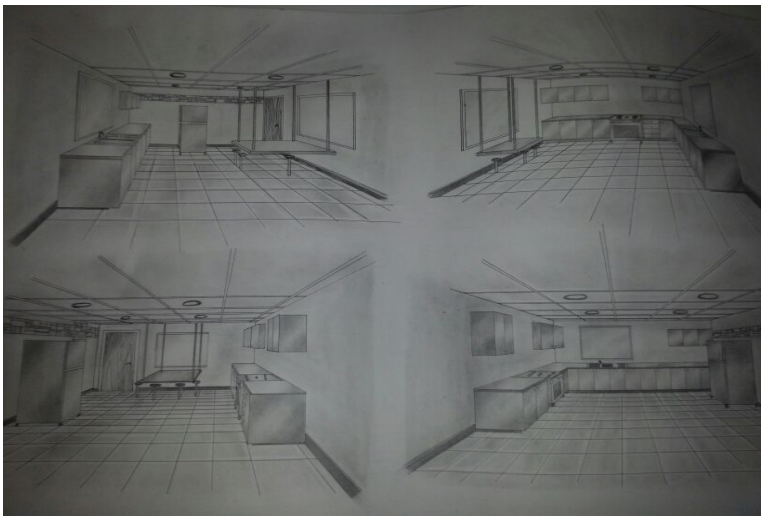

Figure 7. The improvement of the drawing skill after training and using reference from Homestyler
Source: Student exercise on perspective drawing

CONCLUSION

In this paper we have described our implementation of combining traditional drawing skills for perspective drawing assisted with 3D online application known as Homestyler. This method has

solved some problems with the students who have difficulties in visualising and imagining 3D object in perspective drawing. From our observation, fundamental issues in interior design like understanding spatial elements; scale, depth, proportion, orthographic projection can be assisted by implementing this method. Our studies have shown some samples of learning improvement particularly in interior design foundation. Samples of the early stage of students work have been presented and the process of applying this method have been explained. Finally, the output from this hybrid method is shown as a result of its effectiveness. This method will continually to be used to assist students in this exercise.

FUTURE RECOMMENDATION

The idea of using this hybrid method is not to replace existing traditional perspective drawing skills. It is to assist the weakness in the early perspective drawing development particularly for sophomore students. It is suggested that the introduction of the perspective drawing with consistent training and exercises supported by 3D images as reference would benefit the learning process. We are currently looking forward to work with 3D programmer to create an application which use less computing power with minimal graphics features such as creating 3D outline out of 2D drawing. This would be more useful and practical for reference drawing due to the requirement of perspective drawing is the right angle and proportion.

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MINIMUM STANDARD AND LIVABILITY

Studies on the Postcolonial Histories of Interior Typologies of People's Housing Development in Jakarta from 1950's - 1980's

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ABSTRACT

The Existenzminimum was a 20th century's modern conception of minimum standard living space for individual dwelling unit recommended by CIAM. This concept might also influence the development of people's housing provision in Jakarta especially during postcolonial regimes of 1950s – 1980s.

This paper tries to analyse the developmental typologies of people's housing units in Jakarta which were mainly planned and built by the Department of National Housing and Public Works. The main concern is on how livability of the housing space is seen from the analysis of spatial histories of low income workers to middle class people who lived inside this such housing units.

This paper will look at interiority from crossed entities amongst people (identity), livability (materiality and political space) and times (capitalistic and discipline).

Keywords: housing settlement, livability, identity, interiority

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HISTORY OF HOUSING IN JAKARTA

Ever since Indonesia's independency in 17 August 1945, a massive population uplift has occurred in Jakarta. From population around four million in 1970s, the number increased to more than nine million in early year of 2010 (Indonesan Bureau of Statistics, 2012) and continued growing until more than ten million population in 2013 (World Population Statistics, 2013). With its massive growth, Jakarta is listed as 13th most populous city in the world with population density of 15.342 people per square kilometer and one of the most faster growing cities on earth—even faster than Beijing and Bangkok (World Population Review, 2014). However, with population growing rapidly, housing settlements has become an issue.

Housing started as problem especially during the three decades rule of General Soeharto when economy in Indonesia had risen to six per cent each year from 1975 until 1996. The economic growth

had driven foreign and domestic investors as well as new inhabitants to Jakarta. The uncontrolled growth in Jakarta had *Kampung*—or 'village' in native language and a birthplace of an individual with a mix between lower and middle class citizens in mostly permanent dwellings (McCarthy, 2003)—no longer able to provide setttlement for the newly immigrants; it was too crowded and congested, thus stated unhealthy and unsecured. To answer the housing issue, government through the Department of National Housing and Public Works was developing various housing units prototype which began in 1950's.

Based on *Garis-Garis Besar Haluan Negara* (Outlines of State Policy) in year 1968, government is driven to develop settlements to accommodate the growing population in Indonesia, especially Jakarta. Government plan was to provide houses for the lower and lower-middle class.

Government Housing Programme from PELITA I to PELITA V

Since 1950's, government efforts in provision of resonably priced houses was started to emerge. There are many frameworks in planning low-price housing, such as (1)established institutional system and laws in community housing, (2)controled the physical development, (3)improved the role and ability of non-governmental, (4)improved the ecomony to buy house, (5)perfected the formal and non-formal payment, and (6)provided the land and infrastructures for housing (Yudohusodo, et.al., 1991). Unfortunately, the domestic political, defence, social and economic turmoils had become obstacle which hampered the government's plan for housing development. In the year of 1969, when the condition was more conducive and stable, the PELITA (*Pembangunan Lima Tahun*—Five Years Development Planning) was made.

PELITA I (1969/1970 – 1973/1974) was the first step in government housing project. It was made as a trial for future housing programmes and for research in building and material technology. During the PELITA II (1974/1975 – 1978/1979) construction began, starting from villages. Mortgage loans (KPR) from *Bank Tabungan Negara* (BTN) was first introduced during this programme. With loans, the lower and lower-middle class was finally able to afford a house.

PELITA II soon followed by PELITA III (1979/1980 – 1983/1984), the first housing programme where private corporation called PT. Papan Sejahtera was participating in providing loans. Its predecessor, PELITA II, had established cooperation with Employers Union of Real Estate Indonesia (REI) which participated as contractors. (Yudohusodo, et.al., 1991).

After PELITA III, PELITA IV (1984/1985 – 1988/1989) and PELITA V (1989/1990 – 1993/1994) were soon proclaimed. Each programmes held their own goals and expansion from the previous programmes (Yudohusodo, et.al., 1991).

OBSERVATION AND QUALITATIVE RESEARCH METHODOLOGY

This paper will look at interiority from crossed entities amongst identity, the livability and times of people's housing development in Jakarta. The year between 1950's and 1980's is chosen because the rapid progress in expansion and perfection for better housing units.

To analyse the interiority, this paper will overlook plans of low-cost housing developed by government of Indonesia. Then, with *existenzminimum* theory, the plans are analysed based on their minimum standard of living which already been determined by government's decreits. The livability of low-cost housing, however, will be analysed by interviewing the users and potraying their activities inside the house.

EXISTENZMINIMUM AND INTERIORITY IN RELATION TO LIVABILITY

Minimum Living Space

Existenzminimum

The idea of *existenzminimum* aroused in the midst of Frankfurt housing experiment by Ernst May and Walter Gropius. Both May and Gropius were submitted to to develop testing grounds in stardardization and rationalization for low-cost housing settlements. *Die Wohnung für das Existenzminimum* (the minimum subsistence dwelling) soon proposed as the main theme for second CIAM (Congrès International d'Architecture Moderne) in Frankfurt, 1929 as a design solution to the problem of housing high rents for the low wage earners (Mumford, 2000).

Existenzminimum as an idea of low-cost settlements has fundamental purposes which is to accommodate human most basic biological needs and social activites. With *existenzminimum,* building is seen as mechanism, a machine to serve its occupants's needs, therefore it subordinates art to the rationality of the machine and public needs (Borden and Dunster, 1995).

To objectify the idea of *existenzminimum* in society, a scientific approach is needed. May and Gropius had long done experiments (as seen in their project of low-cost housing in Frankfurt). All these tedious and trial-error housing experiments had one purpose: to find the minimum user requirements. *"The question of the minimum dwelling is the question of the elementary minimum of space, air, light and warmth."* as Gropius (1883-1969) said during CIAM 1929 (quoted in Steinman, M., *'Political Standpoints in CIAM 1928-1933',* page 52. Cited again by Borden, I, 1995). If those points are provided, then the dwellers can fully develop their life functions.

That aspect contibuted to the idea of *existenzminimum* in providing mostly dwellers's biological needs. Thus, larger distances between neighbouring buildings is needed to provide better natural lighting and fresh air. This physical and biological needs then translated to optimum orientation between house to the sun to be 22.5^0 off the north-south axis while air and warmth are supplied with natural ventilation and—under the supervision of Ernst May in 1920s Frankfurt housing projects—central heating (Borden and Dunster, 1995). The possibilities of connecting parks and play areas also well thought. Gropius then declared that high-rise housing or apartment was the most suitable with the idea of *existenzminimum* (Mumford, 2000). Also, in *existenzminimum* every room are designed to be used for specific purpose and provided the essential space consumption. Therefore, the plan could be reduced to the smallest area for each person (Borden and Dunster, 1995).

Existenzminimum in Indonesia

The first time *existenzminimum* was brought to the world started when Gropius came to United States, fascinated by its skyscrapers and the industrial technology which was use in constructing most of the buildings (Diefendorf, 2005). Many German architects soon followed Gropius to United States and other architects outside Germany became affected to minimum living idea. In addition, United States in 1930's to 1940's was facing the same crisis as Germany in 1920s—overcrowded and slums creating unhealthy cities, both biologically and politically (Diefendorf, 2005). This condition had driven new concepts in urban design with standardization and prefabrication for space requirements for human basic biological needs and social activites which was similar to *existenzminimum.*

The idea was developed with several meetings of CIAM's remnats such as Gropius, in mid-1944, New York. Their goal was to renovate run-down cities and rebuild bombed cities had been brought by Richard Neutra as the president of "Chapter for Relief and Postwar Planning" to a meeting in 1945 at

San Francisco where United Nations was created (Diefendorf, 2005). With Neutra participation in said meeting, it can be concluded that the idea of *existenzminimum* as low-cost housing plan was indirectly injected during the notion of United Nations.

In Indonesia, the public housing for low-income groups had been discussed since 1922 and 1925 in two organized congresses. It was during the time when Indonesia was occupied by Dutch East Indies and N.V. Volkhuisvesting (Public Housing Corporation Ltd.) as the government in public housing of 1925 (Colombijn, 2011). The participation of Dutch architects and urban planners, represented by Benjamin Merkelbach (1901-1961) and Charles Karsten (1904-1979), in low-cost housing and minimum living had continued by creating guidelines for CIAM congress in December 1931 (Mumford, 2000). And since the low-cost housing plan in Indonesia was made while reffering to United Nations decreits (Yudohusodo, et.al., 1991) and its previous status as Dutch colony, the idea of CIAM's *existenzminimum* was indirectly embedded to the design.

Interiority

When people talk about interiority, they also talk about human and their relationship with their surrounding; it is about the interaction as human being towards nature, space, time and even people. However, the first interaction happens within human when mind and body—both consciously and unconsciously—declared oneself as a well-being. This inner connection between human physical and mental was thoroughly analyzed by Merleau-Ponty.

Merleau-Ponty tried to understand interiority through the perspective of phenomenology and described the word *in* in interiority as designate encompassment or inclusion in relationship, wether partially—between mind and body—or wholesome—between human and environment. This relationship gives an inside thought of human invisibility, which he soon described as manifestation of outer world or entities outside human body (Olkowski and Morley, 1999).

Human is not just creating something for the outer world, it also contributes in developing the interiority through various experiences, especially during childhood, and will be develop into desire with phenomenology. This desire then drive human being to feel something and has certain dreams of how the outer world will be, as well as the physical needs to be satisfied. However, Merleau-Ponty only delved the connection of human's mind and body in creating interiority, therefore he did not venture further into the outer world after the interiority is perceived. The outer world has other function besides than trigger human's desire and dreams through experiences; it also has a physical world where people will have to interact with others, nature and also architecture.

Architecture as the outer world also plays an important part in describing interiority. Hvejsel described architecture as an envelope, a shelter for human's activities. However, the bare envelope is not satisfying in interiority, because it does not fullfil the desire and biological needs of human. In follows that, furniture is needed to create interiority. As Hvejsel said, *". . . interiority as the interrelation of the functional and emotional dimensions of furniture and envelope as form . . ."* (Hvejsel, 2011).

Even though Hvejsel stated that furniture is important in creating interiority, there is more than just that. Interiority is not just controlled by real objects such as furniture and building existence, but also something unreal like boundaries, temperature, personal space, and many more. Nature or the surrounding environment are more likely to influence interiority than real objects.

Refers to both Merleau-Ponty (Olkowski and Morley, 1999) and Hvejsel (Hvejsel, 2011), interiority is a balance relation between desires, biological needs, and also surrounding environment.

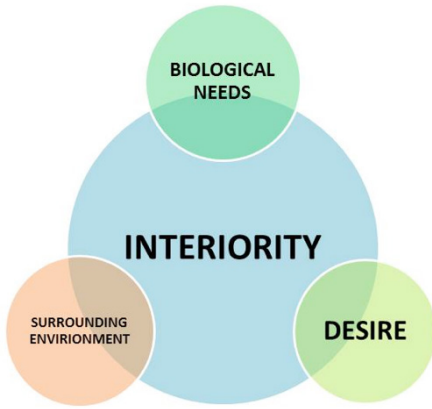

Figure 1. Diagram of interiority and its aspects.
Source: personal sketch.

LIVABILITY IN PUBLIC HOUSING OF JAKARTA, 1950'S – 1980'S

Minimum Space for Human Activities

Although there is no solid fact that mention the use of *existenzminimum* in every government plan of low-cost housing in Jakarta, there are some regulations which quite similar to the minimum standard stated in *existenzminimum,* such the requirements of clear air and minimum living space. However, since Jakarta is a tropical city and thus different from any European cities, the calculation is not the same.

The government of Indonesia, Direktorat Djenderal Tjipta Karja, was focusing on low-cost housing for minimum family structure consists of five persons (a father, a mother, and three children) with requirement details such as:

- Clear and fresh air of 27 m^3/person.
- Air circulation of 0.8 m^3/person.
- Natural lighting inside the rooms is min 50 lux.
- Artificial lighting for the entire house is min 100 VA.
- Clean water of 100 L/day/person.

Alongside with this requirements, government also creating some sketches to help the developers to measure the minimum living space, especially rooms which will provide the family activities such as bedrooms, bathroom, kitchen, living room and dining room. Each one of the rooms are specifically measured to accommodate specific activities like sleeping in bedroom and eating in dining room and generate total minimum of space consumption for living, which is:

Table 1. Total minimum space needed.

Living room	9 m^2
Dining room	7.5 m^2
Bedroom	9 m^2
Bathroom	3 m^2
Kitchen	4 m^2
Service area	6.5 m^2
Total space needed	**39 m^2**

Source: Personal.

However, the calculation has not yet included space area for circulation between rooms. Based on *Human Dimension and Interior Space: A Source Book of Design Reference Standards,* human has their own space, created by their own body. There are shoulder breadth around 61 cm and body depth of 45.7 cm (Panero & Zelnik, 1979).

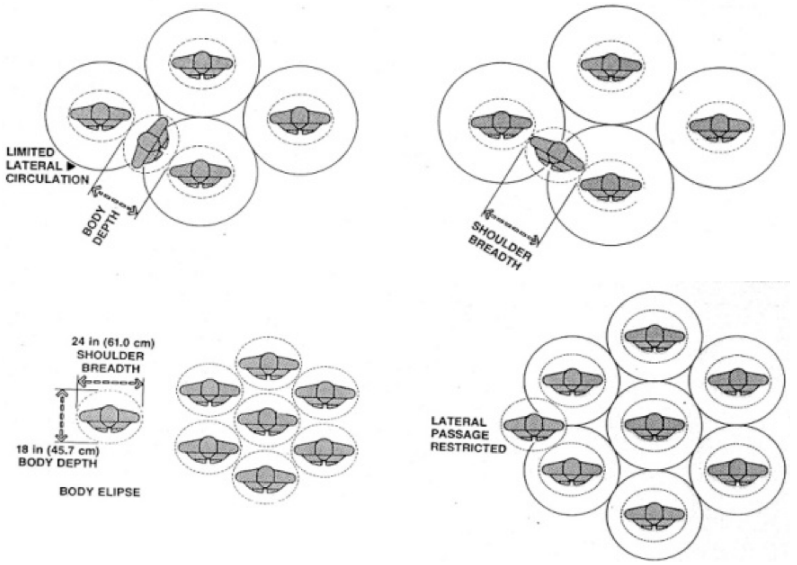

Figure 2. Human dimension and comfort space.
Source: Human Dimension and Interior Space: A Source Book of Design Reference Standards (Panero & Zelnik, 1979).

The minimum space for circulation should be added to the government plan and calculation in creating a comfortable low-cost houses. It will affect the interiority of the dwellers, since personal space and the flexibility to move around the house are important to keep dwellers's postive experiences.

Plan of Low-Cost Housing in Jakarta 1950's – 1980's

There are some house prototypes for Jakarta, such as type T36, T42, T72, M70, M130, M140 and F64. However, the M type—stands for *maisonette*—is designed for the middle-upper class and not suitable as a low-cost housing. Also, the F type—stands for *flat*—is created as a stacking house, or apartment, and also quite expensive to be low-cost houses. In follow that, this paper will specifically talk about the T36, T42 and T72. The T in T36, T42 and T72 are for ***type***, while the number stands for their overall building areas. So, when a house type is called T36, that means the house has clear building area of 36 m^2, etc.

Those housing types mostly built by Perusahaan Umum Pembangunan Perumahan Nasional (PERUM PERUMNAS) since 1974 in 18 cities of 8 provinces (Eryudhawan, Passchier, Sumintardja, 2010). These housing types were built at Klender and Pejompongan in Jakarta, also at outskirt of said city like Tangerang and Depok (Yudohusodo, et.al., 1991).

Housing type T36

From the overall building area itself it already shown that this housing type is not suitable for human activity. The overall space required for comfortable live is 39 m^2 and this type only provide 36 m^2 of total standard calculation.

Moreover, the dining and living areas are mashed together into one room of 4.5 m^2. The circulation and comfort level in this area are not good, especially since the standard measurement for living room is 9 m^2 and dining room is 9 m^2. Those numbers already racked up 16.5 m^2, definitely unbalance to the given area in this house.

However, government was planning for a family with five members—two parents and three children—(Direktorat Penyelidikan Masalah Bangunan, 1983) will lived in this house and everyone will need their own beds. Parents can stay in one room with one big bed, possibly in queen size (1.8 m x 2 m), but their children must share one room of 9 m^2. That small room will not be able to provide three beds altogether if one single bed itself is already take 1 m x 2 m or 2 m^2. With three occupants in one room, the beds have taken 6 m^2 area which left only 3 m^2 for wardrobe, night tables, and circulation.

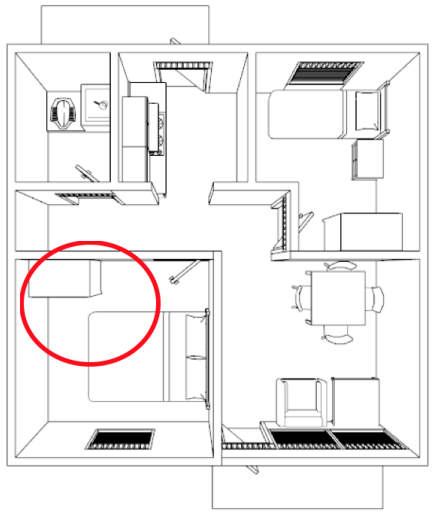

Figure 3. Illustration for the furniture placement in Prototype T36.
This illustration was created from the basic needs of furniture in common households. None of these furnitures are built-in to copy the habbit of Indonesian households in buying loose furniture and estimating the space requirement.
Source: Personal illustration.

From the illustration in figure 8, it is apparent that the space avaibility is very tight and undesirable for daily activities. For example, there is one area in main bedroom with queen size bed (circled with red mark) where the wardrobe and bed are facing each other. The circulation between wardrobe and bed is very narrow and not enough for one adult (61 cm) to walk through. Moreover, if the someone is using the wardrobe, they can not open the door to fully explore the inner storage, because the wardrobe's door will collide with the edge of the bed.

Housing Type T42

Compared to the previous type, this T42 is much more livable. It also has an extra space of 3 m^2 for circulation. In spite of its livability for other rooms and overall area, the conjoining dining and living room is still an issue. The same problem is happening for T42 and T36 dining-living room where all of them giving too little space. In the T36 both of those area is lacking 12 m^2; in T42, it needs additional 4.5 m^2.

Despite its larger space than the T36, T42 still holds the same problem in furniture placement. Just like the type T36, T42 also designed for family of two parents and three children. The problem, again, is in the parents's bedroom where bed and the wardrobe are intervering each other. The pathway between those two is also very narrow and not enough for one adult to pass (shown in figure 10 with red circle).

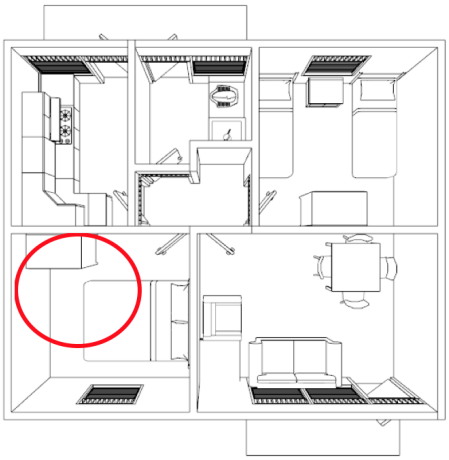

Figure 4. Illustration for the furniture placement in Prototype T42.
This illustration was created from the basic needs of furniture in common households. None of these furnitures are built-in to copy the habbit of Indonesian households in buying loose furniture and estimating the space requirement.
Source: Personal illustration.

The beds in children's bedroom also not enough to provide for three persons. However, housing type T42 can manage for two single beds and one queen size bed in every bedrooms. It is accomodating, compared to the previous housing type.

Housing Type T72

From its overall building area, T72 is better than T42 and T36. It has total area of 72 m^2 while the minimum requirement is 39 m^2. This type gives so many flexibility to its dwellers. T72 also estimates the service area, while the other types are excluding it from their plans.

The conjoining dining and living area which becomes an issue for the previous types is not happening here. Each of them, however close they might be on the plan, has different and spacious area of total 18 m^2. It will give enough space to move and exploring the dwellers's desires.

Compared from other types, the T72 is the only housing design which has designed its service area and housekeeper private rooms (green area in figure 12). The other two designs were not including service area in the layout. The overall furniture layout in this type also resonable and comfortable. The ammount of beds and target occupants (five persons) for this house is appropriate; one queen size bed for parents and three single beds for their children.

While the living and dining room in type T36 and T42 has taken an issue in space consumption, the two areas in T72 can be plan side by side and not intervering each other. The dining room can provide for more than five persons to sit together and eat.

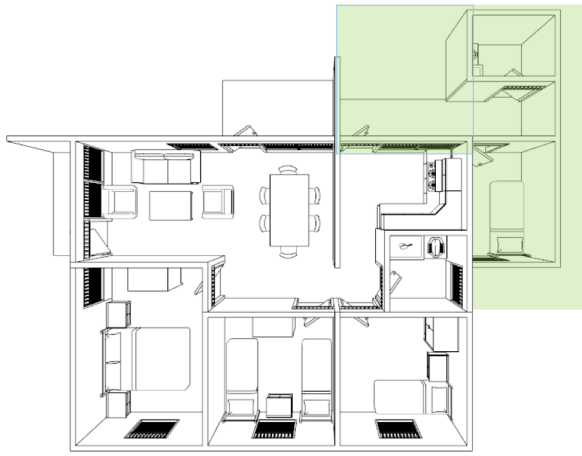

Figure 5. Illustration for the furniture placement in Prototype T72.
This illustration was created from the basic needs of furniture in common households. None of these furnitures are built-in to copy the habbit of Indonesian households in buying loose furniture and estimating the space requirement.
Source: Personal illustration.

Livability

As suggested by government, the low-cost housing was created with minimum standard of space requirements and sometimes some area were combined or completely gone from the plan. However, the most important function of house is to accommodate the users's activities, therefore adding some value to its livability. The livability of low-cost housing can be measured with testimonies and reviews from its users. For this paper purpose, we asked Miss Rini Suryantini to share her experience and memories of her childhood home.

Rini Suryantini lived with her family of seven people, including her father, mother, siblings, and cousins. After she entered primary school, the number were decresed to five persons occupying the house. From the number of occupants itself was already exceeded maximum capacity that had been decided by government which is five persons (two adults, two kids, and one infant). The overcrowding—as can be seen from pictures below—had created smaller space for every individual.

Figure 6. Photograph of daily activities in the living room.
Source: Rini Suryantini's family photographs.

The yellow colour describes the boundaries surrounding the family in tight coccoon, confined them in claustraphobic space. Moreover, the lady with a baby was blocking the circulation area between the foyer and living room. This situation will create difficulty for anyone who walked through this hallway.

Figure 7. Photograph showing the dining area at the backyard veranda.
Source: Rini Suryantini's family photographs.

Another photograph shows the situation of dining area, located at the backyard veranda. As seen in the picture (circled with yellow), the dining chair will block the doorway whenever the chair is moved—wether from someone who will sit or those who get up. Therefore, the circulation area once again is sacrificed to satisfy seven to ten people's space capacity.

CONCLUSION

To provide resonably priced houses is not an easy task. There are many aspects to consider besides the prices such as material and especially the human factors. Even though those houses was designed in minimum budget and space, it must be fullfiling to the human needs and desire, so the interiority will be perceived very well. It is very unfortunate to see there was prototype which is too small in providing the minimum space requirements like the T36. On the other hand, another prototypes were successful in providing the minimum space (T42 and T72) and the other is not just successful, but also considering another occupant (housekeeper) area like T72.

Although government had already defined the maximum number for their low-cost housing, in real conditions the Indonesian family consists more than five person. This happens because family bonding in Indonesian culture is very important, therefore it is very common to see two families under the same roof.

However, this initial research needs further observation on the connection between the ***existenzminimum*** and housing plan in Indonesia. More data is required in order to achieve more valid statements. Moreover, the livability of low-cost housing should be thoroughly explored and needs more examples. Hopefully, this initial research become the starting point to deepen the analysis in the future, especially about the livability in houses of Jakarta 1950's – 1980's.

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SENSING THE URBAN INTERIOR

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ABSTRACT

Following the principle of "spatial inversion" (Attiwill, 2011), whereby spaces between buildings habitually referred to as exteriors become interiors, this paper presents the background research, methodology and key findings from a case study framed as a perceptual documentation of an urban interior, the More London Estate, a riverside business development in London, England. The location sits at the boundaries between inside and outside, private and public, enclosed and open space. This distinctive position and promise of interiority makes it an ideal site of enquiry. The objective of the research is to uncover connections between the way we feel and our sense of belonging by investigating the correlation between the site's embodied atmosphere and its perceptual affect on the body. The methodology is inspired by Peter Zumthor's (2006) writings on atmospheres, James J. Gibson's (1966, 1986) studies of ecology and perceptual systems, and Joy Monice Malnar and Frank Vodvarka's (2004) work on sensory design. Key findings reveal a duality in existing perceptual narratives, and the recognition of the way the urban interior resonates with our senses provides a framework for reflection and an incentive towards sensory transformations.

Keywords: perceptions, atmosphere, senses, interior, environment

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INTRODUCTION

London Bridge, located at the heart of the city's ancient interior, on the south bank of the River Thames, is a bustling, vibrant urban environment with a rich interplay of sensory diversity. It is stimulating but also frantic, even chaotic at times, when the momentum of people negotiating each other on the narrow pavements reaches its peak. It is noisy and everything but the buildings is in constant motion. Space is limited so the old and the new coexist in confined conditions. At 310 metres high the London Bridge Tower, also known as the Shard (http://www.londonbridgequarter.com/the-shard/overview), dominates the crowded London Bridge train station and dwarfs its surroundings, including the historical landmark of Southwark Cathedral and the animated Borough Market. Peaceful and secluded public spaces are a rarity, personal space at a premium.

Yet, a mere five minutes walk from the drama of its epicentre, heading east towards Tower Bridge, lies a riverside business development, the More London Estate. Built on a brownfield site, a legacy of

the London docks and industries, the topography is organised and spacious although the buildings are architecturally disconnected from the surrounding area. Their imposing steel and glass structures contrast with the softer low-rise traditional brick buildings close by. The site however includes generous public spaces, which, framed by the height of the buildings, offer an opportunity for a welcome respite from the intensity of the surrounding activity. Like interiors, their precise volumes provide a sense of enclosure. On that account and through spatial inversion, the spaces between buildings become the urban interior and the focus of this study. "Techniques of inflecting the urban fabric where exteriors become interiors through spatial inversion are readily grasped as an urban interior" (Attiwill, 2011, p. 15).

Figure 1. The dense and vibrant Borough High Street in London Bridge.
Source: Valerie Mace

CONTEXT OF THE STUDY

The study originates from a simple observation in the noticeable difference in perceived atmosphere and levels of human interaction between this urban interior and the surrounding area. An initial appraisal suggests that occupancy is transient and although it becomes busy during working hours, it remains underused in the evenings and at weekends. This is unusual for this lively part of London so the study puts forward an enquiry rooted in phenomenology that brings to light the agency of the interior on the way we feel. It also points towards alternative sensory narratives for transformations. "The reasons for this difference in behavior must be empirically documented and then incorporated into the design language so that we may improve all of our habitable environment" (Caan, 2011, p. 68). The design of interiors "must allow for the kinds of experience that give individuals the opportunity to flourish in their own terms" (Caan, 2011, p. 78). Transposed into the context of this urban interior, the word "experience" relates to sensory perceptions and atmosphere, while the phrase "flourish in their own terms" indicates a correspondence with our sense of belonging. So an empirical documentation of the site's embodied atmosphere and sensory experiences is required to reveal and recognise their influence on people's perceptions, and the emotional affect that fosters the sense of belonging we need to feel to fully engage with our surroundings.

A Sense of Belonging

What constitutes a sense of belonging? The Collins Oxford Dictionary defines the English verb "to belong" as "to be bound (to) by ties of affection, allegiance" and "sense" as "a mental perception or

awareness." So here, sensing is not simply positioned as an external body sensation, for example when we sense the warmth of the sun on our skin, but as an internal manifestation that occurs as a result of perception and consciousness. This implies that a sense of belonging exists in the interiority of our mental space and so the way we feel about a space determines our relationship with it; whether for example, we feel welcome or experience attachment. We also need to consider our ability to stretch intimate personal space into our immediate surroundings and conversely "how the world of objects - including other bodies - enters the body of the subject and remakes its interior entities" (Cohen, 2009, p. 6). Moreover, personal space is intrinsically portable so our sense of belonging is also activated as we determine our location within the physical world.

> The notion of personal space is one that locates an individual in the physical world. Its significance lies mainly in how it marks out a personal territory, enabling the individual to develop a sense of identity and engage in the rituals of communication and recognition (Madanipour, 2003, p. 34),

and so it seems that a sense of belonging is inherently connected to a sense of place.

The Sensing Body

Theoretical antecedents also evidence that the documentation of the site must be conducted from the body out. "Sensing ... invests the quality with a living value, grasps it first in its signification for us, for this weighty mass that is our body, and as a result sensing always includes a reference to the body" (Merleau-Ponty, 1945, 2012 ed., p. 52). Here, Merleau-Ponty highlights the sensory interdependency between the body and space, and further argues that our perception of a space affects our perception of the self within it. Furthermore, the study draws attention to the subjectivity of perceptions and their multiple variations across individuals. "Arguing against the tradition of Cartesian rationalism, Merleau-Ponty presents human subjectivity, in even its most abstract and ethereal forms, as rooted in the body" (Cohen, 2009, p. 16). Meleau-Ponty also advocates the construction of knowledge that serves to decode the qualitative nature of the "perceived object" (Merleau-Ponty, 1945, 2012 ed., p. 53), in this case the urban interior, and thus understand its perceptual affect on our sense of self. So the interest of this study lies in developing techniques that contribute to such knowledge through the phenomenological documentation of the More London Estate. The incentive is to establish how this unique urban interior resonates with our senses, and determine our position within it. As Iain Borden, Professor of Architecture and Urban Culture at the Bartlett School of Architecture, University College London, underlined at the 2011 Royal Academy Forum "Spaces of Memory", "we make space and space makes us" (Bartlett UCL, 2011, 1:15).

The Environment

The need to document the perceived world shifts the focus from the urban interior as a space to the urban interior as an environment, the container and stimulus for multi-sensory experiential events. Beyond physical space, described by Henri Lefebvre (1974) as conceived, a social construct, an environment is perceived and experienced. Its agency determines the way we feel, the interiority of our mental space, and consequently the way we externalise our thoughts and emotions through our behaviour. "Every animal is, in some degree at least, a perceiver and a behaver. It is sentient and animate.... It is a perceiver of the environment and a behaver in the environment" (Gibson, 1986, p. 8). Gibson refers to ecology, the study of the relationship between living organisms and their environment, which he explains, is composed of the medium, substances and surfaces. Air, gas and liquid constitute the medium in which we move. They allow the transmission of light so we can see, of vibrations so we can hear, and of chemical diffusions so we can smell. Substances on the other hand are "more or less rigid" and "usually opaque to light" (Gibson, 1986, p. 19). He gives examples of rock, soil, sand, wood and metal as well

as tissues of plants and animals, and so includes the human body. Finally, he describes surfaces as the elements that separate the medium from the substances and provide vital clues about the environment. They reflect and absorb light, so for example, we can see colour. They also display olfactive and haptic qualities: they diffuse smells and we touch surfaces to feel their texture and temperature. Moreover the nature of the sensory experience shifts as it converges on the way we activate sensory systems (or adjust them) in relation to new conditions when we move through the environment. It links to what Merleau-Ponty (1945) calls the "study of essences", "the essence of perception or the essence of consciousness" (Merlau-Ponty, 1945, 2012 ed., p. 7), in effect highlighting the intangibility of the environment and the complexity of our perceptions within it. Consequently, in order to uncover the perceptual value of the More London urban interior, we need to explore embodied sensory stimuli and their agency on our perceived experiences as we move through the environment.

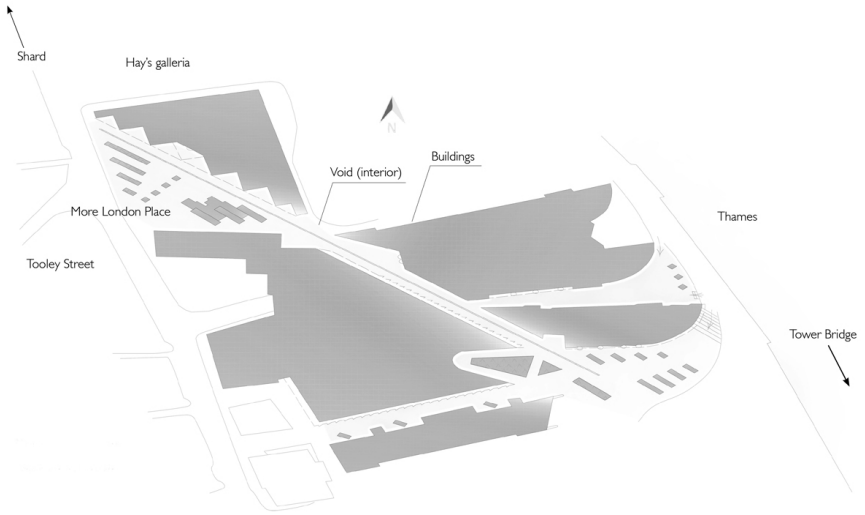

Figure 2. The More London Estate site drawing showing the mass of the buildings and furniture in grey and the void of the interior in white.
Source: Valerie Mace

CASE STUDY

This emerging research seeks to understand people's perceptual experiences within a specific environment and in doing so, develop techniques from which a guiding system of documentation emerges, putting forward a systemisation rather than a rigid methodology. It is about understanding a site-specific condition with the knowledge that there will be temporal fluctuations and unavoidable subjectivity. The study does not promote a fixed model of interpretation but recognises the fluidity of the symbiotic relationship between the living organism of the body and the urban interior. Tools used to document architectural spaces may include orthographic and projection drawings, scale models or photography. When used in a conventional manner, for example using the plan to show the layout of a space, they equip designers with the techniques they need to record its tangible and objective aspects. They do not however wholly contribute to the understanding of its less tangible and more subjective characteristics, our sensory experiences and the perceived atmosphere. Therefore it is important to consider complementary techniques to also decipher and capture the intangible. The range of tools and techniques used in this study were inspired from preceding work in this area, and revised and adapted to meet the specifics of this project.

The Perceived Atmosphere

The study begins by establishing the key principles guiding the exploration and investigation of the More London Estate interior. In his book "Atmospheres" Peter Zumthor (2006) offers an account of what concerns him the most when he tries "to generate a certain atmosphere" (Zumthor, 2006, p. 21) in his buildings.

> We perceive atmosphere through our emotional sensibility - a form of perception that works incredibly quickly, and which we humans evidently need to help us survive. We are capable of immediate appreciation, of a spontaneous emotional response, of rejecting things in a flash. (Zumthor, 2006, p. 13)

So atmosphere is determined by a fluid and fleeting choreography of perceptual and emotional relationships, and the study is based on Zumthor's (2006) proposal for nine guiding principles that underpin this choreography: the architectural presence of the environment, materials and their relationships, the soundscape, actual and perceived temperature, objects in space, the way architecture involves movement and temporality, the duality of interior-exterior thresholds and transitions, the scale and distances perceived from the body as well as details designed for the body, and finally, the way the light falls with its corresponding shadows.

Interior Architecture and Spatial Order

The first stage of the documentation explores the interior architecture and spatial order of the site to uncover how the architectural presence of the environment, scale, distances and objects affect behaviour. The drawing and photographic techniques used during the documentation process show that the urban interior of the More London Estate is carefully conceived, planned and executed, including landscaping. It is measured and proportioned to a geometric order. The axial plan, dominated by powerful directional forces, and the monumental scale of the buildings create an exaggerated perspective at ground level, further emphasised by a strong rhythm of form and patterns repeated throughout the long corridors and high walls of the interior. The spatial design vocabulary is reminiscent, in intent, of the imposed order of the Renaissance volumetric at the beginning of the 15th century; "the spatial unity guarding against empirical change", "the self-contained system of harmony, balance, rhythm and proportion" and a rhythm that "results from a repetition of geometric device or form - arcade, colonnade, bay, window detailing or paving pattern" (Fench, 1978, p. 76).

The More London Estate however isn't styled on Renaissance architecture. It is uncompromisingly contemporary, with a profusion of glass complemented by efficient hard surfaces, sharp edges and cool tones. Yet, despite the extensive use of glass, a transparent material, the opacity created by reflections along with the mass of the adjacent metal cladding give substances a perceived solidity that reinforces the "persistence of the geometrical layout" (Gibson, 1986, p. 13). So even though the architectural display is visually striking and the interior includes recessed areas, designed to psychologically reduce the cavernous sensation created by the intense verticality of the enclosing walls, the architectural presence of the environment, the imposing scale, the rigidity of the objects, inexorably exert their dominant force over the human body.

Furthermore, the documentation reveals another notable feature. This is an environment that lacks temporality. The desire for perfection is controlled to such an extent that substances and surfaces are unyielding to human occupation. "The structures acting as enclosing agents are employed to establish the volumetrics..., resulting in a strongly articulated statement, defying alteration or addition" (Fench, 1978, p. 76). Materials don't retain visible signs of weathering and traces of the day's activities are erased overnight.

Figure 3. The dominant force of the interior.
Source: Valerie Mace

So the atmosphere of the interior and its enclosing structure is predetermined and absolute, with long uninterrupted distances and interior proportions that dominate the scale of the body. The spatial order, with furniture divided into small territories, is governed by controlled codes of behaviour reinforced by powerful directional forces that encourage people to keep moving or only remain within the site for a limited amount of time. As a result, occupancy is mostly transient and fleeting, movement is contrived with little opportunity for meandering and discovery. Peaks in density and velocity are identified when mapped into a motion sequencer, a diagram used to visualise empirical data recordings of the density of occupancy against time. It highlights patterns of highs and lows linked to office hours, which further emphasise the singularity of the environment.

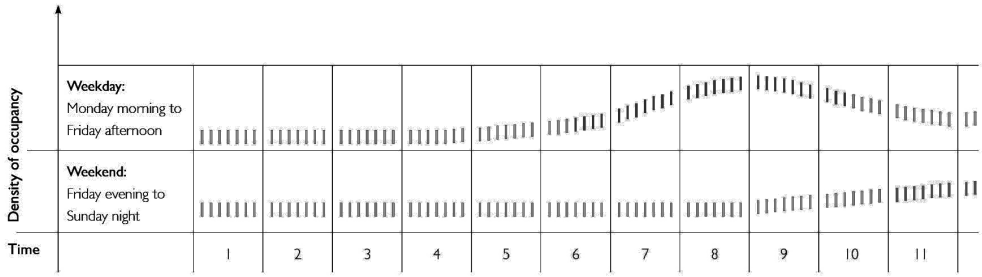

Figure 4. Partial view of the Motion Sequencer, showing the density of occupancy across weekdays and weekends from 1am to 11am. The complete diagram shows the density of occupancy across a typical 24 hour period.
Source: Valerie Mace

Sensory Mapping

The empirical study of behaviour also reveals differences in activities across the site and therefore distinctions within its spatial organisation, which consists of five discreet areas. They become individual urban rooms, each with their own entry, interior and exit. They are connected to each other and to the exterior by thresholds identified through atmospheric tensions: light-dark, open-closed, warm-cold,

noisy-quiet. "The built urban fabric is seen as a spatial assemblage of enclosures and openings rather than object-buildings in void space" (Attiwill, 2011, p. 16). It then becomes possible to collect more precise information on experienced stimuli by proceeding on a sensory journey through each urban room to establish the formation of gradual perceptions. As we move through a space our perceptions adjust to new conditions but we do not consciously acknowledge the complexity of this process. In a diagram, Malnar and Vodvarka (2004, p. 51) show that we are exposed to information and stimuli, which are then filtered through our sensory perceptions and transformed into cognitive thought processes by the brain, which then come back into the real world as transformed mental images. To evaluate this process they propose an interpretation of architecture as a story, with a beginning, middle and end. The sensory experience chart designed by Marina Panos in 2001 (Malnar and Vodvarka, 2004, p. 281) and Gibson's classification of perceptual systems (Gibson, 1966, pp. 49-58) provide the framework for the recording of perceptual and sensory experiences that unfold while moving through the urban interior.

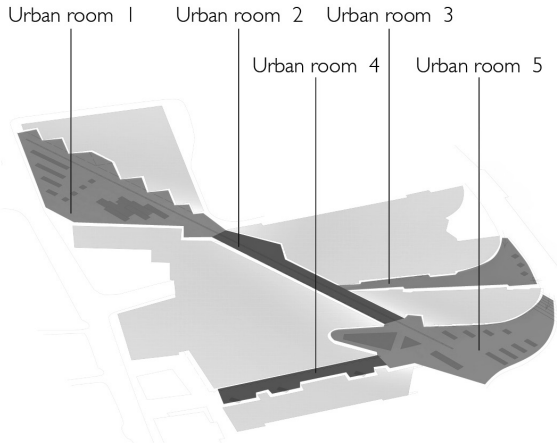

Figure 5. Plan layout of the More London Estate urban rooms with the footprint of the buildings in light grey and the urban interior in dark grey.
Source: Valerie Mace

Language is used to document sensory information across each urban room while sound and film recordings complement the resulting perceptual narrative. The sensory journey forces the investigator into a position of acute awareness and its purpose is to record impressions as they occur: across time, human interaction, the visual, auditory, smell-taste, basic-orienting and haptic systems, kinesthesia, temperature and finally, a description of the overall level of stimuli. The information is then mapped across a drawing that illustrates the topography of the sensory systems within the entire site and a sensory flow diagram where each room is represented by a curve aligned to reveal the levels of intensity of their respective sensory characteristics: visual, sound, touch, temperature, odour, kinesthesia, orienting.

The sensory flow diagram is an adaptation of the sensory slider created by Malnar and Vodvarka (2004, p. 248) and a representation of the fluid exchange between the sensory perceptions of the body and the atmosphere of the environment. While it provides a useful point of reference across the whole site, it also highlights essential similarities and differences within it, as well as perceptions of interiority. Rooms 2, 3 and 4 are identified as the core of the interior, differentiated from rooms 1 and 5 by their distinct sensory characteristics, such as the singularity of their soundscape, which contrasts sharply with the surrounding area. "Acoustic ecology researcher R. Murray Schafer coined the term soundscape in the 1970s to describe the total sounding environment, which consists of keynote sounds, sound signals and soundmarks" (Knueppel, 2012, p.118).

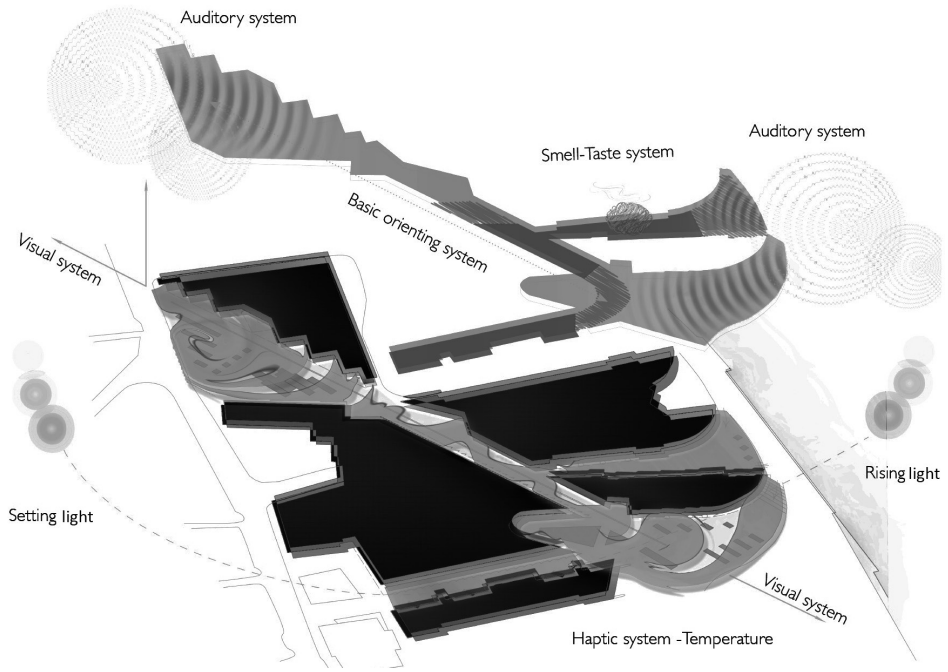

Figure 6. Mapping drawing that illustrates the topography of the sensory systems in the urban interior
Source: Valerie Mace

Within the core of the interior, keynote sounds include the anchoring sound of people's footsteps and voices as well as the wind from the River Thames channeled through the main axis of the interior in room 2. They constitute the background of the soundscape and are not always "consciously perceived, but...act as conditioning agents in the perception of other sound signals" (Schafer, 1970, cited in Knueppel, 2012, p.118). Sound signals on the other hand stand out against the background of keynote sounds. In room 5 near the River Thames, sound signals originate from the engines of boats passing by, while in room 1, on the opposite side, they emanate from the sirens of fire engines coming out of the station nearby. The mass of the buildings however protects the core of the interior and provides a more secluded experience. The third component of the soundscape, the soundmarks, represent the features of an area that determine the location. In London Bridge it would be the sound of the bells of Southwark Cathedral, but the sheltered and acoustically undisturbed environment of the More London Estate remains free of soundmarks.

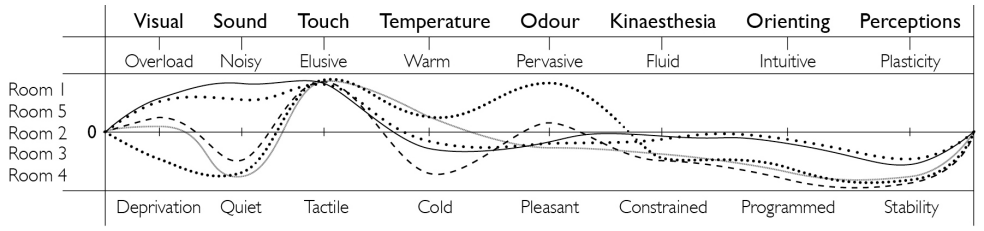

Figure 7. Sensory flow, mapping sensory characteristics across each urban room. An adaptation of the sensory slider created by Malnar and Vodvarka (2004, p. 248).
Source: Valerie Mace

Furthermore, despite the programmatic of the interior architecture and spatial order, the sensory mapping of the site reveals a unique blend of visual poetics that permeate the urban interior. In rooms 2 and 3 especially the extensive use of glass serves as protagonist and canvas for a dynamic spectacle of reflections: the fragmented visions of surrounding landmarks - Tower Bridge, the Tower of London, City Hall - vistas reflected into the interior as framed images; the rhythmic ballet of distorted forms and patterns that flood the interior remodeled by changes in surfaces as people move through it; and the contemplative slow moving clouds reflected across the windows of the upper levels of the buildings.

The Perceptual Voice of the Interior

Finally, the knowledge gathered throughout the documentation process is synthesised and translated into a language that goes back to Zumthor's (2006) principles as reference points. This process articulates sensory perceptions into an explicit syntax whose codability, the capacity to convey specific information, expresses the qualitative nature of the atmosphere embodied in the environment. The language of this qualitative syntax becomes the perceptual voice of the urban interior to establish whether embodied sensory experiences can foster the kind of emotional affect that would give rise to a sense of place and a sense of belonging, and thus reveal how the real affects the perceived.

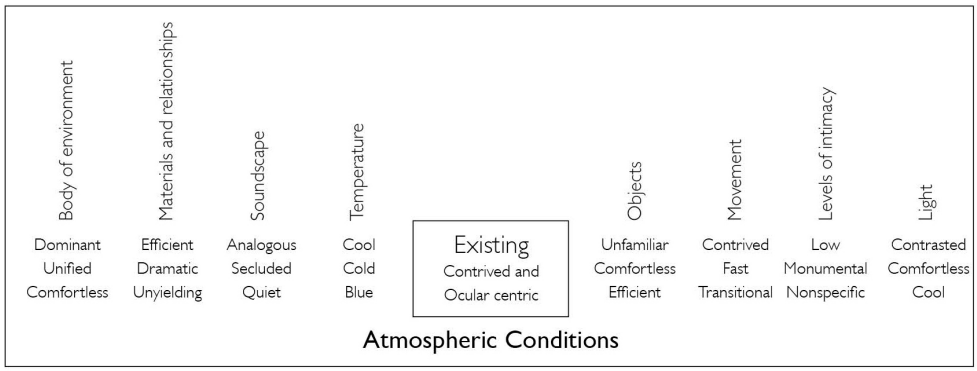

Figure 8. Translation of the More London Estate urban interior atmospheric conditions into a syntax that expresses the qualitative nature of the embodied atmosphere.
Source: Valerie Mace

The study shows that the urban interior is designed for efficiency, resulting in a comfortless atmosphere where the human body is dominated and where positive sensory stimulation is primarily visual. These conditions are not known to be conducive to the kind of sensory perceptions and atmosphere that give rise to a sense of place and sense of belonging. In order to feel a connection with the urban interior people need to be able "to mark out a personal territory, enabling the individual to develop a sense of identity and engage in the rituals of communication and recognition" (Madanipour, 2003, p. 34). So it becomes clear that the design of the site and its corresponding atmosphere create a situation where the narrative is being forced upon people, who then become constrained to predetermined types of behaviour. The urban interior gives us no choice but to enter its symbolic order as it penetrates our intimate personal space.

The study however also highlights the atmospheric and sensory duality of the urban interior. While it qualifies as dominant, contrived, uncomfortable and ocular-centric, it is at the same time secluded and dramatic, with unique opportunities for visual stimulation. Consequently the investigation reveals that despite its total conception and absolute standards, the urban interior offers opportunities for

phenomenological transformations whereby sensory alterations, such as the introduction of soundmarks unique to the site, transform the perceived environment. As the investigation highlights existing poetics, they become opportunities to celebrate their drama through sensory enhancements to "... reabsorb emotionally - what has been created by the spirit" (Giedion, 1941, 2008 ed., p. 880). The incentive is to create a platform for more meaningful sensory experiences that imbue the interior with personal and shared significance, thus providing a backdrop for expectations, promoting a culture of participation and a sense of belonging.

CONCLUSION

The complexity and multiplicity of sensory experiences and perceptual affect, make them a challenging but also exciting subject to explore. In the urban interior, perceptions are shaped by the gradual articulation of meanings as we move through the environment to feel through all our senses and experiences, and construct our perceptual knowledge. Perceptions are not only spatial but also temporal and define the way we feel about our surroundings, whether a space becomes a place, whether we feel a sense of belonging. So this study proposes techniques that facilitate the perceptual documentation of the environment but doesn't advocate a single fixed model. The techniques remain fluid and flexible but they are needed. "Unless properly guided by diagnostic techniques the outcome will tend to lack both objectivity and depth of thought" (Potter, 1969, 2002 ed., p. 47).

The study follows Peter Zumthor's (2006) guiding principles on atmospheres and James J. Gibson's (1966) classification of perceptual systems. It begins with a documentation of the site's interior architecture and spatial order. The empirical documentation of participation and occupancy identifies people's experiences and responses to the site through their actions. The investigator is then ready to embark on a sensory journey, where the urban interior, structured as a series of individual rooms, is documented as an experience through sensory narratives. The findings are then mapped across drawings that highlight the fundamentals of its perceptual topography and discreet components. Additionally, the information gathered is synthesised across a sensory flow diagram, a visual reference that maps the intensity of sensory perceptions across each urban room. This knowledge is then translated into language, using words to assign qualitative symbols to the relationship between the body and the environment. This language recognises the intangible and provides the clarity required for reflection to reveal the need for making sensory adjustments, while also celebrating existing poetics. The diagnosis and corresponding translation provide the means to introduce desired atmospheric qualities to stimulate individual and shared perceptual narratives, thus fostering the sense of belonging we need to fully engage with our surroundings.

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INSIDE HISTORY

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ABSTRACT

In London, 2,000 years ago, thousands of Britons and Romans watched the ancient entertainments of animal fighting, gladiatorial sports and executions. Today, beneath the Guildhall yard in the City of London the archaeological features of the amphitheatre remains are supplemented by a lifesize CAD drawing of the amphitheatre and its possible occupants. Its interior extent is made possible through the lines of light used to trace its outline. Darkness, replaces the historic light blocked from the amphitheatre interior by the ground of the Guildhall yard.

This paper examines how the amphitheatre site deploys interiority to cross the historic times and spaces of ancient and modern London. In this way interiority is both a mechanism of connection and of separation, residing in temporal and spatial tensions of inside and outside, and near and far. To do this it must negotiate the representational closeness of scale and disparity of materiality, as the in-situ features are mended to the digital projection of reconstructed completion within a darkened, and now, interior space.

The broader context for this paper is an examination of how urban interior space can mediate and represent the historic spatial tension of inner-city archaeological sites and desires for intensified development.

Keywords: archaeology, representation

INTRODUCTION

The ground surface of the London Guildhall yard was a vertical boundary that both separated and concealed the time and space of Londinium, more specifically a Roman amphitheatre, from London. That was until 1987, when "a brief excavation before the redevelopment of the area as a new Art Gallery for the Corporation of London" revealed that: "the fragmentary Roman remains at the bottom of various trenches formed parts of a single building; and that this building was an amphitheatre" (Bateman, 1997:51).

Prior to the 1987 discovery the presence of an amphitheatre dwelt in speculation. Marsden in 1980 mused that:

> It is difficult to believe that Londinium did not conform to the usual pattern of western cities of the Roman Empire in having an amphitheatre, and it is likely that it was built in the late first or early second century, like most amphitheatres in Britain (1980:57).

He continued, locating the phantom amphitheatre as: "likely to have been built on the outskirts of the city, but in spite of its size it has proved difficult to find because, even though large and expensive, it probably had few stone walls" (1980:56).

Today, a dark grey ellipse, like a figure on a map, interrupts the paving pattern of the City of London's Guildhall yard. Unlike the house plan inscribed in front of the Museum of Sydney, which outlines past building above ground, this drawing is the first visual indication of the physicality of an amphitheatre below the yard; the thin line of slate conveying shape, size, and interiority. Like Beatriz Colomina's horizon line, "[i]t defines an enclosure," but unlike the horizon, this line serves to organise *in*visible and referent space into an interior (Colomina, 1996:n.p.). Perimetered as it is with civic building, open to the sky, but inside public space, this line reinforces the enclosure of the yard, and it is to "this ring of protected buildings" (1990:232), that Bateman attributes the prior lack of archaeological disturbance at the Guildhall site.

The size inscribed is not insignificant. The amphitheatre, "able to seat around 6,000 ... people," 20-30% of Londinium's then population, dates from around 70 CE, and was used "until some time in the fourth century" (Roman amphitheatre, 2002:B1). Its *cavea* thickened the perimeter of the ellipse, which was likely further deepened by "not only a circumferential street but also a number of radially orientated buildings ... [and] its own localised street pattern" (Bateman, 1990:239). The structure operated at an urban scale, and now its two dimensional doppelganger is unable to be fully contained in the Guildhall yard, as the 90m x 78m ellipse breaches the boundary of the yard. The amphitheatre, which "[n]early 1,600 years after it last opened its doors," was reopened in June 2002 (Roman amphitheatre, 2002:B1). Unable to be contained the slate ellipse illusionistically slips into and under buildings, bringing the eye into the possibility of interiority, and effecting the amphitheatre's existance as built over.

Removed from the archaeological features which authenticate the amphitheatre by spatial depth and a distance of 17 centuries, this paved yard also mimics the amphitheatre's interiority, including the punctuating of entrances into the arena. Bateman suggests that the east-west orientation of the amphitheatre might be "found in an apparent Roman preference for positioning the *tribunalia* of amphitheatres approximately due north or south," whereas Ling argues that "[a] more plausible reason for the east–west layout was a desire to take maximum advantage of daylight hours" (1997:53; 2009:436). Regardless, passages between periphery buildings form accessways into the Guildhall yard - just as the arena had multiple entrances - and the entrance into the Guildhall Art Gallery, the 21st-century accessway to the amphitheatre, parallels the first century entrance six metres underneath it.

BOUNDARIES: SPACE

Interiority is dependent on a boundary - that phenomenon elegantly described by Colomina as an horizon, and by Hillier and Hanson as a domain of social knowledge (1996:n.p.; 1984:144). The boundary for Hillier and Hanson enables the categorisation of space, its clarity providing the potential for typology and transpatial solidarity; its permeability: closeness and - as they term it - spatial solidarity. The singularity of the dark grey paving, circumscribing a Roman past, anticipates the confidence in continuous and unbroken boundaries, which is also perpetrated in the representational techniques used in the exhibition.

Here darkness denotes imaginary potential, as well as being friend to the conservator. Increasing

reductions in light levels bring the visitor from the Guildhall Art Gallery and further into the past. Like many other archaeological sites (Jorvik in York comes to mind), increasing depth below ground level causes time to illusionistically peel back in centuries. Six metres under an amphitheatre entrance was discovered in 1988:

> It is the only forum of its kind in the capital and archeologists have now restored it, although the only area that is visible are the remains of the eastern gate through which gladiators and slaves made their way, probably to fight with bears or lions (Roman amphitheatre, 2002:B1).

The stair down becomes a darkened corridor, a slit window shows slivers of archaeological space glowing, the terrarium-like window converting both the amphitheatre and its twenty-first-century tourists into distant, interiorised and slightly miniaturised exhibits. As if to secure the point, a bland corridor carries the darkness now more harshly pierced by light. Illuminated interpretative panels line the walls. Another corner and the dark world of Londinium's amphitheatre becomes three dimensional, immediate and life size.

The exhibition foreground presents the eastern gate, deduced from c300mmsq timber gateposts 5m apart and an entrance-way 17m long (Bateman, 1997:54). An axial entranceway was "c. 7 m wide at the arena, though the flanking walls diverged towards the exterior. A number of squared timbers had been laid at different times across the width of the entrance into the arena to act as thresholds" (Bateman, 1997:56). Yet, while there appears to be a progressive marking of entrance via these thresholds, the boundary itself was far less certain: "No trace of an outer masonry wall was discovered on the Guildhall site, though a number of other features were recorded which appeared to represent the outer wall line" (Bateman, 1997:58).

More specifically:

> There was no single, simple line of post-pits or slots to be identified, but there were instead a number of widely differing features from different periods in the general areas where one might have expected the outside of the amphitheatre to lie. ... All of this makes it remarkably difficult to suggest a definitive position for the outer limit of the amphitheatre at any given date, although the ends of the masonry walls of the entrance-way could be approximate to it (Bateman, 1997:58).

The fragmentary nature of the *in situ* archaeological features beneath the Guildhall yard offer only a permeable, approximate outer perimeter. They form an incomplete and fractured boundary. Collectively they exemplify Hillier and Hanson's spatial solidarity, constructed through liberal and unrestricted movement across boundaries and a leaky quality to space. They state that "the weakening of the boundary is associated with a weaker structuring of the interior. Informality rather than ritual must prevail if the principles of the system are to be sustained" (Hillier & Hanson, 1984:145). In Hillier and Hanson's terminology such permeability predicts a tendency to informality, contiguity and encounter, rather than type (1984:145). Such an interiority appears inevitable for all archaeological remains.

In contrast, the strong and secure boundary (the archaeologically desired, definitive position conventionally achieved through reconstruction drawings) denotes a conforming interiority:

> The essence of a transpatial solidarity lies in the local reproduction of a structure recognisably identical to that of other members of the group. The stronger and more complex the structure, therefore, and the more exactly it is adhered to, the stronger will be the solidarity. Such a solidarity requires the segregating effect of the boundary to preserve the interior structure from uncontrolled incursion (Hillier & Hanson, 1984:145).

It is the boundary for Hillier and Hanson which enables typology - the conceptual repetition of spatially isolated building types. Connection between these interiors is conceptual through the recognition of common interior structures. Rather than physically proximate, the physical separation enabled by the boundary is critical. It provides the mechanism, sufficient formality and ritual, to make an interior replicable and recognisable, and so transpatial.

The bright lights of the display of the amphitheatre remains, which represent ancient Londinium and its ancient Romans graphically, fix the amphitheatre, illusionistically converting the spatial solidarity of archaeological remains into the transpatiality of the exhibition. Even the lighting is "arranged to recreate the perspective of tiered seating ... [to evoke] the atmosphere and spatial sense of the amphitheatre" (Bateman et al, 2008:158). This desire to secure and make firm the amphitheatre's boundary is effected through both actual and depicted means. As Scott has observed: "the Roman stones ... had to be cocooned in their own mini-chamber at an even temperature, and suspended during construction" (2004:[5]). We get a sense of this physical containment as the space's black, flat ceiling alternates between mundane vertical limit and an expanse alluded to by shadow.

This is an interiority founded in the "fundamental fact" of the boundary (Hillier & Hanson, 1984:144). As Hillier and Hanson describe it:

> the very nature of a boundary ... is to create disconnection between an interior space and the global system around ... A transpatial system ... is a class of spatially independent but comparable entities which have global affiliations, not by virtual of continuity and proximity but by virtue of *analogy* and *difference* ... a domain which is related to others not by virtual of spatial continuity, but of *structural comparability* to others of its type ... The relations between interiors are experienced as conceptual rather than as spatial entities (1984:144).

It is an interiority which lacks intimacy, and depends on the distance and separation that exteriority brings.

The fragmented archaeological feature and its supplementing and graphic reconstruction, consequently possess opposing interiorities. Following Hillier and Hanson, permeable boundaries undermine the ability to "typecast," whereas strong and well defined boundaries do not. Their argument is that the more certain the boundary the more an interior will be replicable, and will exist elsewhere because of a necessarily formal internal structure. Connections between interiors with solid walls are connections through association and typology, *not* direct, physical, contact. Such formality and typological form are dependent on this "fundamental fact" of the boundary.

The graphic interpretation, while aiming to "emphasise the architecture of the Roman structure in order to recreate the excitement and drama of entering the arena" (Bateman et al, 2008:158), operates to reclaim the shape and form of the amphitheatre's past, to resolve its former architecture and through doing so understand the amphitheatre's place not just in history, but within a system of typology. Consequently, archaeological definition of structures derives from comparability, and so the potential of typology to clarify, inform and supplement remains through the identification of type. For example:

> There is only circumstantial evidence for the full extent of the *cavea* of the London amphitheatre, so that in developing a reconstruction we are obliged to use parallels with other amphitheatres. Comparison with the timber *cavea* for the first masonry amphitheatre at Chester is informative though this was a fundamentally different type of structure supported on ground-laid beams rather than earth-fast posts ... The second phase of the Silchester amphitheatre was closer in design and construction to the London amphitheatre, with lines of large, earth-fast posts forming the entranceways, and the arena palisade made up of close-set earth-fast posts set in a shallow trench

> ... Findings at Inveresk, Scotland are of interest as they include structural details relating to a possible timber amphitheatre ... If the Inveresk structure is part of the north side of an amphitheatre then the conjectured ellipse suggests an arena measuring *c* 28m across its minor north-east to south-west axis and *c* 35m across its major north-west to south-east axis. These dimensions are similar to possible "military" amphitheatres such as Tomen-y-Mur in Wales and Newstead in Scotland ... The sub-rectangular arrangement of post holes recorded at Inveresk could have supported the timber framework of a *cavea*. (Bateman et al, 2008:101).

Reconstruction drawings facilitate the comprehension and location of found structures within the existing literature of amphitheatre typologies and *vice versa*.

The project of archaeology is perhaps then a project to interiorise, to re-establish and confirm the boundaries and limits of historic, ancient and prehistoric built structure. It aims, through representational means, to reconstruct. The Guildhall Exhibition operates within this *modus operandus*. The mechanisms it uses to construct interiority are: representational, visual and spatial in order to effect categorisation – another interiorising tool. Visually an illusion of completion is wrought through luminous graphics, which appears as an orthographic projection of the more distant perimeter of the arena, and the projection of "[l]uminous computer graphic "wire-frame" human figures [to] add to the setting and enhance the sense of perspective" (Batemen et al, 2008:158).

BOUNDARIES: DARKNESS

Just as darkness effects the spatiotemporal transition from Guildhall Art Gallery to Roman ruins; the Amphitheatre gallery is surrounded by darkness. Darkness is the absence of light. It operates to simultaneously enclose and expand space. It has an ambiguous and maleable relationship to interiority. In the amphitheatre display darkness operates to enclose and exclose. Darkness, as the material that a luminous green computer graphics outline, is the representational material which supplements and completes the archaeological remains. But darkness also occupies the representational matter of space, of the expansiveness of the sky which is in actuality replaced by the most crude mechanism of enclosure: the oppressive flat ceiling. In this way darkness adjudicates the representational and actual times and spaces of archaeology and this exhibition. Pools of light construct an interiority whose limit and hence boundary is the meeting of light with an exterior dark. The depiction resolving the fragmented amphitheatre draws illusionistic completion and a night sky, the expanse of outer space. The cloak of darkness is hence a maleable and permissive boundary able to negotiate and endorse both transpatial and spatial conditions. The presence of the boundary is therefore dependent on representation; the culmination of a series of archaeological drawings that dissect the amphitheatre over time. The material discovery of the amphitheatre shifts speculation into a very specific time and place or rather it shifts fragments whose permeability both keeps speculation at bay and provides sufficient certainty for speculation to thrive.

BOUNDARIES: TIME

Boundaries also articulate time. Mechanisms to partition time, such as the clock, the calendar, the invention of standard time, and even birthdays and other annual events, are well known. Such boundaries tell us whether we are early or late, older or wiser. They provide chronological units by which we can measure and locate ourselves relative to others, and to the spaces that we inhabit.

Time has as equally stringent borders as space. The idea of time, just as the idea of space, is itself an idea of interiority. The partitions of time which mark temporal interiorities, like spatial boundaries can consist of many degrees of porosity and opacity. Hillier and Hanson's work suggests the possibilities of transtemporal and temporal solidarities as theoretical mechanisms with which to begin a discussion

of temporal interiority, of archaeological and historical interiories, and the possibilities of being inside history.

Time, like space can be conceptualised as continuous or segmented. The partitioning of time is of course an historic idea. For example, Miranda Wilson describes the English Renaissance's "issues of temporal management," including "the culture's larger struggles over how to tell time well and accurately" (2011:98). It was the mid- to late-seventeenth-century inventions of the hair spring and anchor escapements in time pieces which enabled greater accuracy in measuring time "reflected in the addition of first minute and then second hands, to the dial," and when "watches need to be wound throughout the day and reset constantly" to ensure chronological accuracy (Wilson, 2011:102,105).

Time at the amphitheatre display is equally complex. In an attempt to illusionistically recreate the space of Londinium's amphitheatre the exhibition aims to locate the visitor inside the archaeological past and hence suggest the ability to recoup the time and space of ancient Rome despite of, or within, twentieth-century, and now twenty-first-century, time. Such a proposition is temporally selective. The overlying Saxon-Norman timber structures, for example, do not remain *in situ* (Batemen et al, 2008:158). Decisions have hence been made about what time is represented and consequently the relationship of the historic to the present and degrees of temporal omission. If, for Hanson and Hillier, strong spatial boundaries determine transpatiality, then strong temporal boundaries presumeably enable transtemporality and the ability to categorise historic time.

The exhibition's aim to "emphasise the architecture of the Roman structure in order to recreate the excitement and drama of entering the arena" (Bateman et al, 2008:158) is a desire to enable the exhibition visitor to somehow and easily enter into the time and space of Roman London as it configures the interface between Roman time and now as permeable. While the exhibition relies in spatial terms on visual completion, its chronological strategy emphasises the intimacy of what might be temporal solidarity. Borrowing Hillier and Hanson's description of spatial solidarity, such a temporal solidarity might be that where:

> A *spatial solidarity* works on the contrary principle. It builds links with other members of the group not by analogy and isolation, but by *contiguity* and *encounter*. To realise this it must stress not the separateness of the interior but the continuity of interior and exterior. Movement across the boundary, which would undermine a transpatial solidarity, is the fundamental condition of existence for a spatial solidarity. In such circumstances an elaborate and controlled interior cannot be sustained, but nor is it necessary. Encounters are to be generated, not limited, and this implies the weakening of restrictions at and within the boundary. (1984:145).

The illusionistic and casual intermingling of Roman and modern temporalities via the notion of the experience, of "the excitement and drama of entering the arena," appears to consequently both omit the temporal categories which conventionally separate these temporal spaces and rely on an understanding of the distinction between Roman London and its present day manifestation.

The amphitheatre exhibition is equally a contrast of antiquated representation and technology. The green illuminated light of 1990s computer draughting and video games supplements the masonry remains of ancient Rome. The computer drawing mediates the past and its luminous line appears as cracks of light to an outside as they image the completion of the amphitheatre which is both partial, through fragmentation and decline, and noticeably beyond the two dimensional wall of the Guildhall Art Gallery exhibition. Threads of light stitch a distant past to a closer one. It is the containment and interiorisation of historic fabric providing a notion of authenticity, despite a significantly changed historical and physical context. The Guildhall Art Gallery amphitheatre exhibition, as the site of the amphitheatre past and present, literalises the possibility of spatio-temporal closeness and distance as

being articulated in the exact same physical structure.

All this is not to say simply or naively that access to historic time is an inevitable consequence or characteristic of such archaeological exhibitions, even if it is an ambition. But the veneration of *in situ* archaeology which, for example, required in this case that (because it "had been granted Scheduled Ancient Monument Status") the amphitheatre "be preserved precisely *in situ* without any movement" (Bateman et al, 2008:156), is equally about the possibility to reclaim and access a sense of historic temporality with an intention of precision. The interiors constructed to mediate the temporal disjunction between contemporary and archaeological architecture must negotiate and represent the contrary temporal spaces which necessarily abut each other.

The amphitheatre exhibition presents a frozen Roman time through 1990s computer graphics in an attempt to bring archaeological remains to life. The exhibition hence necessarily negotiates its represented time, time of construction and the time in which it is experienced in the same conceptual space. It locates the visitor within a representation of past temporal space within which an artefact of that very time resides *in situ*. It is in this way, and understanding history as only a chronologically-infused representation, that the exhibition positions the historical as occupiable and an interior, and interiority itself as representational.

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PLATFORM: EXCAVATING URBAN INTERIORITY

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ABSTRACT

As described by Walter Benjamin in *Das Passagen-Werk*, the Arcade of Paris was a project to increase commerce by interiorizing the city. In relation to cities today, every city seemingly adopts generic function, buildings or program to accommodate any possibilities. The architecture adopted also has no other ambition than economy. Therefore, proliferation of *typical plan* is unstoppable. Every building, regardless its function or program, has exactly the same infrastructural and architectural attributes. With such premise, the difference between temples and shopping malls are only the object of worship. Economy has eroded everything; it has subsumed our city.

Given such ubiquitous and unavoidable conditions, this paper proposes a project that looks into the potential of the typical plan. Instead of rejecting it, the project attempts to work within the typical plan to discover its latent potential to go against the issue. The project was arrived from a specific condition of Athenian urban fabric of polykatoikia (multi-storey apartment building), a single archetypal framework (manifested as typical plan) that regulate interiority and exteriority throughout the city of Athens. With such framework, the project tries to narrate the possibility of introducing new consciousness in using the city through exposing urban interiority. This paper will argue that interiority doesn't only can be defined by walls and enclosures, on contrary, alienation, for example, removing the enclosures and exposing the space within dense urban fabric, can redefine an interior space.

Keywords: generic city, typical plan, archetype, urban interiority, immaterial labour

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INTRODUCTION

Today, in the name of economic growth, every contemporary cities share similar characteristics, it contains generic functions, buildings or programs. In order to speculate any future possibilities, every building, regardless its function or program, has exactly the same infrastructural and architectural attributes attributes (i.e. the open plan, series of structural columns, the elevators and escalators, full-height glass façade and artificial temperature conditioning). Therefore, proliferation of *typical plan* is unstoppable. With such premise, the difference between temples and shopping malls are only the object of worship. Economy has eroded everything; it has subsumed our city.

The problem worsens as capital (economy) continues proliferating in many aspect of the everydayness of people. Urbanization, the instrument of the capital, has a major role in the spatial production of the cities, especially the interior of the cities. If we assume that urbanization as a tool to efficiently manage economic resources in the city, thus, it aims to regulate the future development of the city. This even makes the typical plan becomes ubiquitous and unavoidable conditions within the everydayness.

As a result of this process of production, the interior spaces, as consequences of architecture, are highly containing the acts of consumption. In fact, as described by Walter Benjamin (1991) in *Das Passagen-Werk*, the arcade of Paris was a project to increase consumption by interiorizing the city and later giving birth to a new subjectivity, the culture of mass consumption. Capital has penetrated the private spaces of individuals, and *typical plan* has been embedded in our daily life, in the everydayness, in the very interior of individuals.

Given such ubiquitous and unavoidable conditions, how can architecture (and interior) work within and against the homogeneity of the generic? What kind of subjectivities that born from such conditions? Is it possible to illustrate any other possibilities and activities other than the economic ones?

With such premise, this paper will look into the potentiality of the generic and the typical plan by proposing a project. The project was part of collaborative thesis project titled *Labour, City and Architecture* conducted in 2010-2011 in Berlage Institute. The project was look into a specific condition of Athenian urban fabric, specifically on the state apparatus of the archetype *polykatoikia* (multi-storey apartment building) that regulate the urban fabric throughout the city of Athens. However, this paper aims to go further in defining the relationship of interiority and exteriority in the typical plan. Moreover, instead of rejecting it, the project attempts to work within and against the typical. Firstly, the project will introduce the concept of *typical plan* and *immaterial workers* as a potential conditions and new subjectivities that emerges from the genericness of the city. The project tries to narrate the possibility new subjectivity city through exposing the genericness of urban interiority. This paper will argue that interiority doesn't only can be defined by walls and enclosures, on contrary, alienation, for example, removing the enclosures and exposing the space within dense urban fabric, can redefine an interior space.

The Typical Plan and Generic City

In this section, the paper will elaborate the ubiquitous condition of the city, the generic, and its consequences, the *typical plan*. The concepts will be discussed mainly using two main ideas of 'Generic City' (Koolhaas, 1995) and the research on the Typical Plan (Marullo, 2011). The aim of this section is to discover the latent potential of the generic conditions and possibly to look ways in which a potentiality can overcome such ubiquitous conditions.

Generic is the conditions of the absence of identity, however, it is not only represents something that share common characteristics but also the state of 'becoming' similar (Marullo, 2011; Koolhaas, 1995). As Koolhaas argues, globalisation brings the genericness to cities all across the globe. To speculate the future, contemporary cities turned to be as opportunistic as possible in responding to the market conditions and keeping up with the global world. In consequences, as cities (together with its architecture and interiors) try to accommodate many differences, they tend to be less specific and more generic. And thus, capital had made identity slowly disappears from our cities, and thus, homogenization becomes unstoppable. In fact, the proliferation of the generic quality had been predicted by Archizoom (1968) in their 'No-Stop City', whereby the genericness of city was illustrated as endless repetition of text in typewriter.

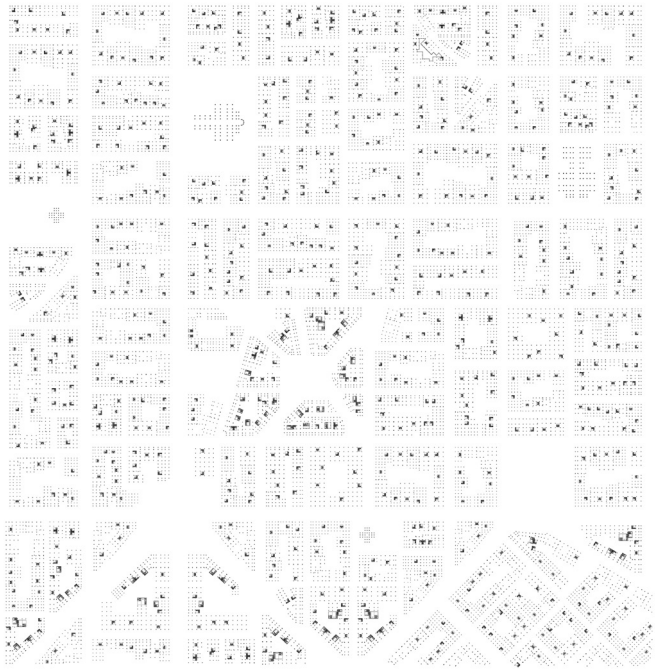

Figure 1. 'Nakedness' of the ground floor of the generic city
Source: Nasution, 2011

Moreover, in order to captures any possibilities and opportunities, capital (economy) devise a flexible instrument (in the barest form): the *typical plan*. Due to its simplicity, adaptability and replicability, typical plan able to contain any forms of subjectivity (Marullo, 2011). However, potentiality and subjectivity that been absorbed by typical plan are being used to reproduce different forms of production in the benefit of the capital, namely immaterial production. Immaterial production refers to production of informational and cultural commodities (Lazzarato, 1996); however, this will be discussed in the next section. In fact, through the invention of the typical plan, the locus of production has moved from the factories to the very interiority of the city. And thus, typical plan embeds a latent potential of the genericness of the city in the very interior of the city.

Urban Interiority

Interior is a consequences of architecture; and architecture is a product of a city. And thus, it is not possible to talk about production of interior without talking about the production of the city and its architecture. However, in this section, the paper aims to define 'urban interiority' and the production of interior, while the production of the city will be tackled later in subsequent section. Firstly, various concepts of interiority will be reviewed to construct the very notion of interior space. Then, that notion will be discussed in relation to the urban context to define 'urban interiority'? This section will help us to limit the scope of the project that will be elaborated later.

Interiority is an abstract terms pertaining interior. McCarthy (2005) tried to elaborate the complexity and contradictions in the definition of 'interiority'. Although, she pointed out some keywords that correspond to the state of interiority, for example, *containment*, *enclosure*, *imprisonment*, *privacy*, *security* and

shelter, however, she also argues that interiority is an abstract terms that cannot be captured clearly with these words. Instead, she elaborates some conditions that allow interiority to happen, namely, control, boundary, habitation, exteriority, bodies, time and atmosphere. However, interestingly, each keyword related to spatial condition is described in bipolar oppositions, for example, exclusion and inclusion, concavity and convexity, inside and outside, etc. And most of these terms are expressing the similar desired condition of having clear limit and boundaries, ability to invite and resists.

However, her most interesting insight to construct the boundaries of interiority is by seeing its counterpart, the possibility of exteriority. Both interiority and exteriority is interdependent, in fact, they are bonded and continuously reproducing each other, as such, interiority resulted by removal from exteriority, at the same time, it is the condition to filter exteriority. However, this interdependency is not equal to inside and outside relation, i.e. "interiority is not a guarantee of inside location" and vice versa (p. 116). She later argues that, in fact, familiarity constructs reassurance and safeness that establish the boundary for the inside from the outside.

The ambiguity and establishment of condition of 'interiority' in the urban environment has been discussed by Walter Benjamin (1991) reflection upon the subjectivity of the *flâneur*[1]. The *flâneur* has ambiguous interiority-exteriority boundaries. To the *flâneur*, spaces of threshold, for example, cafes are the catalyst between his interiority, i.e. singularity and individuality, and exteriority, i.e. the social collectivity (see Schmiedgen, 2009). Cafes are a 'strategic quarters' whereby one can takes his/her momentary position to observe the others while endangering his/herself in the urban crowd. Thus, subjectivity in a place has an ambiguous quality being an interior and exterior at the same time.

However, interiority has been instrumentalized by capital to consume exteriority in the name of commerce. This also described by Walter Benjamin (1991) in *Das Passagen-Werk*, whereby the nature of the Arcade of Paris was a project to increase commerce by interiorizing the city. The arcades attempt to domesticate urban space by introducing the illusion of 'familiarity' of the interiority in the exterior space. Bourgeois architecture elements – pavement and roof cover with iron and glass – are instrumentalized to civilize the existing chaotic, muddy streets of Paris that also lack sidewalks. Later, such instrumentation was giving birth to a new subjectivity, which is the culture of the mass consumption. Then, how interiority can against such instrumentation?

Within and Against Generic City

Critical attitude towards consumption within the city can be traced back to Mies van der Rohe's attempts with the series of 'plinths' that work within and against the generic. Barcelona Pavilion (1929), Seagram Building (1958), Lake Shore Drive Apartments (1949), Toronto-Dominion Centre (1967), and the Berlin New National Gallery (1968) share the same language and urban approach; it aims to introduce a discontinuity within the monotonous generic urban quality. However, Mies does not reject the capital and its generic attributes, such as, material and technology. In fact, as George Baird (1994) argues, Mies uses the generic to twist into a strategic interruption and dynamic relationship to its surrounding context by defining a limit from the urban fabric. The plinths are a dialectic device between limit and infinity. In fact, Mies uses the same emptiness that typical plan has, and turns it to stimulate human activities. The plinth becomes an exception in the city, whereby one could climb and turn their back to look and experience the generic city outside of the plinth.

[1]The flâneur (the stroller) is a typical welldressed Parisian man who walks around the Arcades without consuming the commodities.

However, in the case of Toronto Dominion Center (TDC), the separation of working and leisure and of production and consumption is still very present expressed by the podium of shopping complexes and the tower of productive spaces. Moreover, the plinth didn't take advantage to capture the virtuous urban life and merely providing a place to perform. Thus, the plinths didn't introduce any new subjectivities to the city, nevertheless, the plinths already gives a hint to a possibility of urban interiority, therefore lets discuss the possibility of the new subjectivities in the next section.

Figure 2. Emptying the 'ground floor'
(Mies van de Rohe, Toronto Dominion Center, 1967)

Subjectivity of Immaterial Workers

There was an on-going shift from the production of goods by material (manual) labour towards the productions of informational content by immaterial labour (Lazzarato, 1996; Virno, 2004). One of the consequences is the shift of the locus of productions from the factories towards the *typical plan* (offices). However, in order to better understand what the meaning of productive activities is, this shift should be understood through its process and the subject of production.

The characteristic of immaterial labour is increasingly involving subjectivity and intellectual capacity in the production process; however, this should not be confused with the increasing intellectual capacity of the manual labour. Lazzarato (1996) argues that during 1970s, factories already incorporate personality and subjectivity of labours in the production process, especially in managing information and other subject in decision making process. However, within this productive cooperation, hierarchy is still very apparent in the structure of production, which possibly leads to social frictions between classes. This triggers capital to invent new ways to incorporate personality and subjectivity of subjects themselves within the production process. This also means that, if cooperation is the way to produce, then individuals shall rely on their ability to speak, think and act (Lazzarato, 1996; Aurelli *et. al.*, 2012). And thus, the very ingredient of the production is the living body of the workers that contain potentiality to produce and ability to communicate it.

Immaterial labour develops new relationships between production and consumption, between production and the product, among individuals, and between individuals and public realm (Lazzarato, 1996; Virno, 2004; Aurelli *et al.*, 2012). As we know the products produced are no longer goods (that being destroy in the act of consumption) but information, and thus, in order to be productive, one needs to consume and digest the information or even manipulate it. Virno takes on Marx's concept of

two types immaterial activities, first is the conditions whereby "the products exist separately from the producer" (for example, books, paintings); and second is the activities whereby "the product is not separable from the act of producing", refers to performing artists, for example, dancers, pianists, etc. and activities that involves virtuosic performance, for example, orators, priests, etc. Thus, in order to be productive, immaterial producer needs the "presence of others" as perquisite conditions. And thus, production process required certain degree of virtuosity, or in other words, involves political action.

However, "capitalist are interested in the life of the worker, in the body of the worker, only for an indirect reason: this life, this body are what contains the faculty, the potential, the dynamis" (Virno, 2004, p. 82). Such precarious condition is not only materialised in the disappearance of the stable jobs, housing, welfare, but also on the stable environment. As the immaterial worker depends on the unforeseen capabilities and the latent potential, it requires certain kind spatial conditions and quality of interiorities that can foster these workers to act in their own autonomy.

City and Urbanization: the 'Dom-ino'

Before presenting how the project illustrating different scenarios to capture potentiality of the immaterial workers, firstly, in this section, the context of the project, i.e. the relation between city and urbanization, will be unfolded by introducing the city of Athens that has been used as paradigm for the project. This will be narrated by the establishment of an archetype called *polykatoikia* that spread throughout the city of Athens. The aim of this section is to illustrate how capital instrumentalize urbanization (with its regulatory framework) to consume the city.

The reality of Athens is far from the beauty of Acropolis, in fact, it is a natural basin that filled up with a vast carpet of urbanizations that rolls endlessly. Acropolis and Lycabettos Hill are only islands that emerge from the sea of urbanization. The urban fabric is extremely dense, fragmented and isotropic. It is a mix between, so called, formal urban structure and informal spontaneous development. Although the master plan of the city does exist, the city has been regulated by an unspoken regulatory framework called *polykatoikia*.

Polykatoikia, literally means "multi-storey apartment building", was born during the first wave of Athens suburbanization (1930s) as an archetype for Athenian bourgeoisie housing. During that period, in twenty years, population of Athens had tripled in size, which pressurizes the state to institutionalize a mechanism for expansion of the city (Aurelli *et al.*, 2011). It is both abstract, i.e. there is no define form, and precise, i.e. concerning the height limits, the setbacks in elevation and plan, the building coverage, etc. *Polykatoikia* slowly became an archetype to distribute population density while informing both spatial and economic terms of the Greek cities.

In order to keep up with the speed of urbanization, the state promotes *polykatoikia* as an apparatus "to advance (and thus appropriate) local construction knowledge towards a coherent and yet flexible system of building techniques, materials, details and structural schemes" (Aurelli *et al.*, 2011, p.45). In fact, in time, *polykatoikia* had evolved from an archetype of Athenian bourgeoisie housing to a successful regulatory framework of the urbanization system that accommodate the transformation of the political and economic relationship of Greek society (Aurelli *et al.*, 2011, p.33-65). Such abstraction can be related back to Maison Dom-ino (from the Latin dooms, "house", and an abbreviation of "innovation") by Le Corbusier in 1914, whereby industrial revolution applied to building and urbanization process, which allowed mass production, standardization and repetition of building techniques through the invention of glass, steel and reinforced concrete.

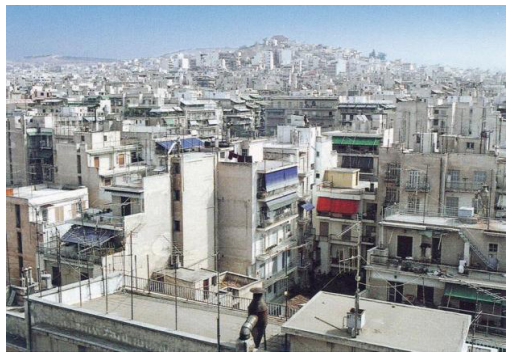

Figure 3. Typical View of Athens (Dimitris Philippidis, 2000)
Source: Dimitris Philippides, Modern Architecture in Greece, Melissa, Athens 2001. Courtesy of Dimitris Philippidis Archive

Within such premise, both Dom-ino and *polykatioikia* show an abstraction of architecture to its formal simplistic, necessity and generic elements, while, at the same time, obtain its capability to govern the uncertainties and the unforeseeable development in capitalistic modes of production. Thus, both *polykatoikia* and Dom-ino illustrate how urbanization triumphs architecture in its relation to the city. The question remains, how would architecture (and interior) works within this carpet of urbanization and to go against it? And how would urban interiority captures the subjectivities of the immaterial workers.

ON METHOD: ANALOGY AND ARCHETYPE

In this section, the paper will discuss on the concept of 'paradigm' that is used as a method to illustrate the project. This section attempts to explore the possibility to formulate a project of the city that could go beyond master plan and economic management that is at the core of the urbanization process.

Paradigm is not simply an *exemplar*, i.e. a model that is supposed to be copied, but also an *exemplum*, i.e. something that requires a more complex reflection and evaluation, something that is able to analogically represent a new intelligible set, a new problematic context.

The paradigm operates therefore through the mechanism of analogy. Following the definition of Aristotle in the *Analitica priora*, Agamben (2009) clearly shows how, if the deductive process moves from universal to particular and the inductive process moves from particular to universal, the analogical process rather moves from the particular to the particular.

The dialectical opposition between particular and universal, between the subjectivity and the infinite number of possibilities is suspended, opening up the possibility of a true choice, the possibility of the political.

The common, however, assumed as a category, has the capability to act as a paradigm, suspending the dichotomy between private and public, establishing a relationship from the particular to the particular, from subject to subject.

Following the logic of the paradigm, the common cannot be defined by a precise set of norms or principles but only through hypothesis, actions or objects that, being exposed as such will determine its knowability.

That reasoning can radically inform the relationship between architecture (and interior) and urbanization,

being architecture capable to put forward hypothesis, actions and forms that could act as paradigm of the city, defining limited possible worlds in the endless urbanization. The project that will be elaborated in the next section works within the concept of paradigm, i.e. its limitation and definition represents the relation between particular to particular. However, the project specifically looks into the basic elements of architecture; exaggerate its archetypical quality and discover its potentiality to absorb activities.

PLATFORM: EXCAVATING THE URBAN INTERIORITY

The platform is a raised floor, elevated 0.5 meter above the street level, carved inside existing polykatoikia. This could be achieved by removing the envelope – walls, party wall, windows, and fences – of the existing polykatoikias ground floor; and retaining its structural column and vertical circulation, such as staircases and lift shafts, to arrive on the ground floor and have access towards the cellar at the basement.This process will expose grids of columns (typically 60 cm x 60 cm, or 40 cm x 60 cm) of existing polykatoikias that span 6 meter wide and its floor-to-ceiling height that can go to a of maximum 5 m with rough concrete beams on the ceiling.

A homogeneous 3-cm thick, 1 m x 1 m concrete floor is applied on the platform to form a continuous surface. A 45 cm x 9 cm x 1.5 cm thick steel channel is clad around the perimeter frame to emphasis the definition of the boundary.

While maintaining the 2-m sidewalks on the perimeter, the platform will be accessible through four main accesses: two steps and two ramps, which are placed on each side of the perimeter. All entrances through private dwelling and shops will be accessed from inside the platform.

The platform is a shared lobby where encounter, confrontation and co-sharing take place. Through the suspension of the private space of the dwelling and the public space of the street and the ambiguity of interior and exterior quality will gave a sense of estrangement and uneasy to the inhabitants. It is not merely an open public space, but also a possibility to construct the idea of common space. Moreover, the platform tries to capture moments and urban life performance that failed to be addressed by Mies' Plinths by will excavating latent potential of the generic city.

The platform is an archetype that is born from (and tries to go against) the ubiquity of the generic city, as well as the instrumentation of the ground floor of our city by capital. In fact, the platform tries to expose the very interiority of the typical plan. It does not reject the very infrastructure of the generic city – the column, the wall, the elevator, et cetera – but unfolds them and exposes them.

By subtracting the envelope of the city, and discovering the nakedness of the city, the platform tries to introduce new consciousness to the city. It also attempts to make explicit the relationship between living and working in the city where the city is the factory and we are the machines themselves.

The platform is also adaptable to the surrounding context, absorbing it and even strengthening it. It will evolve and change its form and shape without losing its fundamental principles. Furthermore, platform will incorporate the subjectivity of the immaterial workers. It will demonstrate the possibility of exchange, sharing, encounter and (possibly) cooperation. Virtuous actions could be staged through the establishment of collective spaces to share offices or ateliers. Production and consumption could coincide in a single space. With the generic and 'almost nothing'-ness space of platform it could accommodate a neutral space for immaterial production to take place.

The platform aims to artificially construct the limit of the current urbanization. It creates a void in the existing dense and generic fabric. It will take advantages and absorb the surrounding context. The

platform focuses on the creation of interiority by means of excavation, working like an archaeologist that slowly discovers important artefacts beneath the existing layer of the generic city. Space is no longer something that can only be created with an addition to the city, but also by a subtraction of the city. At the same time, architecture (and interior) tries to work within the urbanization in order to go against it by defining limits for it and by carving voids inside it.

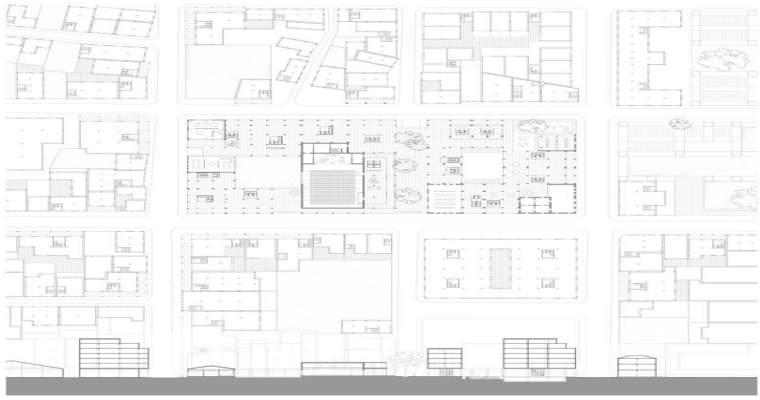

Figure 4. Exposing the ground floor of *polykatoikia* by removing its enclosure
Source: Nasution, 2011

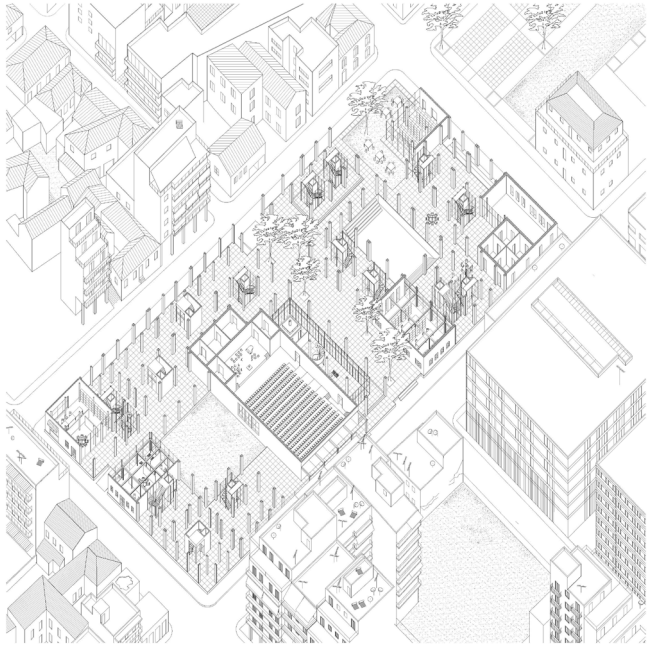

Figure 5. 'Nakedness' of *polykatoikia* ground floor
Source: Nasution, 2011

Figure 6. Suspension of private dwelling and public street on the platform.
Source: Nasution, 2011

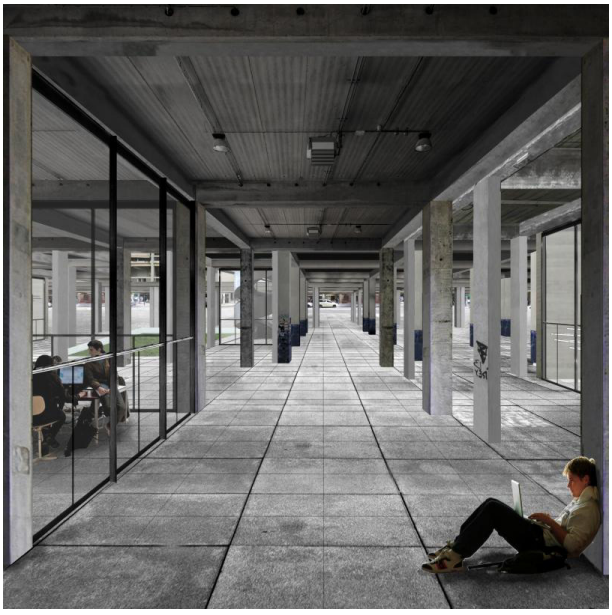

Figure 7. Productivity and performance inside the 'urban interior' under *polykatoikia*
Source: Nasution, 2011

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CURTAIN AND CUTTING IN BINTARO JAYA: INTERIORITY OF CITY'S PERIPHERY

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ABSTRACT

Bintaro Jaya was a satellite city located in the southern outskirts of Jakarta. Built in 1979 the city was established at the time Indonesia entered a new phase of post-independence period under the New Order regime. Having 2.000 hectares area, now Bintaro Jaya is one of Indonesian prestigious cities with modern housing estates, apartments, hotels, fashionable shopping centers, and commercial business district. Urban planning composed Bintaro Jaya into a luxury stage and become a new fabric in the suburbs. Not only separating local communities, the city also torn the textile that has been worn by suburban since decades ago.

A suburb was the city's side that often invisible and being neglected, a symbol of marginalized people who stood on the edge of the stage. The study was conducted to examine suburb as the city's periphery and the excess of urbanization and modernization virus that stretched uncontrollable.

By documentary method to reveal the history of architecture as the journey of human in curtaining their spaces. People made curtain to their existences in different scales and forms, which along with it also changed the pattern of communities where they engaged. Through the perspective of interior the study was to see behind the curtain of the city's stage and entered the personal space of the actors, to examine city from different point of view.

Architecture not only buildings, but it relates to human inside the curtain built by architecture. Change the cutting pattern of fabrics around human will ultimately change people's clothes. Interiority was the stitches of human spatial and social spaces that covered human existences, an atmosphere of the space and that turned human who lived inside.

Keywords: history, urban, periphery, interiority

TERMINOLOGY

In concert hall curtain covered the stage and made it a center point for the audience. Curtain also divided the audience from the actor's zone behind the stage, a space that usually hidden from publics.

Architecture can be a curtain for human in their existences and divided spaces into various scales and forms (Blaisse, 2011).

In fashion cutting was an important part of the process. It needs a good cutting pattern to make a fashionable dress. Clothes that didn't fit to the body will torn the fabrics. Cities can be seen as clothes while cuttings were the social relationships that sewed the city spaces. City planning was making a dress with the cutting pattern sewed to the communities (Kraft, 2011).

Interiority was the substance. Human created spaces around their existences to keep alive. The spatial and social spaces that became an exterior and conducted human to the new personal spaces. Interiority was the soul of the space, an atmosphere that lived inside the space and turned human who get connected with it (Parr, 2010).

INTRODUCTION

Built in 1979 Bintaro Jaya was a satellite city in the southern Jakarta. The city was established by the time Indonesia entered a new phase under the New Order regime and begun a huge development in all sectors. Jakarta as the capital city became the center point. The movements that immediately absorbed many problems for Jakarta. The lack of transportation, housing, amount of waste, and flood that hit the city soon spawned to the needs of infrastructures.

Settlement became the most urgent needs for Jakarta. The government opened some new areas(Abayesakere, 1987), and after Kebayoran Baru, Pulomas, and Cempaka Putih, Bintaro Jaya was a government new proposal for Jakarta's residents. Bringing Garden City concept, Bintaro Jaya was the first housing project between government and private developers. The project also signed the city's movement that has stretched to the edge and a new beginning of the growth of new cities in the suburbs.

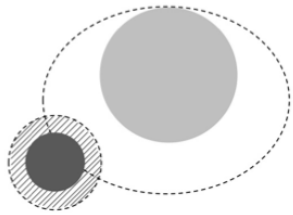

Figure 1. City and Peripheral Area

City –from *civitas, civis* (Latin), means citizen. Cities were people. Talking about cities was talking about people with their activities. Cities were influenced by people, where in the other side a city shaped also influenced people activities inside the city (Giruard, 1985). As like making a dress, city's planning was the way of cutting the fabrics and making the patterns that suited to the wearers. Through the stitches of the cities can be seen how the communities grew inside. The new fabrics sewed to the city would change the clothes of people (Kraft, 2011).

Recently Bintaro Jaya has become one of the most prestigious cities that surround Jakarta. Reading Bintaro Jaya was to read a part of city's movement in Indonesia. The study was to reveal the journey of spaces and observe how the movement made changes to the stitches of the communities.

Curtain in concert hall was the elements that separated the audience from the personal space of the actors. Architecture can be a curtain that separated human into several spatial spaces (Blaisse, 2011). To

uncover the curtain was to see outside window to the hidden spaces that usually was closed the city's curtain. Examining the city's periphery would be an attempt to unravel complexity of the city and get a better understanding about the unknown actors behind.

RESEARCH INQUIRIES

The study was conducted to examine the city's periphery as the impact of urbanization and modernization. Observing city's periphery was to bring to light the otherness. To disclose the hidden side of the city and get a better understanding about people who stood behind the curtain. To reveal the underlayered of an actual face of the city. To discover the journey of spaces and find how the city's periphery formed and built its character.

Through the window of marginalized people the study was to trace the city's periphery that was often closed by the city's curtain. To move out from the generalization built by the city planner, and by using an actor's eyes to see spaces as a personal space. Cities were the artifacts. There was history below that conducted cities to its appearance (Harjoko, 2009). Through Bintaro Jaya to reveal history of the city and examine the stitches between spatial and social space that covered human along the journey.

Jurang Mangu Barat was one of the kampongs that surround Bintaro Jaya. The kampong that has followed almost a hundred years of the long journey of Tangerang, an old fabric that still alive until today. Stood behind the curtain of Bintaro Jaya, the kampong was a part that usually unseen from the city's window. Through the perspective of interior the study was conducted to observe interiority of H. Tongsin who was born and spent almost the whole of his life in Jurang Mangu Barat. To observe how the spatial and social spaces around H. Tongsin were moving.

The study conducted was the subjective review in the perspective of H. Tongsin and put H. Tongsin as the main focus. Space was subjective and Jurang Mangu Barat was reviewed based on H. Tongsin's glasses. Interiority of Jurang Mangu Barat was an atmosphere of H. Tongsin life, or in the bigger scale to put Bintaro Jaya as an exterior that covered personal spaces of H. Tongsin.

METHODOLOGY

The study conducted using the concept of *longue durée* from Ferdinand Braudel (1902 - 1985). Braudel brought plurality of time as the method in reading history (Tomich, 2008). Human history was the composition that was structurized on the long term journey. History was a unity of space and time while human was the actor who creates the events.

Point of time in historical range was a volume of space where inside there were several subjects led to the events. An event was a unity of subjects with its own complexity. And time was a multilayered times that connected one to each other. Reading history was to find the various scale of spatial-temporal (time) and search the inter-connections of those.

The object of research was conducted by the method of documentary (Baumann, 1978). Referring to Karl Mannheim, Mannheim placed the actual appearance as the document and made it as the starting point to reveal the underlying patterns behind. As said by Mannheim the appearance was actually the accumulation of multilayered patterns beyond several period of times that hidden inside.

Looking further what said by Mannheim and that city spaces were the stitches that contained several cuttings, where every period of time was a pattern of spaces, then the journey of spaces was a set of slices of the pattern that sewed from some period of times.

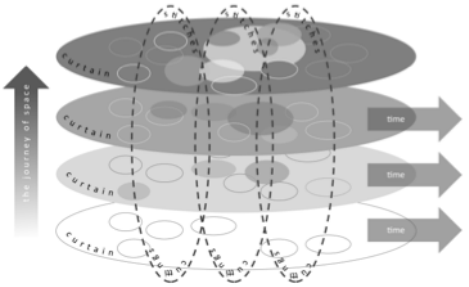

Figure 2. The Development of Mannheim's Documentary Method: The Stitches of Cutting Patterns between Space and Time

RESULT AND ANALYSIS

History of Architecture, The Journey of Curtain and Cutting

Tracing the journey of spaces starting from Banten, to the formation of Batavia, and Tangerang which came after, there were several factors which triggered of human movements through the times. Economics, religions, policies in city's planning, and power were among the strongest that led human to their activities. The movements that made human keep curtaining around their existences in different scales and forms.

Figure 3. Java Island 1935
Source: P.R. Bos - J.F. Niermeyer "Schoolatlas der Geheele Aarde" - J.B. Wolters, Groningen - Den Haag - Batavia, 1935

Banten was among of the earliest journey of curtain in west Java. After Kingdom of Tarumanegara collapsed in 9th M, the establishment of Sultanate of Banten in 1579 was the beginning of a new phase for Banten which previously for several years was under the power Kingdom of Pajajaran. The Sultanate divided Banten into some areas and placed *kraton* (palace) as central of the city (Guillot, 2008). Followed by the settlements, in the borderline there was seaport the most outer of Banten and outside the curtain of *kraton*. Being the welcoming gate for the foreigners who were dealing with Banten, seaport was a meeting point for the foreigners and a melting pot of various races, ethnics, and cultures that mingled. The position that made seaport became more heterogenic than the farming areas near *kraton* that tend to be more isolated (Haris, 2007).

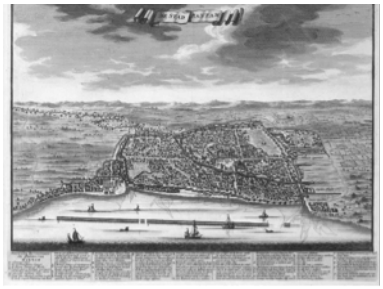

Figure 4. Seaport As The Outer Curtain of The City. François Valentijn Painting, 1724
Source: Tropen Museum

Seaport changed its curtain when The Dutch with their trading company came to Banten. Under VOC, The Dutch occupied seaport and built a new city. Building the fort VOC removed local people and filled the city with foreigners which then became the new citizen and owned the city. Fort was an old cutting of Banten that forced and sewed by VOC to become their new clothes named Batavia, and became a curtain that separating new citizens to local communities. Batavia was a Banten's periphery which transformed to the new nucleus.

In supporting the operational of VOC, The Dutch sent to Batavia the workers from their other homebase. Transported people from Maluku, India, and Japan to Batavia, VOC made the city as a new shelter for those people. But eventhough Batavia looked like an open curtain, actually the fort had a massive wall behind the curtain. Only selected people can live as freeman in Batavia where most usually stayed as the slaves. And The Dutch didn't bring either European lifestyle to Batavia. Initially the city was the curtain that built to become a branch office of trading company. The multi-racial people of the city were a new cutting patterns sewed by The Dutch Government (Taylor, 2009).

Figure 5. The Fort and The Life Outside, Batavia 1846
Source: Wikipedia

Life was not only growing in Batavia, but local people who have been removed from the city and the immigrants that can not stay inside were starting to live around the fort (Niemeijer, 2012). Being the outsiders they built their own curtain, and it told about the marginalized people who's being eliminated from the stage. The area was a multi-cultured fabrics that absorbed some colors of Batavia which then sewed to local communities. The clothes of people who were outside the city but it was a part of the city.

Tangerang came by the time Banten tried to build curtain to protect them from Batavia. The buffer zone that Banten created to hold The Dutch. And the curtain was torn when Banten failed to keep Tangerang.

Tangerang became part of Batavia and The Dutch changed its curtain made it a new fabric that sewed to Batavia. The transformation from Banten to Batavia has changed the clothes of Tangerang, as it begun a new acculturations stitches that sewed Tangerang and Banten people to The Dutch immigrants from Batavia.

Figure 6. Hermine Johanna and Her Family. Rangkasbitung, Banten 1898
Source: KITLV

A portrait of Hermine, the daughter of dr. A. A. Penning from Rangkasbitung (Figure 6.) showed Tangerang clothes in 18th - 19th century. Hermine and her family were the culture-stitches that sewed when The Dutch entered kampongs of Tangerang and lived side by side with local people. Not only brought their own clothes, The Dutch also took several patterns from people around, and made some institutional agreements with them. The relationship which then produced the new social engagement between local people and the foreigners.

Located in the outskirts of Banten, Tangerang begun its journey as the supporting area. The position that was away from curtain of *kraton* made Tangerang even a part of Banten but was not fully Banten. It continues when Tangerang moved to Batavia. Even being part of Batavia but as an area that was outside the fort, Tangerang not totally adopted Batavia. Tangerang became a stage without clear colors. The curtain that didn't have specific character which then produced its own colors.

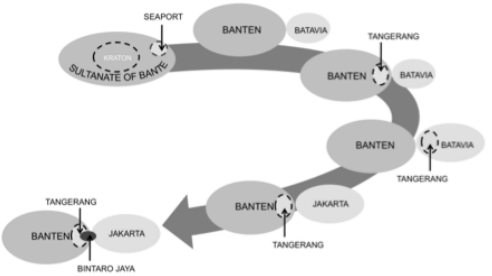

Figure 7. The Journey of Banten, Batavia, and Tangerang

Many years passed, curtain of Tangerang has stretched to various directions. Stand between Banten and Jakarta, Tangerang's today was the stitches of multilayered shreds of clothes. A piece of fabric that was flanked by two dress on its side. While modernization and urbanization almost destroyed all of its old curtains.

Bintaro Jaya, A New Curtain in The Periphery

Starting as a small curtain in the suburbs, recently Bintaro Jaya was a big city that has reached 2.000 hectares of an area. Bintaro Jaya was a new dress that sewed two fabrics on its side, Jakarta and Tangerang. Boulevard, shopping mall, international hospital, hypermarket, and central business district were the city's image and welcoming gate of Bintaro Jaya today.

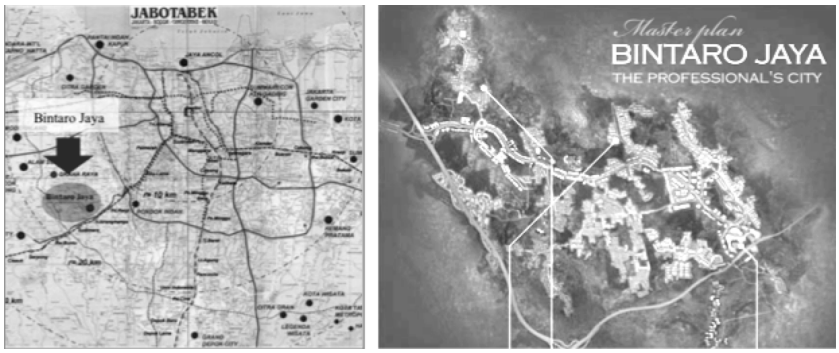

Figure 8. Bintaro Jaya, A New Curtain
Source: Document of PT. Jaya Real Property

After more than thirty years of the journey, now the 'Garden City' concept which brought in the beginning the city built has been metamorphosed into a new form. The city changed its curtain along with changes of the pattern of communities. Today Bintaro Jaya was one of the luxury stages that surround Jakarta. The glamour curtain of Bintaro Jaya blew modern atmosphere to the suburban and tore an old-fashioned fabrics that people worn. Bring urban to rural area, Bintaro Jaya created a new social class in the suburbs and composed the modern communities of the suburban.

The way Bintaro Jaya occupied the space and sterilized the atmosphere of the city remind what The Dutch did to Batavia hundred years ago. Built the city Bintaro Jaya brought its own member and removed local people. Come along with the new citizen a modern lifestyle which was so different with daily of the suburban.

Bintaro Jaya sewed a new fabric to the social pattern of the communities in the suburbs. Modernization of social space that went through several aspects of the city. The housing models, city's policy, society system, after all were aspects that became an exterior that lead the communities to a new dress they should be wearing.

In the exclusiveness of the city, the interaction between city and its surrounding can't be avoided has mixed the atmosphere. An air of the outsides around also entered the city's sphere. Local communities that was actually outside the city's curtain has become a part of the city's movement. The old pattern of lifestyle that grew in the kampongs around Bintaro Jaya, however was the fabrics that with their traditional stitches also coloring Bintaro Jaya.

The aspects of city and kampong in Bintaro Jaya made the city communities built by those two factors. Bintaro Jaya was not a kampong but also not anymore Jakarta. Bintaro Jaya was a modern kampong with city-village communities inside (*masyarakat kampung-kota*).

Jurang Mangu Barat, An Old Cutting of Tangerang

Entering personal space of H. Tongsin can be found it was an old cutting fabric. A dress from an old fashioned Tangerang that has been worn for years. Meet H. Tongsin was finding a part of long journey of Java that now almost all has gone. The clothes explained that the journey was there and exist.

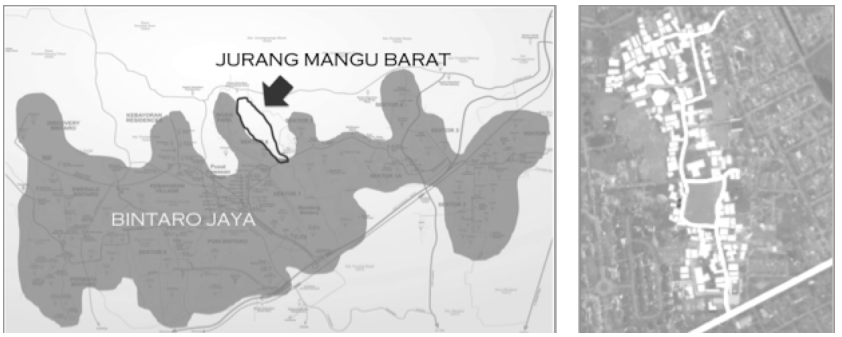

Figure 9. Jurang Mangu Barat, An Old Tangerang

Iron barred at the window of H. Tongsin's house perhaps was one of the symbols that can figured it. About Jurang Mangu Barat that has been caged by the new curtains that grew ferociously around the kampong. To tell how in the situation H. Tongsin was trying to keep walking and live for what he believes part of his life.

Figure 10. Behind The Barred Window of H. Tongsin's House
Source: Private document (2014)

The curtain of H. Tongsin explained how he lives and the principles that he kept. The position of the house that was inline with mushalla (small mosque) with the roof top of mushalla higher than house and connected by the corridor told about his closeness to the spiritual aspect and his relationship to God. Mushalla that built near the house more than just a private space, was the facility for publics that can be used freely. Everyone in Jurang Mangu Barat was welcome to mushalla's H. Tongsin. The weekly Al Qur'an reading in mushalla was an intensive connectivity between H. Tongsin and the area outside his personal curtain. Mushalla was public spaces which became the daily of H. Tongsin.

Lay out of H. Tongsin's house with living room in the center reflected the basic pattern of traditional society who put family as the center, formed by the open hall that connecting to personal spaces of each family members. The distance that relatively equal to all bedrooms showed equivalent relationship between family members.

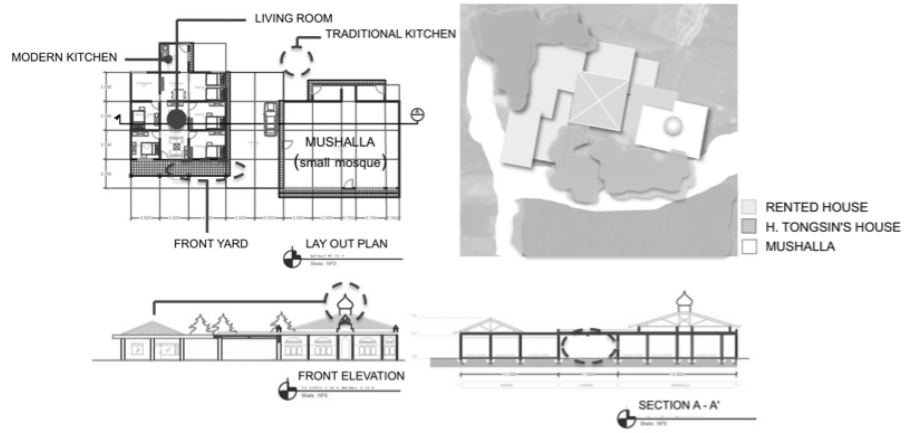

Figure 11. H. Tongsin's House
Source: Private Document (2014)

Placing kitchen at the back of the house also reflected some kind of traditional patterns that posed kitchen as the storage, the hidden part that was not polite if to show it in front of publics. And although having gas-stove, Mrs. Tongsin prefer to cook with firewood in their other kitchen, in additional building outside separated from the main house.

Figure 12. Personal Space of H. Tongsin
Source: Private document (2014)

There was a television in the dining room, but watching TV H. Tongsin didn't choose to sit in his big sofa or set a comfort lounge, he preferred wearing sarong and lying down on the ceramic floor. Television, sofa, kitchen with gas-stove were parts of modernism which entered personal curtain of H. Tongsin as well as the immigrants who lived in the pavilion and surrounded his house. However those elements didn't rip the stitches that strongly have blanketed H. Tongsin for decades.

Among the principles that H. Tongsin and wife hold tight was human relationship. H. Tongsin kept his relationship with the environment by opening his curtain. In the afternoon can be seen at the frontyard a cart-seller parked. After selling vegetables around Bintaro Jaya, the peddlers stored their cart at H. Tongsin's yard. The cart-seller was a symbol of connectivity between H. Tongsin and the environment. There are fences around H. Tongsin's house but it's just a soft curtain. The gate of H. Tongsin's fence was never closed as the relation between H. Tongsin and other people in Jurang Mangu Barat.

Seeing back years ago, Tangerang was a rural area with people lived side by side with nature which then made them learned how to live in harmony with the environment. As the property of his work many years ago, an old sewing machine that H. Tongsin kept in his house, there were some clothes of old Tangerang that H. Tongsin still wore until today.

CONCLUDING REMARKS

City and Peripheral Area

Human made spatial spaces around to keep alive. An interior that changed when people enlarged their sphere and started to build social engagement. The stitches between spatial and social spaces after all were the exterior that formed human existences.

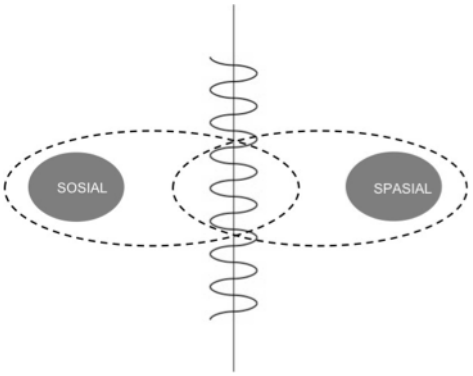

Figure 13. The Stitches of Spatial and Social Spaces

The study found that every stitches was a new form of spaces. A city not only a new stitch but it was a nucleus. City was a central point of the production of several stitches. City's development will also make growth spaces around the city. That every stitches potentially would produce new other stitches.

City's periphery was an impact of urbanization that stretched to the suburbs. Sewed modernization to urban communities, city's periphery was a new fabrics with more complicated stitches.

Bintaro Jaya was today's phenomenon of big cities in Indonesia. The increasing population made human keeps curtaining their environment. The overflowed cities created the growth several nuclei in the outskirts, while modernization contributed in changing people's perspective and produced a new model of curtain named modern city. Followed by capitalism, the elements created an uncontrolled urbanization. A fashionable city's curtain replaced the fabrics that previously worn by the communities.

Not only built its stage Bintaro Jaya also produced a new community around the curtain. People who took part in building the city were the beginning of Bintaro Jaya connected to local people. And the need of the operators to manage the city was another part that added some new actors to the city. People came to Bintaro Jaya as a new center point where they can hang their life. Stayed in the periphery the immigrants became a new part of the city. Bintaro Jaya's peripheral area after all was a new cutting fabric sewed by the immigrants that entered the kampong and mingled with local communities.

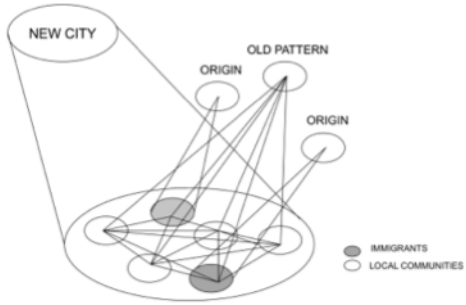

Figure 14. The New Stitches in The Periphery

Bintaro Jaya's periphery became a dress with complicated stitches. Local communities who still wore their old clothes can't avoid modernization entered their personal space. In the other side the immigrants were the group of people who didn't put their foot fully to the city, as half of the focus was still left in their homebase or *'kampung halaman'.* For them Jurang Mangu Barat was just a mediator that connecting a place where they live (city) and another place where they will be home (origin).

City's periphery with its characters and various cutting patterns of the fabric were an embryo to the new stitches of spatial and social spaces. Heterogeneity that can stimulate to the growth of new other spaces and the stitches that could bring cities to various directions.

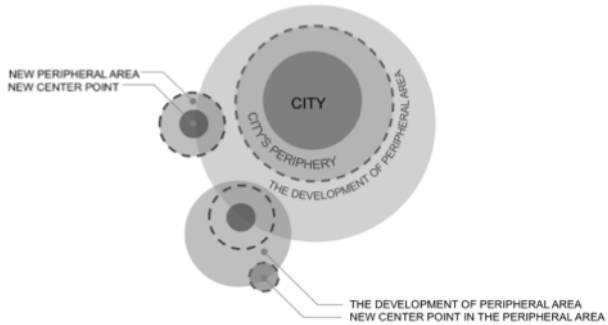

Figure 15. City and The Development of Peripheral Area

Interiority of City's Periphery

Bintaro Jaya was a satellite city of Jakarta and Jurang Mangu Barat was traditional kampong near Bintaro Jaya. Have a different character but both of them actually were the same, a city's periphery that grew as an impact of urban development. The way it built and the fabrics that sewed to the space have created specific stitches to each of them. The clothes which then composed a different atmosphere for people who wore it.

Looking at Bintaro Jaya, it was a new city in the suburbs that being implanted to the existing spaces around which have grown long before the city came. The city was composed to become a fashionable dress with sparkling accessories through the body and ask anyone to get fit into the pattern. The materialist and artificial character of the city looks clearly. The curtain built through structures of the city, e.g. housing design, public spaces, commercial areas led people to get dressed into a new style.

Bintaro Jaya was interiority, an atmosphere of a new group of communities in the suburb, the air that also touched the personal space of people around the city and changed some of their clothes.

Through H. Tongsin's glasses, Jurang Mangu Barat was his own kampong. The imprints of an old Tangerang that still left as can be seen until today. Lived by people the kampong grew naturally (organics) from generations to generation. Jurang Mangu Barat was a big family built by social bond of the communities. Living as farmers, in the paddy field people worked together to get some food. How people manage their work showed the relationship. People usually work together to harvest the rice. Anyone may join in one's paddy field. For one row of paddy yields people will get a bunch of rice. The more they work the more they can get rice.

There was a different way of living between people in Jurang Mangu Barat and the daily of Bintaro Jaya residents. People in Jurang Mangu Barat by nature try to live in harmony, and put the social aspect as the main focus of the process. Civilization changed the pattern, but there was a part of an old pattern that people still keep as their clothes. The weekly meeting at the mosque was among the spirit of the kampong. Interiority of Jurang Mangu Barat is the togetherness which built by the principles stayed in the communities. That they were one and connected to each other, and to give high appreciation of everything around as those were a gift from God.

Figure 16. Curtain in Bintaro Jaya and Jurang Mangu Barat
Source: Private document (2014)

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INTERIOR SPACES FOR LAZE: A LOOK INTO PORTUGUESE DOMESTIC IN THE LATE TWENTIETH CENTURY

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ABSTRACT

Interiority is the space for *reverie* (Bachelard, 1960) and for one of the most important activities of life: laze. Home privacy allows inhabitants to be in the most easeful and unique way, and so, leisure spaces or spaces for laze are one of the most interesting spaces to understand. Despite the majority of the studies concentrate their understanding in more functional spaces, spaces for laze are one of the fundamentals for human balance.

Idleness or absenteeism are essential to men in the sense that is the time it allows encouragement of personality and knowledge. When ancient greeks and Romans develop *mens sana in corpora sano*, they believe that time without physical activity, produce mental or reflective activity.

This paper propose to present an analysis of laze and idleness importance to men and comprehend the influence of this "activity" in home interior spaces. Spatiality related to idleness happens especially since the '20s, after the First Great World War. This war brought a more consciousness of individual. realised in a major sense of leisure, intimacy and enjoyment. The houses have changed. But how?

Through the study of single-family house in the second half of the twentieth century designed by portuguese architects (sample with 226 examples), this paper shows an evolution of mentality and interior space design dedicated to idleness and leisure. The evolution tends to more versatile spaces, but goes through some steps to come to this point. This spaces where subdued to social and representative home spaces.

Keywords: interiority, architecture, laze, leisure spaces, evolution

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LAZE

Laze, leisure, wander, rest and other words with related meanings have significant variations in terms of definition. As closely connected to man, these words influence a part of society and particularly individual's lives, more connected to their existence and identity.

The evolution of leisure's paradigm as "non-activity" refers to the lack of daily routine tasks, personal and family obligations and labor work. Herewith, laze guides us to personal availability, or to the time used to satisfy personal desires: resting, having fun or increasing knowledge. Greeks idea of time without physical activity to produce mental or reflective activity was followed by Romans in its known expression: *mens sana in corpore sano*.

Peaceful periods have impact on architecture. As in the Roman, Medieval or Renaissance periods, houses were built in a protective way, in peace times the tendency is to live more freely and without constraints. Spatial fluidity, as well as the proximity between interior and exterior are reflections of a social welfare. An evidence of this idea can be notice in the first developments towards greater spatial fluidity in the post First and Second World Wars. We can not expect an house open to the street or landscape when people aren't sure of their security and ways of life acceptance in the outside.

In the late nineteenth century, some psychiatric findings look for organic causes to mind diseases's origin. After centuries of *mediocre* advances, Jean-Martin Charcot, French neurologist, began studying hysteria through the technique of hypnosis. Later, Sigmund Freud together with Josef Breur (Freud, Breuer, 1895) progressed in the research and concluded that the disease came from memories with big emotional intensity suppressed. These conclusions came up with the idea of the existence of an unconscious health that can be educable or treatable.

Figure 1. Augustine Gleize, photographed at the Salpetriere to illustrate the stages of hysteria
Source: http://commons.wikimedia.org/wiki/File:Hysteria.jpg

The individual space that strength personality happens in his private side, particularly in leisure time as a way to develop well-being, contemplation time and tranquility.

Psychoanalytic thought has remarkable penetration in arts. The unconscious consciousness and the idea of good and evil coexistence are evident in George Bataille and other artists and philosophers such as Michel Foucault, Philippe Sollers, Jacques Derrida, Jean Baudrilard, Gilles Deleuze, Félix Guattari and Jacques Lacan. A less clear human being part is now allowed to be better comprehended.

Laze and the Individual

For Thorstein Veblen (Veblen, 1899), the wealthier social classes from the late nineteenth century used free time as a form of social distinction. Social public spaces served as hygienic opening in tight cities and allowed the stabilisation of this social class.

Jean Dumazedier (Dumazidier, 1976), defends that "social" time conduces to the creation of new social relations and new values. Free time has been steadily increased with the decrease of daily working hours. According Dumazidier, the industrialised society provides a strong purchasing power to the

masses and allows the idle to become a significant part of individual's life. Even in children, we see the increasing of idleness as a relevant phase in growth.

Regarding the individual, in the second half of the twentieth century, we highlight the following changes:

- tendency towards individualisation;
- tendency to spend more time with leisure and rest at home after a day's work;
- tendency to religiosity decrease and along with a tendency to an increase of individual demand in a more open relationship with the body and surrounding nature;
- tendency to build a more creative and self-centered person;
- increasing of the number of women in the labor market;
- domestic engineering introduces new and better mechanical solutions for the domestic labor work;
- development of individual's meditation and *reverie* posture that is mostly enjoyed in home's peaceful surroundings;
- tendency to reduction of family hierarchies.

According to Bourdieu (Bourdieu, 1976), the way people organise their personal lives, represents a distinctive social form that shapes society more visibly than classes structures.

Idleness and House (as Object and Its Surroundings)

The house, in its full assumption building-man-surrounding reveals some intentions regarding man's attitude in life. The way buildings connect with surrounding (urban or natural) announces some innermost intentions. The sample used for this study reveal two different approaches:

- object in the landscape;
- house with rural inspiration.

The first case, establishes a conceptual link with the "primitive hut". The object/landscape relationship confers a mutual appreciation. The house (object) appears in the site without changing environment, like a lighthouse, often placed in space in an advanced position as a landscape guard. The relation with surrounding occurs with eye contact. This type of proposal suggests a contemplative life, or a domestic life in constant contact with nature, as a kind of life in laze.

In the case of house with rural inspiration, its interaction with surroundings brings inhabitant closer to nature and environment. More than a visual or conceptual approach, this proposal presents a closer relationship with nature, especially in a physical level. Houses inspired in rural architecture become more organic and fluid.

Idleness and Space

Spatiality related with laze and leisure reflects a human and social change materialisation that took place mainly in the '20s, after the First World War. The existence of an introspective man result in a more conscious sense of idleness, and generates a more intimate and more enjoyable home space. Spatial distribution becomes more fluid and united given place to more informal and laze-full experiences.
We recognised, in the examples, two aspects that should be highlighted in this paper:

- indoor spatiality - tendency to spatial unification;
- spatiality between the interior and exterior
- higher spatial fluidity between interior and exterior ("interspaces").

INTERIOR SPATIALITY AND LAZE

In the last century, house acquired the efficiency that allowed to facilitate everyday tasks. However, human habitat goes far beyond the provision of domestic services. The house is probably the most privileged space for leisure, since it's the closest space to intimacy and daydream. Focusing the attention in the individual, modern house evolves in household efficiency as well as in the cult of the body and the mind. These two concepts are connected since house efficiency represents the way to provide residents vital free time. This free time assists inhabitant personality and lifestyle formation. It's this self idle time notion, which transported into habitat, creates a new family privacy perception.

The *machine d'habiter* is a paradigm. In one way, proposes technical resources, but sells inhabitants time for leisure. This space of leisure is conquered to the house representative space. The antecedent visit room and spaces with leisure specific functions no longer have the value they had before. These spaces have been replaced by the virtual space of the phone, email and internet. The space of laze conquers day-to-day space, generating the, now called, living rooms, where inhabitants develop various practical activities and also the one of laze and idleness. In the same space inhabitant can welcome a client, play with children, watch a movie or following a football report on the radio. The versatility of these spaces is indeed one of the major changes in the second half of the twentieth century and the reason for its increasing size compared to the spaces of the first half of the twentieth century.

The definition of leisure time as a specific time, in the nineteenth century, has provide distinguish leisure functions: music room, drawing room, conservatory, receiving room or tea room. In the sample, it's possible to recognise a multitude of compartments with no specific function or with mixed functions. Despite the subsequent tendency of leisure aggregation in one space, the setting or designation of separate living and recreational areas is relevant. This observation states the importance of these functions in the projects even in the late twentieth century.

In the eighteenth century, the separation of the service housework spaces from the living spaces represents an advance in the house functional separation. The circulation spaces where the main result: corridor. In the nineteenth century, the separation between service circulation and normal circulation represents the result from the need to release living spaces from domestic workers awareness and also to reenforce laze spaces freedom and intimacy. It's a giant step to the inhabitant sense of living, a kind freedom from the idea of labor. This uncompromised living away from domestic tasks promotes a more convivial and less bureaucratic family.

The house servants number decrease, in the late nineteenth and early twentieth century, also re-introduces a more close spatial relation between service areas and social areas.

In the second half of the twentieth century, the sample analyses shows a clear distance reduction between services areas and social areas. Besides this closeness, there is a clear and constant reduction of the average service area compared to the area of the rest of the house (table 1).

Beginning in the '50s, the sample analyses provided six different types of relationship between the two spaces. These six levels of relationship present staggered levels of permeability ordered from the level of food preparation in the same space of the dining area until their split into separated compartments (table 2):

- kitchen and dining area in the same space;
- kitchen and dining area in two different spaces, but with an open connection between the two spaces;
- kitchen and dining area with specific opening for passage of food;

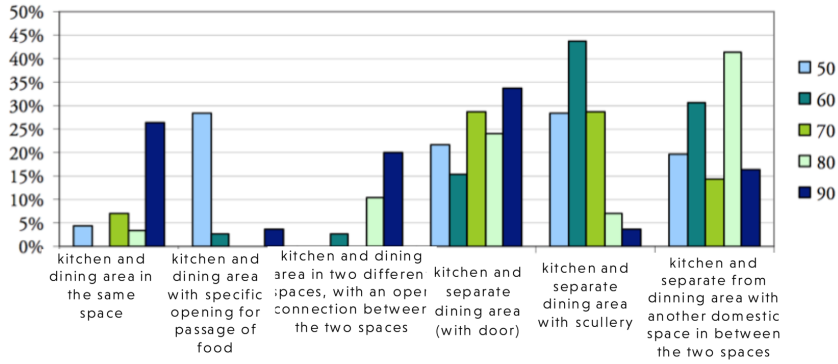
- kitchen and separate dining area (with door);
- kitchen and separate dining area with scullery;
- kitchen separate from dinning area with another domestic space in between the two spaces.

Table 1. Table of comparison between the area of the social and intimate zones and the area for service (kitchen, laundry, pantry and servants bedroom) in single-family houses designed by Portuguese architects in the second half of the twentieth century. The table's data were taken from the sample.

	House percentage area dedicated to social and intimate zones	House percentage area dedicated to services (kitchen, laundry, pantry, servants room)
'50s	85,2%	14,8%
'60s	86,8%	13,2%
'70s	88,4%	11,6%
'80s	88,7%	11,3%
'90s	89,9%	10,1%

Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais.* Lisboa: Faculdade de Arquitectura da UTL.

Table 2: Graph of the percentage of single-family dwellings designed by Portuguese architects in the second half of the twentieth century by type of relationship between the living room and social area, according a decade categorisation. The Y-axis presents the percentages of the examples found by decade and the X-axis presents the relationship between kitchen and social spaces. The data were taken from the graph of the sample taken.



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During the fifty years of the study scoop, the example of the separate kitchen area, has the largest occurrence percentage together with the greatest longevity over the five decades.

A scullery is a compartment which is not disappearing. It has greater application in the first two decades of study, in the period when representation had a major importance at home.

The communication between the dining room and the kitchen through a door is the most used solution during the study period.

The solution with the kitchen and dining area separated but visually and physically permeable was introduce with more expression in the '90s. This is a solution that meets the habits of contemporary life, often changing. This permeable kitchen to the living area can open or close to a dining area and, in this sense, is the most hybrid of all the solutions.

The serving hatch artefact is clearly an experience from the '50s. Probably this modern experience did not respond to the need of making life easier in domestic life, however that reason does't stop it from being used sporadically.

The informality of cooking and eating in the same space is a trend from the '90s. Many families assume their modern lives in a simpler relationship between their social, domestic and leisure life. Nowadays, cooking is for everyone, even for visitors, which often give a "little help" in the kitchen. Cooking is *chic* and is considered a very common hobby in the turn of the twentieth century. The sample denote a certain kitchen space *masculinization*. This phenomena occurs given the conjunction between functionalism and a larger care in conjugating living and leisure spaces. In the latest examples, kitchen can work as a link between laze and work actions.

Despite the new social and personal interest in cooking, many families use alternative food sources as frozen, pre-cooked, take-away and a whole range of solutions to reduce domestic work in the kitchen. These new solutions promote a kitchen workspace decreasing need (table 1).

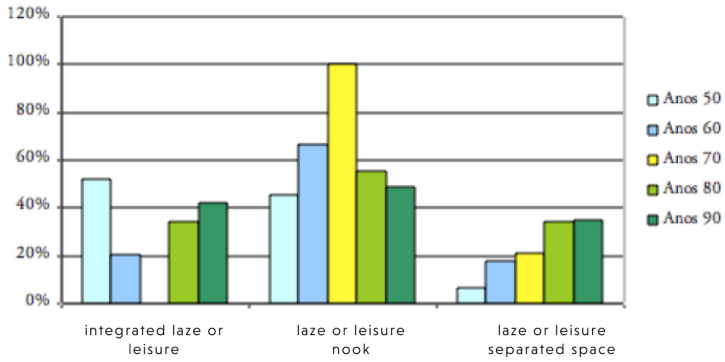
Besides the proximity between kitchen and social areas, there are major interesting readings within the social areas of the portuguese homes (table 3).
Spatial fluidity frees area for laze and leisure through an area release, before occupied by walls, furniture or circulation. Leisure space becomes, during the second half of the twentieth century, more connected to nooks or furniture rather than with specific compartments.

There is a general tendency to bigger social spaces, combined, in some cases, with specified leisure activities like gymnastic, games or television. Overall, the what we can call general laze and leisure activities, like reading, enjoy the environment, listening to music, happens in the living room. Meanwhile, some leisure activities that require special environment or features are isolated in a separated area.

For this research, we found three different space form for laze and leisure:

- integrated laze or leisure;
- laze or leisure nook;
- laze or leisure separated space.

Table 3: Graph of the percentage of single-family dwellings designed by Portuguese architects in the second half of the twentieth century by type of indoor laze space. In the Y-axis are presented the percentages of the sample examples, and the X-axis represents the three types of spatiality considered. The graph's data were taken from the sample.



Source:Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais.* Lisboa: Faculdade de Arquitectura da UTL.

Integrated laze or leisure

The sample shows that the number of indoor leisure spaces increases since the mid-century until the '70s and decreases until the end of the century. This behaviour happens, not because there where no leisure spaces, but because there was a tendency to aggregate these spaces during the '50s, when there was a more evident influence of modern movement in domestic architecture. This also happens in the end of the century, when there is a return to a more abstract language, bringing back these characteristics. The "self" valorisation is also reflected in the integration of leisure experiences, and, with it, the unification of the social spaces occurs and idleness becomes an integral part of domestic life.

The analysis of integrated laze or leisure interior spaces presents a curious reading: the sample enquiry announces that the highest number of examples of common living-rooms (about 65% of living-rooms), compared with the other decades, happen in the '50s. This reading confirms the tendency for the space unification during this period when modern movement had major impact in portuguese architecture. In the following decades, the living room, which includes the laze or leisure function decreases up to the '70s, period with no recorded occurrences, and increases until the end of the century, when the spatial fluidity between the work, living and dining areas has also high values when compared with other periods. The following examples illustrate this tendency to spatial unification in social areas in the '50s.

Laze or leisure nook

The interest in traditional architecture, especially during the '60s and '70s, in the sequence of the modern orthodoxy contestation, resumes a more poetic approach, more grounded in the idea of living in harmony within life and nature. This idea deviates from the pure and simple mechanical functionalism and goes with a more fluid space proposal.

The laze or leisure nook are the most popular solution in the portuguese context. Its use is above 40% in all decades of the sample examples, demonstrating a certain interest to differentiate laze or leisure

activities along the living-space.

This flexible and more organic spatiality has a huge evolution, in the '60s, driven by a neo-realist international influence along with the *Traditional Portuguese Architecture Inquiry*. This research publication in a book has a considerable impact in architecture at that time due to its own information and to the numerous conclusions, which considered traditional architecture as the true functional architecture, since it's the result of a timeless psychological and physical utility. Differentiated spatiality gives the possibility of individual isolation and the potential of gathering at the same time. While a group of individuals can be chatting around the living area, another person can be alone in a different place reading. The ability to conduct various activities in the same space fills the lack of privacy that living-rooms do not allow.

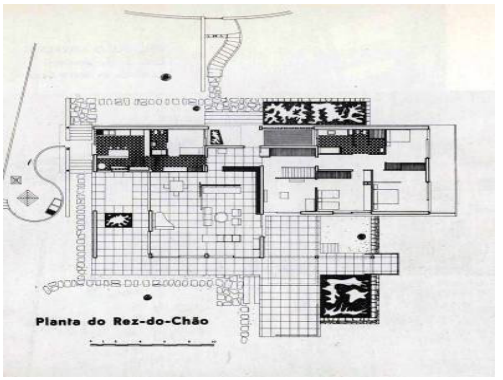


Figure 2. House in Caxias, João Andersen, Cassiano Barbosa, Caxias, 1953, Grownd Floor Plan
Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais.* Lisboa: Faculdade de Arquitectura da UTL.

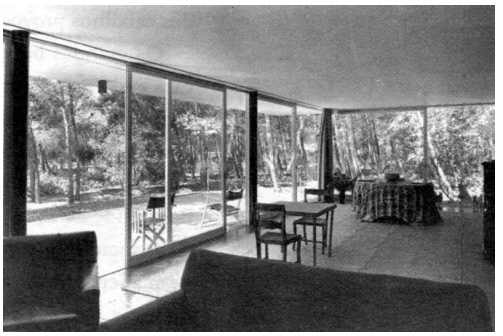


Figure 3. House in Cascais, Ruy Jervis d'Athouguia, Cascais, 1956, interior view from living-room
Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais*. Lisboa: Faculdade de Arquitectura da UTL.

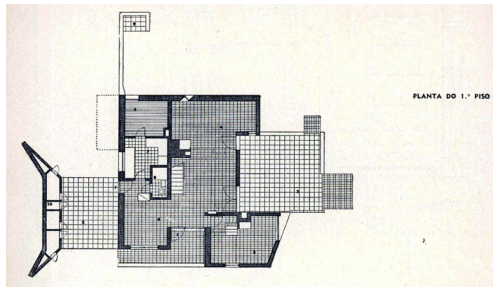


Figure 4. House in Albarraque, Raul Hestnes Ferreira, Albarraque, 1960, Grownd Floor Plan
Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais*. Lisboa: Faculdade de Arquitectura da UTL.

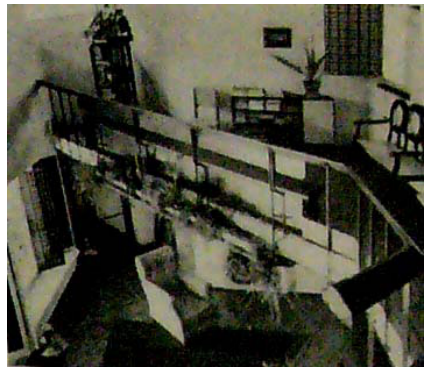


Figure 5. House in Vila Viçosa, Nuno Portas, Nuno Teotónio Pereira, Pedro Vieira de Almeida, Vila Viçosa, 1958, interior view
Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais*. Lisboa: Faculdade de Arquitectura da UTL.

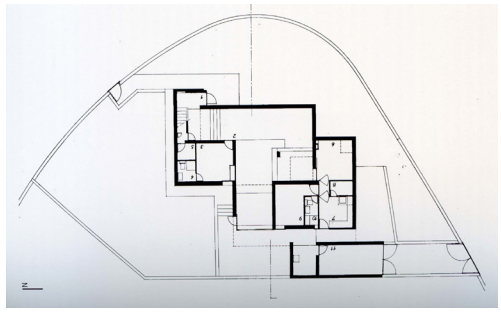


Figure 6. House Ferreira da Costa, Álvaro Siza, Maia, 1962, Grownd Floor Plan
Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais*. Lisboa: Faculdade de Arquitectura da UTL.

Laze or leisure separate space

Especially beginning in the '80s, leisure functions tend to cluster in larger spaces. Following a general trend space fluidity, some specific leisure functions appear isolated: library, gym or music room, however, are rare. Overall, the domestic interior leisure activities tend to divide between the living -community level activities- and the bedroom -private activities requiring greater tranquility.

In the end of the twentieth century, living-room typically comprises a library area or reading corner, while bedroom incorporate a study or music area.

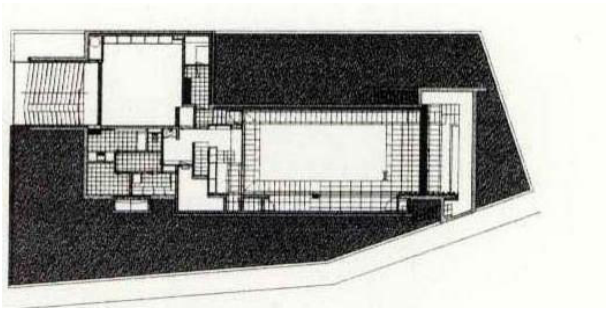


Figure 7. House Dr. Pinheiro Pinto, Carlos Prata, José Carlos Portugal, Porto, 1995, Plan -1 level (swimming pool)
Source: Pais, M. R. (2012). *Dinâmicas da arquitectura portuguesa na segunda metade do século XX. Um olhar cruzado entre a tipologia de habitação unifamiliar e os meios editoriais*. Lisboa: Faculdade de Arquitectura da UTL.

The incidence of physical separation within spaces for laze and leisure and social activities increases during the second half of the twentieth century. Seems contradictory the existence of some family hierarchy decreasing together with the increasing of space partition, but there are some interesting reasons for this to happen. Some cases represent more intimate rooms in other cases, specific activities compartments such as swimming pool, game room or library. The separation of these spaces, rather than presenting spatial separation, announces signs of leisure and idleness changing importance in families lives. The progressive spatial separation increase has a parallel in the increasing of constructed area. The phenomena is inherent to the portuguese economic growth. The greatest increase in the square meters growth occurs in the '80s, when Portugal gathers the European Union. The facilitated recourse to housing loans is probably the major reason to the house areas increasing.

CONCLUSIONS

Concerning laze and leisure, domestic life has changed significantly in the last century. Modern self-centred man together with a new range of domestic appliances have switch the notion of laze and leisure. The industrial revolution organised our lives into a binary scheme: work time and free time. In our homes, we arrive tired from work. So, our habitat has been loaded with innumerable different technical features that workout to give us free time to just live without work obligations. Free time to laze has became more and more important. So important, that new studies agree that, during work, it's better to add some laze moments.

Regarding the inner spatiality, it's worth to highlight some of the changes related with laze and leisure evolve. Curiously, changes occur in almost every area inside the house, confirming the importance of

this new spatial experience. Perhaps, the most visible is the **space fluidity** and a less compartmentalised ensemble that sometimes is materialised in a single space with mixed functions in a **significant social space integration.**

Another spatial characteristic found in Portuguese houses associated with leisure is the occurrence **leisure nooks**. Spontaneity and some resemblance with architecture inspired in traditional Portuguese architecture is one of the most influential factors of this specific spatiality. This interior spatiality presents recesses for idleness, like small spaces, which represent small breaks in the day-to-day functions, often unrecognised, but which act as small living spaces or pause spaces where nothing or everything can happen.

Kitchens can provide lodging for a number of new features and technologies which provide inhabitants more time to laze and recreation. In many cases, the kitchen can be seen from the living areas and, there is a tendency to a real **physical proximity between service and social spaces** along the last fifty years of the century. Another idleness conscience effect is the **pronounced interest in the service areas design**, situation that demonstrates a new meaning in the leisure interests and a new way to be with less formality at home.

Idleness also manifests in the indoor/outdoor relationship, **creating spaces between the world of the inner, innermost, and the outer**, more exposed. These spaces "in-between" are a characteristic of portuguese domestic architecture. Spaces between interior and exterior are intended to qualify areas designed to extend in and out characteristics and allow the occurrence of domestic activities. In most cases, these activities are linked to leisure and laze activities.

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INTERIOR ARCHITECTURE OF NIANG HOUSE AT THE MOUNTAIN VILLAGE OF WAE REBO

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ABSTRACT

The challenge of interior design under interior architecture is paramount since its concept of "interiority" in architecture education in this country is yet to be concretely defined and clearly distinct from the tradition of interior studies and practices. In general, interior architecture is concerned with interior design of the buildings, of which the structure and construction will determine how the interior will creatively be shaped. The concept of interior architecture in fact has been traditionally applied in vernacular buildings.

At present the traditional interior designs are mostly concern with architecture buildings in the urban setting. Meanwhile the vernacular buildings in the rural setting have not been recognized as potential sources to elaborate the interior studies and practices across architectural types (classic, modern, traditional). Although the interior ambience of vernacular buildings and their materiality are often adopted into modern buildings to represent local content in design, unfortunately the "spatial" significance, in terms of their symbolic meanings and spatial language are removed from their particularly.

As architecture can be understood through its symbolic features as a communication system, so does interior of vernacular buildings can be studied through understanding the spatial language. Symbolic oriented-study in traditional vernacular can be applied in interior study to enrich its design method as well as develops the theoretical framework especially when regionalism architecture is currently revived. The objective of this paper is to introduce interiority of vernacular buildings in interior design and practice, and propose its future studies, both in education and research. An interiority case of Wae Rebo in Flores Island will be addressed in this paper.

Keywords: interiority, architecture, mbaru niang, symbolic meaning, Wae Rebo

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INTRODUCTION

In traditional and vernacular environment, the symbolic meaning are not only invariably noticed and understood, but the level of conformity in behaviour is very high, even universal (Oliver, 1997). Vernacular environments communicate meanings in order to help people co-act by behaving appropriately in

relevant settings. Symbolic meanings remind people about the various social institutions in which they find themselves and the cultural rules that have been applied upon themselves. They identified the setting and its appropriateness for any given behaviour. In short, in traditional vernacular environments meaning are communicated very efficiently. This paper tried to introduce the interior of vernacular buildings through its symbolic features as a communication system. We choose Wae Rebo, the traditional mountain village at eastern Flores as the case study.

We started the discussion on the idea of architecture of Wae Rebo as a symbolically ordered spatial and structure through which key ideas and cultural orientation are expressed. It revealed the association between domestic space and local cosmologies in which the houses are construed as microcosm and macrocosm. For detail discussion on symbolic meaning we referred to the anthropological study of place and culture of Catherine Allerton in her book Potent Landscapes published in 2013. Her ethnographic portrayal of everyday life in Wae Rebo involved an understanding various feature in houses, spaces and village settings. All features were interpreted through observing and recording. Allerton distinguished the noticeable physical elements into: 1) fixed feature (house structure and form), 2) semi-fixed features (interior space and setting), 3) people and their attributes and behaviours (non fixed-feature). These three types of elements have been used to communicate the meanings. For example, the space and the kind of people present and what they are doing, together constitute symbolic meaning.

Allerton emphasized the important of everyday activities referred to Carsten, who mentioned that in order to avoid "exoticizing" subjects, anthropologist should focus not only on formal event, speech or rituals, or on the verbal explanation, but also on so called domestic life and everyday activities (Carsten 1997, 20). Furthermore Bloch (1991) emphasized the importance of paying close attention to the non-linguistic side of practical activities.

THE MOUNTAIN VILLAGE OF WAE REBO

In 2013 we visited Wae Rebo to conduct a brief observation on Wae Rebo traditional houses. Wae Rebo is a remote mountain village, at some 1,200 metres above sea level. It located within the dense rain forest mountain of Flores in eastern Indonesia. When visit Wae Rebo, one should travel to Denge, the last village that take about 25 minutes from Ruteng, the administrative centre of Manggarai Regency. To get the village we should remarkably struggle for five hours trek climb up to the mountain forest. Across dangerous rapids and along a steep and precarious mountain path, the journey often obstructed by the debris of large landslides and interrupted by breath-taking view of ravines and valleys.

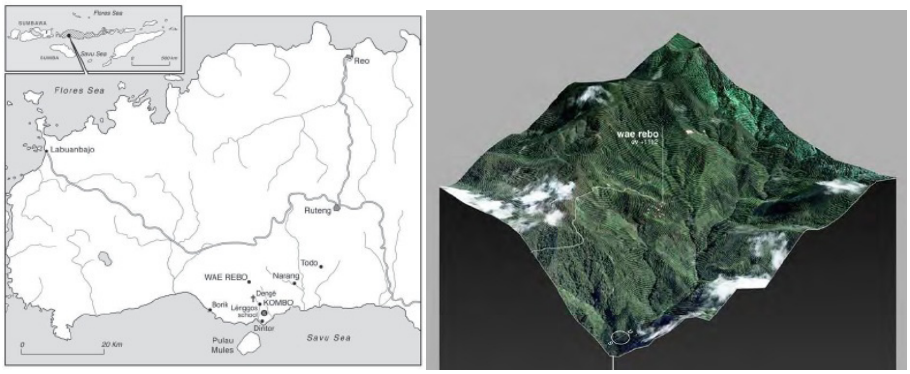

Figure 1: Location Map of Wae Rebo
Source: Allerton, 2013 and and Lad, 2013

In one afternoon of September 2013, the steep descending through coffee gardens marked the end of our exhausted journey and finally we arrived the village plateau of Wae Rebo. A thick white mist settled over the village obscuring everything and when cleared it revealed a sight of a lonely settlement. The village is resting comfortably inside a bowl of mountain ridges. It grassy village yard encircle by seven houses with tall, thatched, conical roofs sloping to the floor. Of the four existing houses, two had reconstructed by local government initiative in 1997. Under the mentorship of architect Yori Antar, Rumah Asuh reconstructed the other two houses in 2008. Each of the rebuilt conical house sit exactly upon the footprint of earlier houses.

Figure 2: Wae Rebo Village
Source: the author

While according to oral narratives in Wae Rebo, the village was first settled 17 generation ago, the remarkable spectacle triggered the question: is *mbaru niang* representing the survival of Manggarai traditional architecture? Noteboom, a Dutch administrator who stayed in Manggarai for 11 months in 1939 and published the earliest accounts of architecture in Manggarai provided description of original Manggarai house (Allerton, 2013). He outlined two types of large houses, an elongated and round houses that inhabited by several dozen of families. However as the houses of these large structures were relatively poorly built and unhealthy, the occupants were consequently very prone to all kinds of diseases that eventually the Dutch colonial government decided to pull down them all. After independence under Indonesia government, Manggarai traditional structure had been continually fought in the name of "sanitation and development (*pembangunan*)" and in return the government introduced new brick houses with windows. Furthermore the government forcibly relocated mountain villages to lowland and pulled down the original villages.

Wae Rebo appeared to be the only remained mountain village that depicted the survival of unique architectural form of Manggarai houses. Its isolated and remote mountain site has managed its houses in their original shapes. The mountain village survival is possible by benefactor of the village site in the lowland, called Kombo, where many of its villagers lived. Wae Rebo people are always travelling up and down the mountain between their two villages. Schoolchildren raised in the highland of Wae Rebo should move to the lowlands at Kombo to attend the school so that they didn't travel every day from Wae Rebo.

THE HOUSE ARRANGEMENT IN THE VILLAGE CONTEXT

The circular pattern village of Wae Rebo is inhabited by 300 of the village population. In the South, lined

numerous graves sit on hillside connected visibly and symbolically to the ritual centre of the village. The surrounding village is primary coffee and supplemented by variety of fruits. There is no shop, health facility and school. When someone sick, the villagers should carry her or him in their back to go to the hospital in the nearest town. Children are going to school and staying at Kombo during weekdays and coming home at weekends.

There is no house in the village provided with the water or sanitation. All villagers use the fields and trek down five minutes to the nearest freshwater streams and spring to fill up containers for drinking and cooking. As there is no electricity, the inhabitants use generator, which run three hours at night. At 09.00 PM the generator is turned off to signal time to sleep. At dawn when the roosters start to crow, people would wake up to start their daily routine. The man will soon leave the village for coffee plantation while woman are spreading coffee beans for drying and doing other domestic chores.

The round conical house at Wae Rebo is called *mbaru niang*. The basic concept of Wae Rebo house is that all spatial organization of built space and structure are according to the orientation and partition that are fixed and formed a configuration of circular pattern. The house arranged into a radial configuration with a central-host post with the perimeter divided into either individual rooms or separated portions. The central post erected into position that cleverly integrated into the assembly and defined the conical roof.

The circular *niang* house is explicitly compared with circular *lingko* field or the traditional Manggarai fields, which is formed a circular, "spider web pattern" of the land. The central columns of the house called *worok* is compared to ritual centre field or *lodok* where people have a communal ritual. The arrangement and orientation of the seventh *mbaru niang* is an open U shape facing community's central open-air altar.

Figure 3: the Circular Pattern of
Mbaru Niang (round house) and *Lingko* (spider web fields)
Source: Antar (eds.), 2010

THE HOUSE UNIT

The conical houses at the height of approximately 13 meters are identical, following the fix traditional form, layout and function. Entering through the front door of the house, one should leaving sandals by the ladder at the entrance. The ground floor called *tenda* is the primary living space for the extended family. It divided into two half, namely *lutur* at the front and *molang* at the rear. The centre structural columns formed the space where the male head of the household sit on the base columns of *worok* facing the single entrance way. The half front perimeter of *lutur* is the reception areas with the reception space lines at the perimeter on both sides. Behind the columns at the centre is central hearth and cooking area (kitchen) with suspended vessel storage. This is largely area for the woman of the household. The other's opposite of half of the perimeter is six segregated booths acting as bedrooms of various families. The whole ground footprint is 101 square metres.

Figure 4: Interior of *Molang* with Individual Rooms Behind
Source: the Author

In the central of structural columns is attached a simple bamboo ladder, which is used as central spine for the vertical access. Using this, the inhabitants reach the four levels of upper floors. The first, second, and third level is open space that utilized for material and crops storage (*lobo mehe*), storage for belonging (*lobo lentar*) and storage for seeds (*lemparae*) respectively. The uppermost level is ritual space called *hengkang kode*. It is space reserved for placing ritual offering after the completion of the houses construction. The whole combined floor areas, including the upper level is 201 square meters. There is no façade as the house largely windowless, thatch roof extends down just above the ground level. The crowning detail called *wlet ngando* is symbolizing the horn of a buffalo. It remains as the only decorative element of the house.

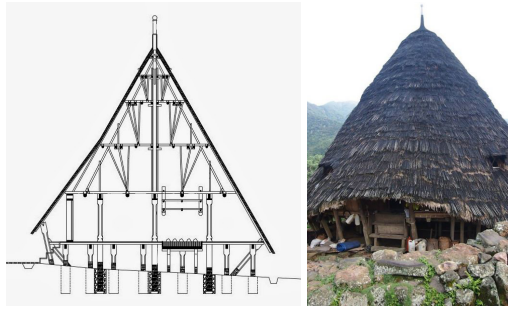

Figure 5: Section and Exterior of *mbaru niang*
Source: Antar (eds), 2010 and the Author

INTERIORITY AND DAILY ROUTINE INSIDE THE HOUSE

The everyday life in vernacular houses produce a house as a place of value through the creation of liveliness (Oliver, 1987). The house cannot only be comprehended through an architectural or symbolic approach but need a multisensory approach, one that is sensitive to the permeability of the house to sounds, smells, life-stock and the movements of inhabitants.

As it housed a large extended family (up to 30-40 people each) *mbaru niang* is a living cultural symbol of family and community unity and identity. Each element of the house properly organized and comprehended in relation to other elements. Each *mbaru niang* sheltered the entire extended family with all of their belonging under the large conical roof. Each family arranged their interior in a

similar manner, since the living spaces in each house is more or less identical. Oliver (1987) mentioned vernacular house is distinguishable one from other not only by material and technique used to build them but also the semantic overtones attached to them. The interior of *mbaru niang* is living expression of continuing family structure and life style.

Lack of furniture inside *mbaru niang*, all house activities - receiving guests, sitting, cooking, and eating continue to be performed on the floor. During the day, as the villagers tend to spend the whole day outside, the house is sparsely occupied and there is ample space for guests. By contrast, the ground floor transformed into cramped during the night, although the upper level condition is largely empty and under-utilized. Our informants said that there is no necessarily for the inhabitants to disturb the traditional spatial organization, as the empty upper level is not utilized as living space.

Rooms, as a household places, are symbolically and emotionally connected to the hearth (*hapo*) or the set of three hearthstones used by each household. In circular *niang* houses, which have large, central hearth, woman cooked with the hearthstone nearest to their room. When hearths are located in a separated building at the back of the house (as the case of guest house for visitors at Wae Rebo), they are referred by the Indonesian word for kitchen, *dapur*. However, although these hearths are further away from households rooms, woman still tend to use hearthstone in a way that maps the arrangement of their rooms inside the main part of the house.

Figure 6: the Hearth (*hapo*) and *lutur* of *mbaru niang*
Source: Author

As in other case of vernacular building, *mbaru niang* over time become well suited to the varying climate of its location. The thick thatch roof effectively insulated the interior fro heat during the day. During the night, although it cramped and the bedroom could only afford the most basic sense of privacy for each family, the crowd help to maintain the heat to overcome the chill. The thatch roof maintains a steady and comfortable temperature indoors. By contrast, daylight level inside the interior is very poor. The only lit is the shaded doorway and very small windows.

THE ROOM AS THE FOCAL POINT OF HOUSEHOLD

We observed that in Wae Rebo, houses shared by average of three of four (sometime up to eight) households, each occupies the segregate cubicle rooms lined in the back perimeter of the houses. Rooms remain as the focal points for individual households within houses. Room is called *kilo* in the context of household organization and *molang* in the context of ancestral origins. Rooms contrasted with the more public areas of the houses that enhanced by their size and shape. The room marked by bamboo or wooden walls, or it may simply be screened off from communal areas by a flowery curtain. The equivalent of room and bed in these small house sections is quite marked, and rooms can be created or taken apart relatively easily. In older house, rooms are often extremely small, with low ceilings and barely enough room to stretch out to sleep at night.

Unlike in Southeast Asian house, rooms of *mbaru niang* hold important features particularly for ritual life cycle. According to Waterson (1990) scholars have explored the ritual significance of different house parts such as hearth and posts, or altars and the differentiation of symbolically gendered front and back section. However many accounts are unclear regarding the existence of sleeping rooms or similar areas inside the houses. In many instances this is because there are no rooms, simply one main living area and possibly with sleeping platforms (Schefold, 2003).

As our short visit to Wae Rebo provided no any possibility to observe the individual room, to analyse the room, we relied on Allerton work, which was based on her detail portrayal inside the individual rooms of *mbaru niang* (Allerton, p.17-43). She mentioned that rooms have the low ceiling and dim light, with the floor covered by sleeping mats or almost completely filled by a wooden bed. The only furniture inside the room is wood chest and a small shelf holds various daily items. At the bamboo wall, small knick-knacks pushed into cracks and joins. Under the bed or in the corner, there are many things such as a sack of stored rice, candlenut, or coffee and old weaving tools. Various plastic bags can be discovered in nooks and crannies. Cloths are hung from hooks on the walls. Although small, modest, dark and musty places, the rooms role is central as for the households members, rooms are utilized for everyday dramas of sleeping, sex, feeding, and childbirth. Furthermore, as the smallest parts of houses, rooms are key places in a social landscape that includes houses, graves, fields, villages and pathways.

THE HOUSE AND RITUAL

Flores is well known throughout the country for its high percentage of Catholics, established by Portuguese mission in the sixteenth century that continues to this day. However, beyond this fundamental strongly felt identity, there is considerable diversity of animism practices. People hold attitudes toward Catholic worship and its relationship to older practises categories as custom (*adat*). Most villagers emphasized that only believing in prayers does not protect them from sickness or harm and that village medicine involving magic are essential to good health. According to our informant Blasius Monta (the Head of Elementary School at Denge) Wae Rebo people emphasized significance of animism, not as system of beliefs but as a way of being in the world. The people baptized as Catholics and marry in church, but continue to approach their environment in an animistic manner, such as practicing sacrificial rituals in fields and houses.

The succession of life span events – births, marriage and death in family constitute its development cycle (Erikson, 1972). This cycle, in altering the membership and organization of the family has effect in reshaping the dwelling. Allerton (2013) in her book analysed the power of a collective, shared landscape responses to religious change, while also taking seriously the intense personal connection between Manggarai individuals and certain places and pathway. She revealed the metaphysical connection between Wae Rebo-Kombo people and their land that hinted the intermingling of split blood, potent places (included rooms) and human fate.

Wae Rebo life cycle and agricultural matters are continuously punctuated by various events of rituals (Antar, 2010). Such events are frequent that they even become habitual. They make ritual explicit and possible in respect to place. Ritual speeches often addressed to village sites, rooms and land. Ritual has been influenced the power of place or the connection between places and people.

Figure 7: Indoor and Ourdoor Ritual at Wae Rebo
Source: Yori Antar Collection

ROOM AS SYMBOLIC FEATURE

Most types of ritual associated with traditional or vernacular societies involve contact with the sacred. The rites of passages are made legitimate through invocation of spiritual power (Gennep, 1977). Ritual settings can be defined as those who exhibit formalized relationship between symbolic areas. The ritual settings usually involve the use of architectural elements along with the other elements from other medias to built up thematic and symbolic content of perceived spaces.

As in other eastern Indonesian region, in Manggarai, ritual often uses blood. Blood is a substance that has a fluid quality, produced by food and in particular is changed by the consumption of maternal milk and meals (Carsten 1997, 127). In Wae Rebo, the humble, small and dark sleeping room remains as the best example to describe ritual symbolize the close linkage of microcosm and macrocosm. Erlington discovered that Wae Rebo people believe that sleeping rooms are closely knitted with bodies and souls of inhabitants, especially during key passages in their life cycle.

The symbolic meaning of individual room

Freeman described that in Iban tribe at Borneo, *bilik* term referred as both the living room of a long house family apartment and the family group that is the basic unit of Iban social and economic organization (Freeman, 1955). Unlike Iban, Manggarai rooms and their occupants are entangled in complex ways. Sleeping rooms in *mbaru niang* developed in tandem with the developmental cycle of domestic groups. A biographical approach to rooms also could be changed to be female or male. At certain times rooms are intensively associated with woman, at other times they are linked with a married couple, or with groups of patrilineal related men. Room also holds a role as a shelter for intimate activities, as symbolic womb, a link with ancestral origins, and a harbour for souls. Rooms of Manggarai house do not simply symbolize or tell the story of human live, rather they can directly influence those lives.

Wae Rebo is a patrilineal society with the basic unit of social organization is the lineage. Each household possesses his or her room within the big structure of *mbaru niang.* As in other vernacular settlements, the underlying structures of society of Wae Rebo discovered through the daily, routinized behaviour of village inhabitants. While appearing routine in their commonness everyday, activities within and around the home are essential components of the reorganisation process within the interior by which we (as outsiders) learn particular conceptual framework. For example is the case of young children who fall asleep in the living room of their shared house while adults sat talking. Later when the adults were stop talking and retiring to bed, they pick up their children and carried them into their individual rooms. In this case unlike much important ethnographic studies in vernacular houses in Southeast Asia concentrated on cooking and eating (Carsten, 1997), in Wae Rebo the practice and place of sleeping is crucial. Young children should always sleep in the household room with their mother and father.

Room and Ritual

The connection between individuals, rooms and fate are demonstrated guardian spirits commonly referred among Wae Rebo people as body sibling (*ahe-ka'e weki*). The idea about body sibling draw on the association between siblings and the family room reveals an idealized image of close kin who protect and comfort inhabitants through sharing intimate places. For that reason rooms are the focal points for individual household that entangled in complex ways through rituals. Referred to Allerton (2013), two important ritual dealing with rooms are follow:

Marriage Ritual

When a man marries and introduces his bridge to the room and hearth of his parents, rooms signified a patrilineal emphasis to kinship. After the various stages and rituals of the marriage process, the bridge moves from her natal home to that of husband in an emotionally significant marriage ritual journey called the *padong*. The final stage of this journey is an evening ritual called "blood on feet" (*dara wa'i*). Through this ritual, the bridge will be introduced to her new room. This ritual is notable for taking place in an intimate setting in front of the rooms. The ritual speaker will put his thumb in the chicken blood and uses it to mark a big toe of both bridge and groom. This action signifies that the couple is a new social unit and initiated them as the new household.

Marking room membership by marking feet with blood is noteworthy as blood is connected with rooms. The ritual is addressed not only to ancestral spirits and to human observers, but also to the room itself. This is why, the ritual must be held outside the actual room and it indicated that rooms are approached and imagined as persons. Marking the feet with blood was not just an acknowledgement of a renewed marriage path but also a sign for the beam above, the floor below. The couple merge with the room, which bounded by its beams and floor where they will live and reproduce. "The blood on feet" ritual demonstrates the ways in which a new husband and wife are connected with a room- a connection that becomes more profound as their marriage progresses with the birth of children. A polite way of referring to one's spouse is mentioned him or her as "a one's room friend" (*hae kilo*). In the ritual of "blood on the feet", it involves huddling around the room, calling up that rooms as an ancestral entity, and introducing to it a new couple.

Child-birth Ritual

The child-birth is literally described as being in the room (*one lo'ang*) consolidates the physical and metaphysical connections between a married couple, their children and their room. When the baby born the cord was cut by the bamboo blade (*lampek*), which then was wrapped in a scrap of cloth and pushed into the bamboo wall of mother's room. It is one of the first connections made between baby and its room.

It is the remaining part of the bamboo stick, known as *lambo*, which most obviously links a baby with its room. After the baby birth, the baby's father will bang the meter-long *lambo* stick on the wall of the room and shouting: "is it an outside person or an inside person?" The baby girl will be declared to be "an outside person" (*ata pe'ang*) as they move away from their home at marriage, while boys are " an inside person" (*ata bone*) because they remain in their natal home and receive fields. Following this ritual declaration of gender, the *lambo* is pushed up through the floor of the room and attached to a stick buried in the ground below. This stick is described as the sign of a new birth.

The baby may then not be taken out of the room until the occasion of its naming ritual, which called breaking the stick. *Lambo* links the baby to the placenta in the ground below the room. The *lambo*

keeps the baby safe by anchoring it to its placenta and the ground and by making the room protective place. The placenta bury in deep hole near to the room. Ashes from the hearth were scattered on top of the filled earth and the site marked with a large rock. After burying placenta, the father will make a miniature hearth inside the metal bucket. Like normal hearth, this baby hearth consists of three hearthstones between which the embers of a fire glow. It used to warm the new baby's room-womb until the child's naming ritual.

The naming ritual begin with the cracking of an egg beneath the supporting posts of the house, after which the *lambo* stick is pulled out of the ground and detached from the room. Once the name has been decided a little blood from the sacrifices chicken may be used to mark a toe of the child, who is no longer considered a new guest but a full village member. In baby naming ritual, the household's room had been baby's only world, protective and nurturing container. When breaking the stick ritual occurs, the baby is taken out of the room into the public part of the house and introduced not to the room but to the community in general.

SPACE, GENDER, AND INDIVIDUAL LIFE CYCLE

When more baby born in the room, it gradually change from a place associated with marries couple ("room friends") to a place connected with young children, and eventually to a place occupied by unmarried young woman and their mother. When children are young, they always sleep in the household room with their mother and father. As children grow older, this intimate routine of the whole family sleeping together in one room begins to change.This is a reflection of transformations in the room development cycle. Older children may be encouraged to sleep in other rooms in the house, such as to grandmother or unmarried aunts. While girl continue to sleep in the household room of their parents, boys as they grow older will gradually move to sleep on the house's guest mats (*lutur*).

Sleeping is the predominant activity that takes place in the rooms, while eating take place in more common domain. Within multi-family house people cooked rice for those they share a room with dishes of vegetables may be shared between households. The whole households are eating together at the same time outside the rooms. The gradual processes whereby children grow in parent's room become more associated with a mother and her daughter.

Just as sleeping order reveals the important meaning of household or family room, eating arrangement also stress gendered aspects. While young boys eat close to their mothers, as they grow, they will move away from their mother's plate and begin to eat sitting with their father. When household members eat together, men are served their individual plates of rice and vegetables by woman and tend to eat either sitting at the kitchen or on the guest mats in *lutur*. Mothers and daughters or groups of sisters tend to eat together, crowd together near the hearth, spooning rice and vegetables from shared plates. In this case, unlike the industrial model which tend to promote intimate, Wae Rebo people emphasized more on the gender and the kinship interdependence.

CONCLUDING REMARK

Symbolic meaning in the vernacular architecture of Wae Rebo village is communicated by the form and configuration of *mbaru niang*, the ritual in individual rooms and the behavior patterns of the inhabitants. Living spaces in village level and domestic level delineated the configuration of the spatial organization of *mbaru niang* that associated with everyday life and cosmological entities. Recognition of the interraction of features and attributes of *mbaru niang* revealed how spatial language and interiority of vernacular dwelling heavily expressed through symbolism.

Referred to the anthropological study by Allerton, the role of cublicle room in Wae Rebo shift through time, from a centre for a newly married couple, to a nurturing place for babies and children, from a sleeping place for female kin to an origin path for male sibling. Room have at their core tension between the separation and incorporation of family members, as well as a tension between relationship of sibling and those of marriage. From the perspective of ritual, room is closely knitted with bodies and souls, especially during the key passages of child-birth and marriage.

In the future, due to the increased publicity and tourism of Wae Rebo, we proposed further study on change and development of Wae Rebo village and how it affects the survivality and originality of the interior architecture of *mbaru niang*.

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CELEBRATING INTERIORITY: COLLABORATION OF STRATEGY AND TACTICS IN ADAPTIVE REUSE

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ABSTRACT

Adaptive reuse or remodeling is a practice to bring back the existence of a neglected building to its surroundings. Along the process, the architect needs to perform certain design approach in order to create a dialogue between the old and the new. The existing is full of potencies and possibilities in deciding what could it be in the future. To start this paper, there are three questions we need to answer in order to understand the essentials of the existing. How does history and function take role in the process of remodeling? How far the existing form and structure take part in deciding the future function of the building? How does the proposed function adapt the existing? Thus, the answers are fundamentals in setting up our goals for the project. Design approach is also very important in creating a successful project. Using existing literatures about strategy and tactics in adaptive reuse practice, we will identify three kinds of strategies and six kinds of tactics that serve as a bridge between the old and the new. Through a case study about the award winning adaptive reuse project, we will also find out how does the strategy and tactics work together in the reactivation of space. It is exciting yet challenging to decide what is the best strategy and which tactics should be implemented for each project. And it has been our responsibility to keep the building alive to its surroundings. Finally, the question about our relationship with the existing and the future function remains: how to live in it, enjoy it, and most importantly, how can we celebrate its distinctive interiority?

Keywords: strategy, design approach, interiority, interior architecture, adaptive re-use

INTRODUCTION

We build some kind of connections with a building. The exterior sure contributes certain things in evoking our memory. But, it is the interior that creates certain connection with the occupant. We interact directly and move inside the building. We identify the characteristics, we experience events, and we grasp meanings. Thereafter, the understanding of interiority emerges. And what is so special with heritage buildings is that they tend to have rich elements of the interior that shapes their own interiority. Thus, it has become our biggest challenge in adaptive reuse practice to design a strategy for new function and programs, without losing the building's original interiority.

Dealing with heritage buildings is not an easy job for architects and designers. In adaptive reuse practice, we have to be able to bring back the life and the existence of an old building to its surroundings. It is exciting yet challenging, since our job is not only preserving the looks. We also have the responsibility in designing experience that serves to bridge the past and present. Something to create a dialogue between the old and the new arise. As Berger, Hermann, and Wong (2009) said, "*—the field of adaptive re-use is rich and varied, and its value lies not only in re-imagining existing structures, but also in making transformative interventions, contributing to the continuation of cultural phenomena, creating connections across the fabric of time and space, and the preservation of memory.*"

This paper will discuss about what kind of strategy and approach we can do to re-enliven the building's original interiority, though the function has drastically changed. Through a case study, we will learn what kind of approach that the architects performed to create one of the most successful, award winning adaptive reuse project.

SETTING UP

For many designers and architects working on adaptive reuse projects, it has been a serious challenge to find the best strategy and approach to reconnect the old and the new. Adaptive reuse often referred as remodelling (Brooker & Stone, 2004, p. 11). And this process is not about adding intervention that will sink down the building's original interiority. It is about synchronizing what's left and what needs to be added. That is to create a broader perspective on how we experience building's interiority. As Scott (2008) explains, *"For the occupants, the new circulation of the altered interior may be like a journey through ruins, taking previously impossible routes, and having new, almost aberrant viewpoints as a result."* (p. 171). A successful intervention should not outstand the original interiority, but emphasizes it. Before we start planning further intervention, it is best to do a deeper understanding on the building. That is to do a critical analysis to the remaining form, structure, history, function, to the context and environment of the building. We can use all the information, the facts, and the myths as our database in deciding what strategy and tactics we can use to alter the building.

The Existing

Through times, a building had to adapt to its ever-changing context. Function and structure became the main aspects that we put into spotlight during the alteration. Because the alteration of function has always been corresponded with adjustment to its structure.

Understanding an existing building from the inside out may give us a different perspective on how we see it. The remaining structure and former functions tell a story about its original interiority. They act as a palimpsest on how the interiority is translated within transformation. What remains has a lot more to offer than just become a reminder to the past. It is our guide to start a dialogue between the past and the present. What was happened in there and how they relate to each other, may be a hint of what it could be in the future.

When we think about what does a building want to be, we can always reflects to what remains. Referring to the present will make the building fit into the now-context. But, it doesn't guarantee that the building will retain its originality. It is not only what's happening on the outside that decides what the building's destined to be. The inside offers us possibilities and potencies. What happened nowadays is that the façade remains unchanged, but the interior often lost its distinct quality to meet its new function.

Design Approach: Strategy and Tactics

Brooker and Stone (2004) mentioned, there are three kinds of strategies that the architects employed to remodel a building. We can choose between intervention, insertion, and installation. To know what strategy we should use, first we have to understand our goals. To meet our goals, we have to understand about what we can do and how should we do it.

In *intervention*, the new elements and the existing elements complement each other's presence. The architect needs to do a critical analysis to the existing. It is best for the architect to experience the interiority to build certain connection with it, and have a deeper understanding about the existing. Therefore, the architect will be able to look at or understanding it from a new perspective. Moreover, he can translate his experience into a design that allows people to experience the untold stories and distinctive qualities of the building.

Insertion is when the new elements are built to fit the dimension of the existing. The "fit" terms might be referred as fits into the exact scale of the existing, or fits for certain purposes. Each character of the old and the new element exist independently. But, this new element could provide use for neglected space. It is also signifies the characteristic of the building itself. Insertion is a large powerful element that establishes surprising dialogue between itself and the existing structure or volume (Brooker & Stone, 2004, p. 102)

Installation is when the new elements placed in particular area to maximize the presence both the existing and themselves. Materials, structure, light, quality, and context are very important in determining the placement of this installation. The new elements can be used to organize space, to create order, or as adjustment to scale (Brooker & Stone, 2004, p. 127).

Strategy itself is not enough to achieve a successful remodelling. To complete the process, there are certain combinations of tactics that we could use to meet our goals. "Tactics express the very quality of the building." (Brooker & Stone, 2004, p. 146). Tactics are very helpful in rendering the chosen strategy. According to Brooker and Stone (2004), there are six kinds of tactics in remodelling. *Plane* is something that defines space. *Object* is something to manipulate space. It is also creates movement, direction, and even enhance the space. *Surface* is the tactile element (or material) that renders the characteristic of the building. *Light,* whether natural or artificial, it could accentuate the space. *Opening* creates connection between spaces and allows transition. It is also providing light. And *movement*, it provides access through the building.

To understand about how strategy and tactics work together, we will discuss it in a case study.

CASE STUDY

Selexyz Dominicanen Bookstore in Maastricht, Netherlands, resides within an old gothic church named *Dominicanenkerk*. It has been over 200 years since the building stopped serving as a church. But, the city council of Maastricht never had intention to demolish the building. It's because they have classified the building as a monument.

It is situated between Maastricht busiest squares, the Markt and the Vrijthof. Near the old church, there's also a shopping centre named *Entre Deux*. So, for Ton Harmes, the store manager, it is perfect for the old church to serve as a bookstore, as it close to Maastricht crowds.

In 2007, this project received a noble prize, 'Lensvelt de Architect Interior Prize', as the most successful

adaptive reuse project. And in 2008, UK's famous newspaper, The Guardian, crowned it as 'a book shop made in heaven and the most beautiful bookstore in the world'. This is such a huge appreciation for the hard work of Merkx+Girod Architects and SATIJNplus Architects. And it is our precious opportunity to be able to learn what kind of strategy and approach they have conducted to deliver this remarkable project.

History and Function

After it was stopped serving as a church, the former *Dominicanenkerk* has been altered to accommodate numerous functions. Emile Ramakers, who contribute in writing the history about the *Dominicanenkerk*, clearly explains about the history of its changes in function. In 1794, the post-revolutionary French forces took down the city and expelled the Dominicans. They converted it into *parish* church and later converted it into a warehouse to park their horses. In 1805, the building was converted into exhibition hall and the centre for city's bulletin. Afterwards, in 1912-1917, the building had been renovated to accommodate its new functions. It was renovated to accommodate its new function as a building for Maastricht Municipal Orchestra.

In the 50s, the church was converted into a hall for festivities and carnivals. In the 70s, it was serving as the second-hand books sales point and later as a post office. Then, the city of Maastricht used it as a building for taking exams, shelter, and shockingly, as a boxing ring. Thereafter, the people of Maastricht used it as a place to park their bicycles.

Figure 1. Numerous changes in function.
Source: http://www.crossroadsmags.eu (courtesy of Emile Ramakers)

Form and Structure

The former *Dominicanenkerk* had a very diverse change in functions. From a warehouse to orchestra, to a boxing ring, and later as a bicycle parking lot, all of its former functions were adapted to the needs of the surrounding context. Along the transformation, the building had undergone a few renovations. The renovation included dispelling of the limestone layers inside the building, electricity installation in 1924, and centralized heater installation in 1926. Therefore, the form and structure remain very much unchanged.

Figure 2. The restoration process.
Source: http://www.crossroadsmags.eu (courtesy of Emile Ramakers)

The existing has a monumental scale. "The whole thing is very large: about seven meters high.", said Ramakers. It is a pure gothic architecture with clustered columns, pointed arch, ribbed vaults, and flying buttress. It is emphasizes vertically. The architecture itself serves as building utility as it provides natural light and circulation.

Before the alteration into a bookstore began, the architects of SATIJNplus Architects conducted a restoration work to return the condition of the building into its original state (Figure 2). In an interview with Ton Harmes, the shop manager, he said that when they first came to see the location, the building was in a very bad condition. He mentioned that the roof was leaking, the windows were broken, the paintings were hidden, and there were still public toilets.

As the work was on going, they found a skeleton underneath the floor. William Remmers, the General Department Head of the bookstore explained that they had to rip out the whole floor and dug out everything they found. Then, the floor was put back into the site. And for now, we can still see the gravestone lining on the floor. Therefore, the building was classified a monument for its archaeological and historical significance. Not only the floor that acts as a palimpsest. They found a lot of faded paintings and mural on the wall and even on the ribbed vaults. The gigantic column and pointed arch arouse our senses. As for the architects, these findings are treasure. These elements tell stories and are meant to be experienced.

Proposed Function

Harmes mentioned that the idea about a bookstore first came when Selexyz, one of the biggest bookchain in Netherlands, decided to build a new bookstore in Maastricht. It took them quite awhile to find the perfect location. Therefore, they talked to the developer company who were planning to build another shopping centre (Entre Deux), next to an old church. So, they came to visit the old church, looked inside the building, and saw possibilities. Then, they asked the developer about the possibility to build a bookstore inside it. They ran into the city council of Maastricht to ask their permission. Everybody was excited about the project. It was a win-win project, since the city council of Maastricht had already planned to restore the classified monument.

The history also plays a part in the alteration. Harmes explained that there is a strong relation between Selexyz and the Dominicans who first occupied the building. The Dominicans were very intellectual. They were known for good teachers and schools. "They spread the knowledge, bring out to people, and teach them. And that is exactly what we do as a bookshop.", he explained. He also added, "We bring the product of man's creative and scientific mind, so that everyone can enjoy and learn from it."

Setting-up The Goals

As for Selexyz, they had set their goals for the future alteration. They respect the heritage, and they want to live in it and enjoy it. Thus, this became the first trigger for the architects to arrange their approach and strategy.

Another trigger is the client's request to provide a 1200m^2 area of bookstore, within a 750m^2 existing area. Because the building itself is a monument, they have to be very careful with the addition to the existing. The addition should not outstand the original. The architects should design something to emphasize its distinct quality, something to captivate people to experience its original interiority.

Figure 3. The installation of book-flat.
Source: http://www.openbuildings.com

In their website, the architects explain:

> "The client's original idea was to bridge the area, however the architects rejected this idea as it would disprove the architectural quality of the church' space. Instead, they wanted to emphasize the building's height and exceptional architecture. The solution is a multi-level, monumental, black, walk-in bookcase situated asymmetrically in the church. In this way the left hand side of the church retains the complete height whilst on the right, visitors are directed to the upper levels of this steel 'book-flat'. Climbing the bookcase has been made fun: visitors walk between the books and once they reach the upper level, they are able to experience the colossal dimensions of the church and view the historical murals from close-by."(Merkx+Girod Architects)

Implementation

To respect the Dominicans, Selexyz wants to celebrate their culture and heritage of the existing. Therefore, the architects are focusing on the building's original interiority as an approach to design their strategy. From the entrance, they begin to let the visitor experiencing the monumental scale. We are welcomed by the book displays that grouped along the aisle. The strategy is installation, as it functions like exhibition. These book displays also organize space for circulation. People are allowed to move around to see the collections, following the path that these furniture set up. Therefore, in tactic, the book display plays role as object and it also creates movement. They are also situated in the middle of the building, avoiding direct sunlight from the façade. These objects create a new path for circulation.

When it was a church, people will directly walk to the benches or straight to the nave. But after they installed the book displays, people will walk around the objects before heading to another section of the building. So, we can say that the strategy and tactic works together to activate the neglected space.

Figure 4. The installation of book display.
Source: http://www.flickr.com (courtesy of Marcel Hubers)

The strategy is designed to highlight the heritage. Such as the mural, the height of the interior space, and the pointed arch. The book-flat is one of the strategies employed to the existing. It is categorized as insertion as it was built to fit the dimension of the existing. The book-flat provides use for the neglected, or we may say unreachable space inside the existing. The building is now contains multi storeys from the mezzanine of the book-flat. It provides path to walk, bookcase as partition, and stairs to climb. It allows people to move across the building, reaching aberrant viewpoints of the building that were unreachable.

The feeling of being so small when we see upwards surprisingly change when we see downwards. We're not only experiencing the grandiosity of the church. We're also experiencing the "God-like" experience, seeing human from above. In this case, the book-flat also uses the intervention strategy. It is activating the unreachable space. The architects were successful in reading the place. They are able to establish a new way of looking at it and understanding it.

When we climb floor to floor, it gives us narrative about a spiritual journey. The mezzanine allows closer encounter with the details of the structure. We are able to touch the surface of materials and be touched by them. The ambient lighting from the treads creates dramatic atmosphere. As we climb the stairs, we can see the beautiful details on the pointed arches and columns. As we reach the top of it, we can have a closer look to the fresco on the ribbed vaults. Now, we are able to look at the stories about the All Saints. In this case, the book-flat acts as an agent to bridge the dialogue between the old and the new. Moreover, the book-flat also allowed us to experience the intimate scale and humbleness of the ribbed vaults that seemed so arrogant before.

Figure 5. Journey through the book flat.
Source: http://www.flickr.com
(courtesy of Pieter Bas Elskamp & Merkx+Girod Architects)

The book-flat plays a role as object, as it contains bookcase as furniture. It is also a plane in which provides path, partition, ceiling, and stairs. It allows movement. Two strategies and four tactics are working together very well, so that the visitors are now able to embrace the original interiority.

Figure 6. Activity at the altar.
Source: http://www.flickr.com (courtesy of Objectif Lune & Crossroads)

The Altar also shares dialogue between the old and the new. When it was a church, events taking place there were purposed for worship. The ministers gathered there to eat bread and drink wine as an offering to God. What happened now is that the architects are likely use the same approach to reactivate the place. To remind people of what was it used to be, they installed a cross-shaped communion table for people to sit in, read books, and have a drink from the coffee shop situated in this area. The vertical windows are giving the visitors dramatic lighting effect. And also, the chandelier that hangs down below shaped like a halo above the saints head.

These fixtures and furniture enhance the experience of being in this place. Thus, in this area, the new function did not lead the alteration. It is the old function that inspires the new events taking place there. The story about what happened in this specific area is read and retold by the architects through a series of installation and tactics. And yes, it is celebrated by the visitors who perform activities in there.

The architects also attempted to reactivate the space on the right aisle of the church. The insertion strategy is employed to utilize the circular wall. They designed built in bookcase to fit into the exact dimension of the wall. Astonishingly, they are able to design a new element that establishes a dialogue between itself and the existing structure.

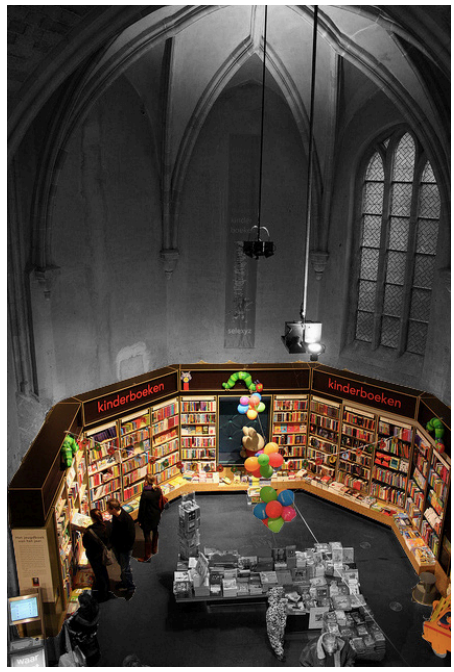

Figure 7. Insertion of bookcase on the right aisle.
Source: http://www.flickr.com (courtesy of Clarence Ceniza)

The bookcase is an object that also creates movement. People normally do not manage to stroll around the corner of the church. But when the architects put the built in bookcase in there, people started to reach the corner and looking down at the book collections.

To sums out our analysis on the design approach implemented by the architects of the Selexyz Dominicanen Bookstore, we can refer to Figure 8.

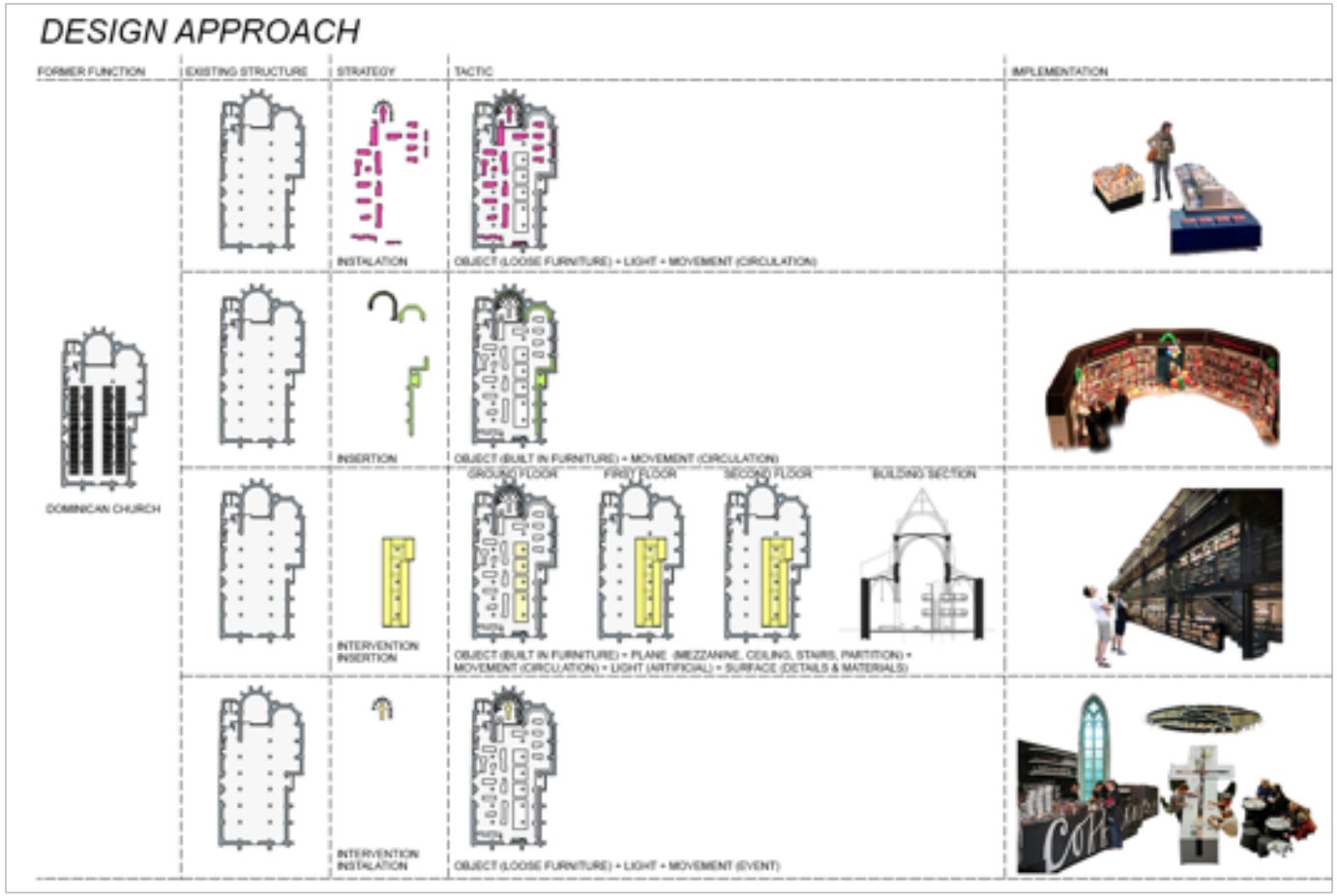

Figure 8. Design Approach for Selexyz Dominicanen Bookstore..
Source: personal illustration.

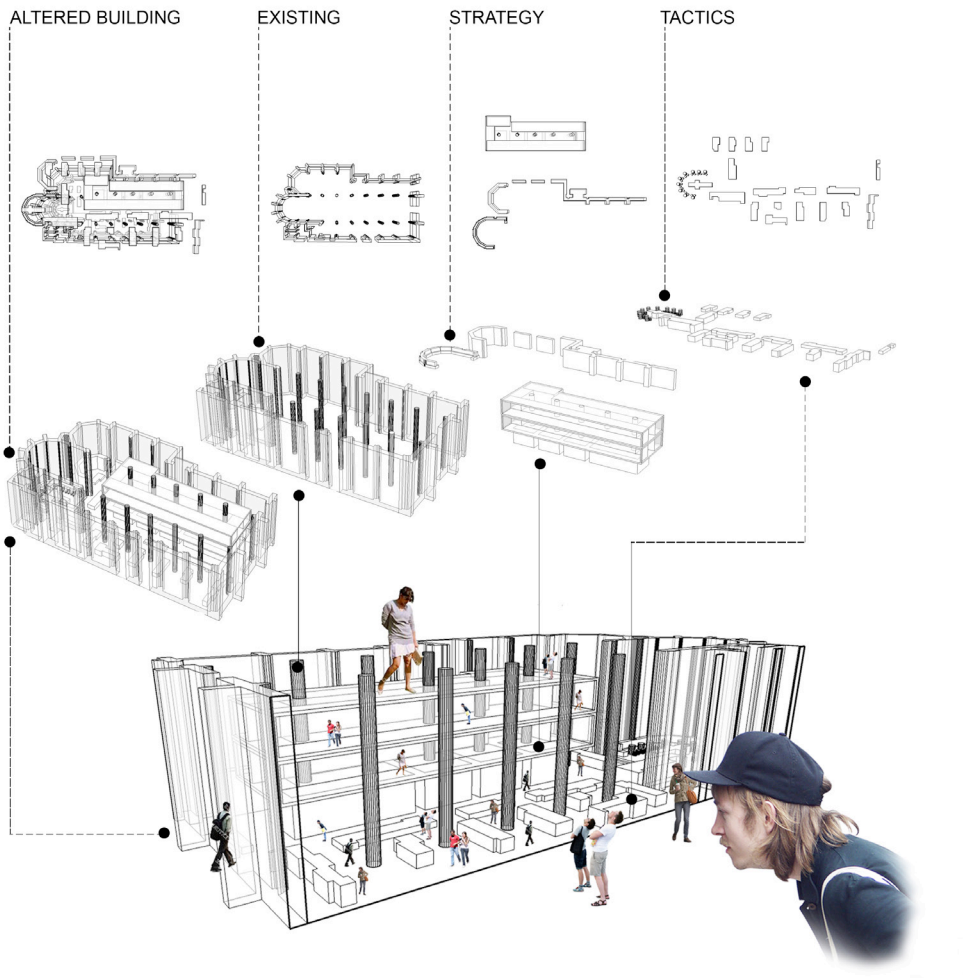

Figure 9. Illustration of the remodelling.
Source: personal illustration.

From the illustration above, we can see how the strategies and tactics are implemented to the existing. The upper figures illustrate the top view of the building and how the new elements occupy it. The middle figures illustrate the axonometric view of each element. And the lowest figure illustrates the experience of the visitors inside the building. When they enter the building, suddenly they feel so small. They look up above and experience the grandiosity of the building. The objects below create new circulation so that the visitors are now able to move around, strolling down every corners of the building. The experience changes as they climb up the book-flat. They are now able to experience the aberrant views of the building. At the highest point, we can look below and experience the grandiosity differently. We're seemed so big and everything below are small. All the elements, the strategies and the tactics are mutually complemented each other. They allow us to take a closer look and builds up certain relationship in experiencing the interiority. Moreover, they're very successful in making the dialogue between the old and the new happens.

CONCLUSION

From a thorough analysis of the existing, we can experience the qualities that make the building so special. Critical analysis of form and structure will render the very characteristic of the building. Through a study of numerous alteration made into its function, we can learn about how could the building adapts changes. Even more, we can have many clues on what the building could be and what kind of strategy should be implemented to accommodate new function and requirements.

As an architect or designer working on adaptive reuse projects, we should be bold enough to combine multiple strategies and tactics in remodelling the existing. When they work well together, they will embrace, emphasize, and complement each other beautifully. They will be able to tell the stories beyond and let us experience its original interiority. Therefore, the collaboration of those design approach will establish the dialogue between the old and the new.

After all, we should all be conscious that there lies the future in its very structure. So, there's no need to excessively intervene the existing. To keep the building alive to its surroundings, we have to live in it, enjoy it, and celebrate its interiority. And it is always best to understand the essentials, what to do with it, and how to bring out the best in it when it comes to remodel a heritage building.

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MECHANISM OF INTERIOR ARCHITECTURAL DESIGN THROUGH FASHION METHODOLOGY

Case study: Interior Architecture Design Class III

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ABSTRACT

Design exploration in interior architecture can be done by various methodologies. However, to be able to explore the possibilities, a broader mind and proper stimulations are needed to develop ideas. Typology approach can be done to design public space, especially during the process of space exploration which is integrated creatively with many aspects including social, site, and the building itself. Other aspects such as the logic in interior structures and constructions, as well as the utilities and security in a building, are also required to create a comfortable space for public.

This design tasks associated closely with the 'urban context' in which students in Interior Architecture Design Class III are asked to define. The students are encouraged to capture the social issues that exist within a society. Defining the initial statement will follow after observing the site, which will help students to determine the precendents in accordance to their design ideas.

The issues that have been processed during the design exploration can be associated with fashion methodology. The dynamics in fashion is used as a medium to create a fresh ideas in communicationg interior architecture. However, in this context fashion are seen as a functioning mechanism in approching design methods.

Keywords: creative exploration, fashion, mechanisms, architecture.

FASHION AS DESIGN METHODOLOGY

During the industrial revolution in 18th Century, lots of new manufacturers emerged in European regions. With the new techonologies, the craftmanship once mastered by selected people and beautiful artifacts once enjoyed by aristocrates were being mass-producted, thus making art as affordable objects for everyone (David Chaney, 1996). During this era, design also flourished and played as vital part in creation of industrial wealth. With designed products, manufacturers could create myth which control public opinions (Adrian Forty, 2005). With this brand new opinions, a new lifestyle emerged.

The demand for more mass-producted art in the beginning of capitalism also played a significant role in shaping the lifestyle in modern society (David Chaney, 1996).

People see lifestyle differently, depands on culture, norms and times. It also gives us general image and character, but not their social experiences. It is a contextual tool of practice and attitude wore by someone to express their unique character in society.

The way people represent themselves has become a long time debates since people tend to dress up in thearitical manner (dramaturgy approach); an act as if they are on stage. Based on this phenomenon, Erving Goffman, cited by Hoed in his book (2011), said that appearance is everything. The needs to look different and unique from others has pushed many people to develop their own style, especially in fashion. Chaney and Finkelstein (1991) both said that people are now seeing their self-representation through fashion.

Clothes in semiotic pragmatic theory are the representation of people characteristic. It has developed from daily needs into object of desire, an object that can speak up a character, such as religious aspect, sensuality, even for promotional and commercial aspect. Fashion gives such huge impact in social aspect, unless during the representation of individual cognition called Semiosis (Hoed, 2011, page 144). From various opinions and ideas that has been described before, fashion can be concluded as a representation of people's style, which has developed through time. The methodology of representing fashion in society has encouraged Interior Architecture study, because architecture also express the same ideas of personal, social and cultural identity like fashion. Both also create space and volume from a two-dimentional materials, therefore providing shelter-like-skin (Embankment Galleries, 2008).

STUDENT BASED LEARNING AND QUALITATIVE RESEARCH

The first research was held during the Interior Architecture Design Class III in year 2009 and 2011 where students were expected to find the best solution through cognitive thinking. With student base learning approach, students were encouraged to delve into their curiosity and expanding their knowledge towards many variants in search for better solution.

An authentic and original ideas were born from student base learning, because each students were capable in unique logical thinking and critical analysis. With their creativity, they were uniting their knowledge from different experiences to create fresh and better ideas (West, 2000).

This research, a continuation from the previous research, uses qualitative approch to understand the essence of previous research during the design studio. By tracing the students's works and the history of fashion itself, this research tries to discover more possibility in design methodology.

STUDENTS' EXPLORATION IN DESIGN METHODOLOGY AND ANALYSIS

Based on the teaching guidelines of Interior Architecture Design Class III, there are few steps in designing. First of all are the introduction towards general subjects and goals of each year design class. Each class mostly has similar goals and subjects as the previous year. This introduction will give students the whole image of the main purpose of design class.

From the previous statement, both architecture and fashion share the same purpose, which is to provide shelter or skin (Embankment Galleries, 2008). Therefore, the students in Interior Architecture Design Class III were encourage to synthesize between designing interior architecture with fashion methodology. From this exercise, students were expected to represent un-orthodox and different design outcomes.

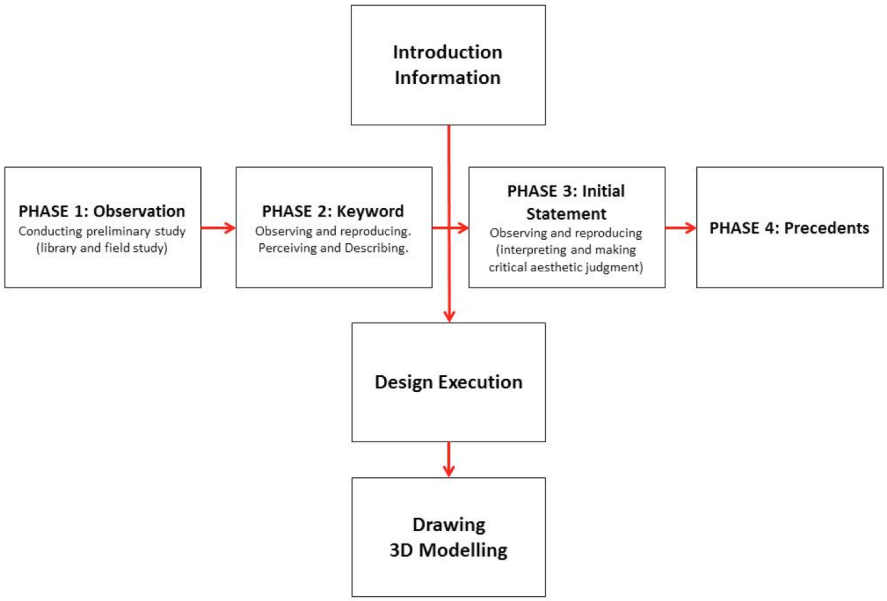

Figure 1. Student Guidelines of Interior Architecture Design Class III
Source: teaching team of Interior Architecture Design Class III

Observation, Keywords, Initial Statement, and Precedents

The thorough understanding between private and public area can be easily done by observing an area of housing settlement. Students then discover interesting parts in the city, such as the difference in density of suburban and urban area which is getting thinner. They also must define the exact site and take closer look on its thopography profile (contour or non-contour). Besides the thopography profile of their site, other aspects such as drainage system, vegetation, density and open spaces around the site too must be define. Access, social facilities, and building mass around the site block (urban grain) also give important informations in designing.

Natural factors also play as notable parts, such as noise and the orientation of the sun and wind. The visual factors like vista, landmark, notes, path, spatial sequence and others are necessary too.

The social, economy and cultural aspects of the site also hold substantial roles, alongside with homogeneity heterogeneity, various professions, ethnicities, races, religions, and lifestyle (urban stranger). All those aspects combine with history and background of each site are very important to do phenomenologic study on site (Ellisa, 2012).

This observation is crucial to find the main issue in site then create the right design to answer the issue in hand. Before entering the design process, students must decide the keywords and initial statement, all to help them to stay in track during design process.

After given their site, students in Interior Architecture Design Class III must observe all aspects above. To understand and have an indepth research of fashion methodology in interior architecture, this research is using two final project of Rizki Dwika Aprilian (*Rollup (Co) Working Space,* 2013) and Mirza Harahap (*EMAX: The Boundaries,* 2011). Both of them were focusing in fashion as skin and shelter. In Mirza's

design, skin was functioning as boundaries of different space. Rizki, however, seen skin differently. He saw skin as symbol of activities.

Figure 2. *EMAX: The Boundaries* by M. Harahap (left) and *Rollup (Co) Working Space* by R.D. Aprilian (right). Source: M. Harahap (2011) and R.D. Aprilian (2013)

Both Mirza and Rizki were observing the same site in different year. Each of them had their own approach to figure out the main issue of Kemang Raya Street, Jakarta, an urban area which already become an lifestyle icon for youth and bussinessmen in Jakarta. It also an icon of cultural diversity; a harmonious mixture between the expatriats and locals, Betawis and various ethnics of Indonesia a like. As an icon, Kemang's content, context and narration have become trendsetter for evolution of fashion in Jakarta.

Rizki Dwika Aprilian's Observation

Rizki Dwika Aprilian mostly observed the user of Kemang (the youth, around 19 to 25 y.o and the bussinessmen). Every one of them used Kemang differently. For example, the youth came to Kemang mostly to hangout and sight seeing, while the bussinessmen seen Kemang as a meeting point with collegues and also to relax.

Rizki also observed their visiting time. During 1.00 p.m. to 5.00 p.m., weekdays, most of the visitors in Kemang Street were bussinessmen doing meeting and/or seeing clients during lunch. His observation contiuned to 5.00 p.m. to 8.oo p.m., weekdays, where Kemang once again filled with bussinessmen. This time, they wanted to hangout with fellow workmates or continuing their works in more relax atmosphere. From his observation, Rizki summed up that this bussinessmen had same ritual/habbit: they always worked with gadget and moved passively.

After some thorough observation, Rizki finally found the phenomenon of Kemang Street as bussiness and entertainment place, all was conducted parallel. With the traffic jam surrounding Kemang, it was not effective in time consumption. From this phenomenon, Rizki discovered the issue. Kemang has become an informal office space for its visitors.

Based form the issue, Rizki figured out the main problems in Kemang; there was no place to work. The bussinessmen need a place to stay and work for a long time. Therefore, they need a comfortable and work-friendly atmosphere, especially places which connected to internet (wi-fi), but they could not had the facility without paying lots of money in an expensive café.

Another problem was Kemang Street, with its various visitors from different background and work field, was lost its opportunity to connect people. This was very unfortunate, according to Rizki, because it

differed people from expanding their network.

The issue and problems at hands encouraged Rizki to create a *(co)working space*, a public space to work without boundaries. Everyone could enjoy the atmosphere and no exception for any company to maximize the potential interaction and networking.

Mirza Harahap's Observation

Mirza, however, took a different approach than Rizki. He started with Kemang Street in urban context; its connection with other area and was planned as residential area. As time goes by, Kemang slowly developed into a commercial area, due to its strategic position. It also become the address of various iconic buildings of Jakarta. Mirza described it as 'fashion parade', an effort to represent the meaning of said buildings and intervented the surrouding neighborhood in fashion-like approach. One of them, which was choose by Mirza, is EMAX building.

EMAX building consisted with three functions: eatery, Apple store, and iCreate office. Each function had their own characteristics towards their spatial needs. The building itself had become one of the iconic buildings of Kemang. Mirza mostly observing the interior of EMAX building. He sketched the existing plan and compared it with its needs.

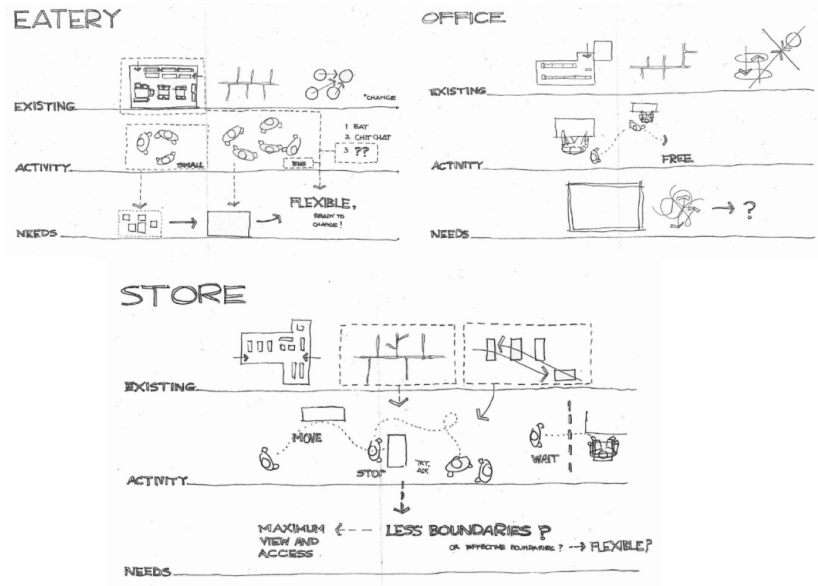

Figure 3. EMAX existing plan and activities in eatery, office, and store.
Source: M. Harahap (2011)

After the observation, Mirza discovered the issue in EMAX, which was more architectural issue, rather than social issue like Rizki. This issue was about boundaries. It became a problem since the interior of EMAX building did not support the three functions, eatery, office, and store.

Between the eatery and office, there was different leveling. The office itself was too open, it needed more privacy. The other boundaries between these three functions were not suitable. Therefore, Mirza took an intial statement called *transparancy* as design solution.

Design Execution

The data which is collected through observation can now be process to the next phase: designing. It is very amusing to see the students design ideas. In this phase, students are challanged to combine fashion methodology in their interior architectural design idea. This idea then will answer or give a solution towards the issue and problems.

Rizki Dwika Aprilian's Design

Rizki took *roll up* as his initial statement. He took the initial statement after observing the typical dresscode amongst the executives and employees at Kemang. They *rolled up* their long sleeves before continuing their activities, especially before the hard work. The rolled up sleeves had become a symbol, a character, of those who worked hard. From his observation, Rizki also concluded other meaning in roll-up, which is *merging* where combining the small groups into one big purpose.

This idea of roll up then brought into further research in how to roll sleeves: basic roll, master roll and aifa roll. From the methodology in rolling sleeve, Rizki figured out that the essence of rolling up sleeve was shortening the sleeve by rolling the inside with the outside repeatedly as a hook.

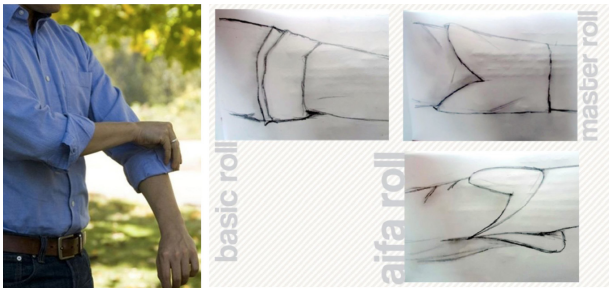

Figure 5. Types of rolling sleeves.
Source: R.D. Aprilian (2013)

From those methods, Rizki found that there were differences of openness in rolling up sleeves. There was part which was enclosed and exposed, a hidden barrier and also a hook which connected all together. This design answered the problems of the lack of interaction between bussinessmen in Kemang.

The next step in design process, Rizki choosed the suitable location to put his design on. He choose a location which had two paths: shoulder (circular) and arm (elongated linear line). This area also the main heart of Kemang Street and very busy. Therefore, Rizki decided to use this location to 'roll up' as the meeting point.

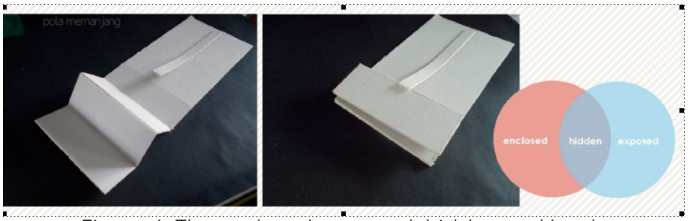

Figure 6. The enclosed, exposed, hidden and hook.
Source: R.D. Aprilian (2013)

Mirza Harahap's Design

Mirza, who already took his location which is in EMAX building, Kemang, took a different approach in designing. He saw that transparancy had been the issue of EMAX. The way EMAX's interior created was too solid and bordered up. Thus, he tried to deliver the element of fashion through transparancy. Fashion, for Mirza, is an ability to appear physically and reveal the activity inside. It does not have to appear solid, it can also be a spatial sensation and experience of being bordered.

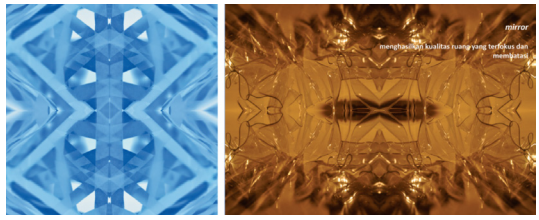

Figure 7. The model of transparency and solid, using mirror-invert technique.
Source: M. Harahap (2011)

To achieve the idea of transparency and segmented at the same time, Mirza took a mirror-invert approach during his modelling. The first model (left) was describing a solid boundaries, but transparent. The second model (right) give an spatial quality by expanding the transparency of said model.

3D modelling

The final phase of design process is the 3D modelling, where students create both their 3D model exploration and final 3D model. During this last process, fashion is now seen very subtle, soft and not as blunt as the previous phases. However, this phase can not be developed before confronting the issue with fashion methodology.

Rizki and Mirza had shown their ideas of fashion in interior architecture. Also both of them had shown their own style in answering the issue and problems. The models they created were very much entwine with fashion and interior architecture.

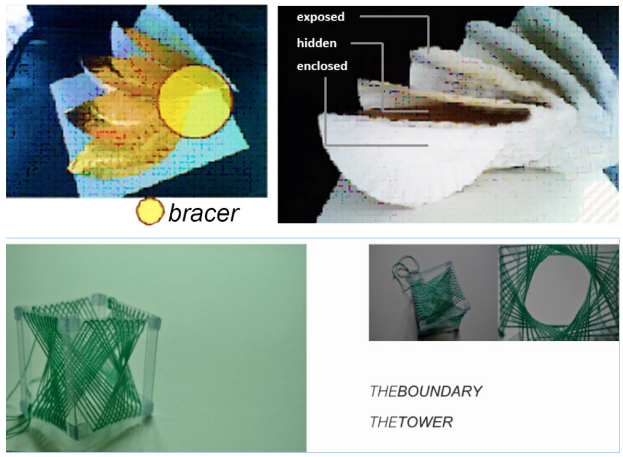

Figure 8. Rizki's model exploration (above) and Mirza's model exploration (beside)
Source: M. Harahap (2011) and R.D. Aprilian (2013)

From these exploration models, the fashion influence is still visible; Rizki's rolled up sleeves and Mirza's transparency in fashion. These were the preliminary designs which will be developed into something more architectural. Started from here, the students learned to transform the fashion language into architectural language.

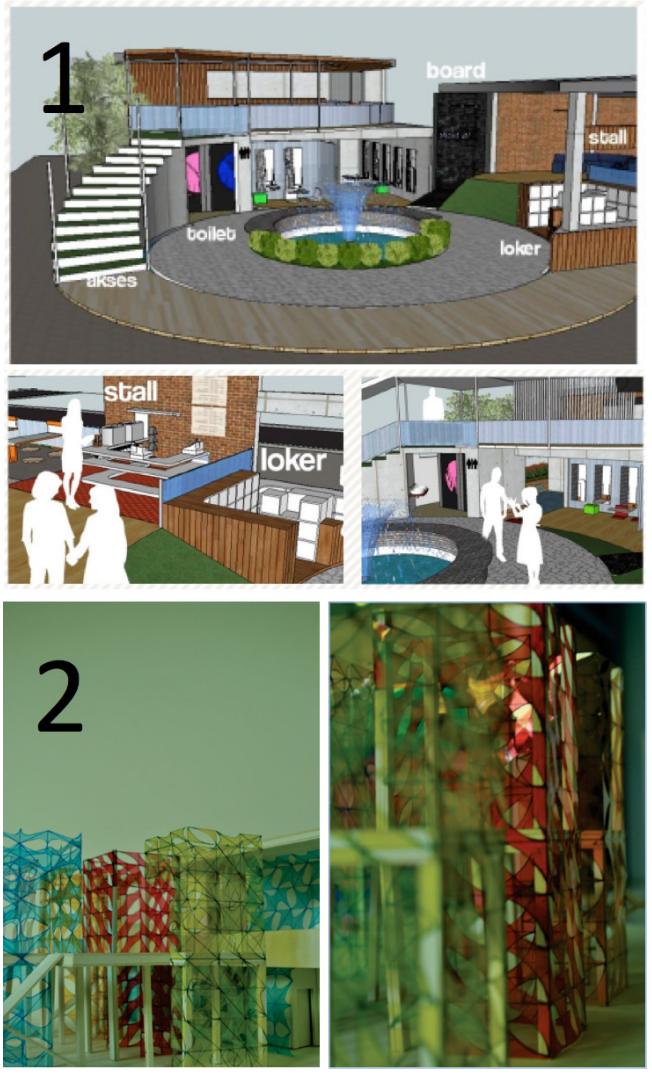

Figure 9. Rizki (1) and Mirza (2) final designs.
Source: M. Harahap (2011) and R.D. Aprilian (2013)

CONCLUSION

Into The Society

In design, a designer must started from the simplest thought by seeing society as a dynamic combination between humans and their activities. During the early study of designing public space, a typological

approach in interior architectural space and the exploration of spatial form is important. Other aspects such as location, social and spirit of place will also played important roles in creative design ideas.

As interior architecture studies, students must considered other important aspects: the interior structural logic and construction, utilities, comfort, safety and also the spatial experience. The spatial experience itself can be build using the right lighting, colors, accessories and furnitures.

Students should be encourage to approach different kind of methodology, for example fashion. Giving them a verb as trigger to observe the society will be very challenging for them. Another challenge by allowing them to explore the fashion methodology to find the design solution is also very intriguing and prooven to be successful. The public space which become the main objective of this design class will added the difficulty.

To stimulate the students even more, there are few suggested verb which are: *Exchanging, Performing Ideas, Meeting others, Ritual cleaning, Pleasure, Embracing, Gathering, Journey, Performing* and *Melting.*

Relation Between Fashion and Interior Architecture

The methods to find the idea in interior architectural design (design process) is very important. The database research in literature is crucial to finally see various possibilities which connected to the meaning of interiority. With this thought embedded, idea in solving more conflict will be easy. Students will be more motifated to think creatively and thoroughly.

Interior architecture is related to many basic knowledge, like history and theory of architecture, methods and design theory. Thus interior architecture also connected to fashion. Both architecture and fashion have the same purpose as shelter and skin for people. They also represent identity of certain narrative. Therefore, through fashion, people also can see the narration of interior architectural works.

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MATERIALITY REINTERPRETATION WITHIN TECHNOLOGICAL ADVANCEMENT IN DESIGN APPROACH FOR CORPOREAL ENGAGEMENT

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ABSTRACT

How technological advancement in design media incorporated within its approach for creative thinking? How form, space and material are transformed through several media such as 3D computer model to achieve an idealized end result? This paper will look into works of TSDS Interior Architects design firm: "Private Office at Sorong, Papua" in which both projects using contemporary design media as a "thinking tools" in pursuit of materiality. Both creative processes of these projects will be delineated to uncover ways of approach in interpreting design problems, developing design solutions as regard media as materio-semiotic systems that enact the circulation of signs. Data for both projects will be based on internal firm documentations and field observation, as background theory will be complemented with contemporary architectural theory in materiality.

Keywords: materiality, architecture, interiority, design method, media

THE DEVELOPMENT OF MATERIALITY IN ARCHITECTURE

The practice of architecture and the discourses surrounding it are structured around a distinction between form and matter where the formal is valued over the material. On the one hand, historically, discourses and theories of architecture have tended to concern themselves with formal questions and to establish the architect as form giver. On the other, the very method we use to develop architectural proposals – orthographic drawing – describes only form, and relegates material to the empty spaces between the lines, The privileging of form is deeply embedded into our working practices, and material is rarely examined beyond its aesthetic or technological capacities to act as a servant to form. Aside from that, craftsmanship plays an important role as well in architecture. But these days technology has developed intensely, in many forms, including the media.

Architectural studies often use materials in reviewing the role of the prints, paper, and various analog media in shaping and changing the architecture practice. Hayles and Gannon (2012) highlights how the digital media emerged and explored the influence of it in architectural production.

If we look at the virtuality presented by Deleuze, it is actually a relationship of attraction between actual facts. The discussion can be started with the hypothesis of virtuality offering that all architecture is virtual, whether it is built or not built. The proposed architecture is not in a building form, nor special parts of the building, but the architecture is seen as in the position as an attribute of freedom of a number of media that is built around it. It is seen as something that makes the building meaningful for the ongoing tradition. Reyner Banham (1996) put it as follows, "What makes the architecture is actually not what has been done, but rather how the architecture is done." Then, seen also from the position of the next architecture delivered by Hayles and Gannon, that architecture is a discourse as an entity, which that discourse is manifested through language, or text and graphic documents. "Documents", as the terminology used in textual studies, are usually differentiated from the "text" or "work" because he implies the existence of a physical (or digital) object (Hayles and Gannon, 2012).

Just like all the buildings have the potential to "become" architecture, then all the documents that precede, cover and follow the building are entities that connects to each other to envision, plan, and implement architectural practice and then also participate in creating architecture. The building form and the documents form are physical objects that are witnesses to the architecture activities, but architecture can never be reduced to become these objects. The architecture also fundamentally more involved in the Deleuzian concept about the virtuality, a vague potential in dynamic interaction with the actuality of buildings and documents. Both the architectural virtuality and physicality of the document (the building) is a real thing, while the building is tied to a specific location, which is composed of many individual cases, the architecture is something mild, scattered and not fixed. As a totality, the architecture is something that can not be described, since it was written or constructed, it moved from virtual into actual thing. It is the collective strengths of various discipline that act as midwife for architecture, moving from raw materials into the actual architectural media (can be in the form of buildings, construction documents, or philosophical writings) that led the rise of architectural virtuality into actual objects that we can see, touch and walk on.

It leads to what is called by Marshal McLuhan (1964) "extensions of man". Hayles and Gannon (2012) using the media as a semiotic "materio-semiotic" that determines the circulation of signs. Media as a material system which convey the sign has two fundamental strategies in the division: spreading the signs through people and spreading the people through signs. In general, the document is recognized by the first strategy, and the building is recognized through the second strategy.

Considering both the document and the building are mediums – as a materio-semiotic system – they have dual advantages. Those advantages are dismantling the usual categories that saw the building as an architectural entity that is durable and documents as something that is not eternal. A view that lies in the centre, which is stated above encouraged interpretation linking semiotic functions with material actuality, hence the building and the book are both reduced to a discursive entity or into material objects.

Virtual emergence, made way for a new consideration of material specification, and speed up new interpretations regarding materiality. Kirschenbaum (2005) distinguished between formal materiality and materiality forensics. Materiality refers to the artifacts nature of an object, and should not be confused with physicality. Kirschenbaum's formulation of the formal and forensic materiality, based on the idea that differentiates a substrate of computer technology (forensic materiality) and the sign formal system which is computer codes (formal materiality).

The classic example of Robins Evan (1997) in the essay *Translation from Drawing to Building* on dome construction in the Royal Chapel Annet by Phillibert de l'Orme is not in accordance with the description in the book *Premiere tome de l'architecture* (1567). For Evans, this difference is not a failure than the

whole concept of translating from one medium to another medium, but rather that reveal differences between different mediums (through pictures, books and buildings). This adjustment by de l'Orme can be seen similar to the practice of the ancient Greek, the visual correction called *entasis*, in making the distances between the columns into modules.

Just like writing, any media involved inevitably include the "tone of voice" which is fusing into one with the media. In many cases, the media used by architects can be inspiring, as shown in the axonometric diagram of Peter Eisenman (1999) which redrew the works of Le Corbusier Maison Domino. The translation of this iconic image is able to be a source of new interpretations.

Another example is the architecture photography, such as that presented by Beatriz Colomina (1996), photography and the accompanying body can manipulate reality and at the same time producing the "new reality". *"Rather than represent reality, it produces a new reality"* (Colomina (1996).

In her interpretations of postcard picture series by Le Corbusier, Colomina showed that "a photo does not have its own special meaning, but rather the accumulation and relations with other photographs, photo title, writing about the photos and the layout of the pages ".

Now photography is being multiplied in films and can be multiplied to infinity with digital technology, which means "new reality" is multiplied, and with other media interactions can create the potential for new forms of architecture products.

Nowadays' working process is facing new challenges, especially in architecture and its relations to form and material issues. In shifting attention from the formal to the material, to show how materials could be seen as a creative process which comes in one package with forms in architecture, I would present to you the actualization of TSDS Interior Architects work in Sorong Papua project office in the next writings. Before moving to a discussion regarding these matters, first I want to elaborate on the form and matter distinction.

ARCHITECTURE, MATERIAL PRACTICE, AND HYLOMORPHISM

In her article 'Architecture and Material Practice' (2007), Katie Lloyd Thomas explained the understanding of materiality. She started the ideas by pointing out that just like any other buildings, this writings you hold in your hand right now is considered a material. But as you go through the pages, you will be less likely to even remember the fact that this writings is a material. You will not notice the materiality of this writings: at most you might be aware of the weight, or the scent and texture of the pages – but even these immediate sensory qualities you feel are becoming secondary the moment you start to concentrate on the writer's thoughts through the words and images. To get your attention back to this set of papers as a material object is just the same to see that it is not made only from the ideas of the writer. Like buildings, this writings resulted from many variables. Combination of its structure and of the English which is the language used in this writings; the designs of the fonts, the images and also the software in which the print is set; the fabrication of papers, using glues and inks to construct this. Behind all those materials is a complicated developing process, extraction, technique, transportation and exchange. Economies of production, standard regulations, and labour created this papers being used to write all ideas, as do the lives and contexts of the people who have jumped and worked it all.

To move beyond the ideas behind this writings and the physical experience of its 'objecthood' needs the recognition of the social and material practices in which its generation is embedded and the forces at work in the realization of objects (and their continuing lives), starting from the conceptual, to the practical and technical, and to the institutional.

But, form is preferred over material. Materials tend to be considered when guiding to construct rather than in theoretical works, where the concern about the form concerns are much more dominant. This issue about form and matter's differences which build architecture has a long philosophical history as well. It is one of many pioneer binary oppositions in which one side of the pair is privileged and the other is just a kind of secondary. In a common account of 'hylomorphism' such as Aristotle's, matter or 'hyle', is being given a shape by the form, as in 'morphe' (Aristotle, 1988). Matter in itself is inert and undifferentiated; it acts as the servant of form and helps giving it existence. But it does not determine form, and in a hylomorphic account the form giver is very likely to be the architect.

By deciding matter is inert – that is why it is being given form – the role of the architect as a kind of mythical form giver is reinforced and the processes and labour of construction are covered over. The very resistance that matter has to being formed are put aside. Materials must be extracted or fabricated, they must be worked, and once done with all the process, then they are mandatory to be maintained. And not to mention materials are themselves active things; the process is more a transaction, rather that just a one-way operation, that happens in the shaping process of objects.

The valuing of form over matter relegates material in architecture to the practical underside of the profession and lifts the role of the architect to be the form giver. Hylomorphism also leave behind architecture with another obstacle: while the form's concept can always be transferred to architecture, the hylomorphic concept of matter cannot in fact account for materials (in the plural) as they are understood in architectural studies (1988).

Hylomorphism understands matter as singular; form is the one that which differentiates and matter is the one which can be differentiated. But it thinks prime matter in accordance to the properties of a particular material and passes over others which would not fit, and in doing it put aside the plurality of the materials. The hylomorphic concept of matter is not as easily conflated with material as it would appear. Nevertheless, the architecture studies has this concept as its foundation and created a discourse in which form must be realized in matter, with the material being seen as merely interchangeable – just one example of matter rather than another. In any binary opposition, not only that the secondary term is degraded, but also that secondary term is defined plainly as 'not form'. In that definition there is no place for a positive outcome under the term, and in result, for the possibility of differentiation. Hylomorphism, which understands materials as a subset of matter, does not have a way to positively distinguish materials, and underscores the architectural tendency to use materials as mere finishes, exchangeable and superficial. In turn, it is no surprise that materials become supplementary in architecture and are used just to decorate or to signify.

ATTENTION TO MATERIAL

However, almost all essays out there seem to generally embrace the hylomorphic account of architecture and object making. They try to replace neglect with something that is called 'material attention'. In adopting this strategy, the primacy of form is reiterated rather than avoided, but out of the attention to material a number of very different and interesting issues emerge, ranging from temporality to economics. Attentiveness to material does not, of course, only happen through intellectual research, but is part of the manual work of craft or fabrication. A problem for anything dealing with material attention, then, is how to give making a presence, an existence. Here, there are a number of written essays of making, from sewing and tailoring to slicing a fresh white meat in slices, and also a number of sections which allow the visual factors to dominate and emphasis the textual as an effort to provoke the attention of the hand holding it and the eye seeing it still in the form of a limitations for printed pages.

Furthermore, the contributions here are distinguished more likely by the differences of the approaches to materiality than by a commonality, even though when choosing to put it together, and in considering

the term 'material practice' as the theme, Thomas (2004) have tried to draw attention to what is a shared rejection to consider materials in purely visual (and static) terms and an insistence on examining materials as part of a network of forces and actions. Architecture must explore materials in this way if it is to use them responsibly, to open itself to the potentiality of new and 'old' materials and to reach an understanding of how materials may be productive of effects, both experiential and political, as it already has to come to some extent in relation to space. A punctuation on the practice concludes that materials can only be understood (and even be defined) within the term of a specific discourse and in relation to when, where and how they are produced and used.

It seems more possible that the contemporary interest in materials has arisen from the crossing of concerns of rather different sections of architectural practice and theory. First, after many years of research into sustainable architecture, we had to pay more attention to the materials with which we build and, significantly, to recognize them as products. 'Green' specification needs a very detailed wisdom of its sources, fabrication and transportation processes, labour; craftsmanship; and economic conditions in constructing a material. Like all the buildings they have created, materials are indeed cultural artefacts, constructed in social and political contexts and explored in the same kind of critical analysis.

Second, changes in producing materials mean that we can recognize the behaviour of a material rather than simply select it from an already existing range. In the United Kingdom, this movement started a momentum back in the 1960s, when the advent of the performance specification permitted the contractor to use any material as long as it confirmed to have the particular standards (such as fire-rating or acoustic separation). Now, the use of nanotechnologies to create new materials offers the possibility of designing materials with tailor-made behaviours, and smart materials can incorporate what would once have been independent building services. Materials are increasingly considered in terms of how they perform as well as how they appear to be.

This emphasis on the performance of materials is also to be found in nowadays philosophical discourse. As Lars Spuybroek (2004) points out, these theoretical shifts passed architecture by while it was 'caught' in the local politics of language'. While the architectural discipline considered the building as a representational system, material remained invisible. The medium of language remains invisible – a mirror through which we look to see meaning perfectly reflected and undistorted (as if it is a given – natural not produced). The material is as invisible as the glass and silvering through which we look to see our reflection staring back at us. Now that architectural discourse has moved away from a linguistic model which limited the role of the material to the (singular) medium of representation, it is able to engage with materials as individuated through the differences in their behaviours.

One critic is saying that the concern with material seems always to return finally to form. The classic, now often-quoted, example of a starting from material rather than from form is Gaudi's hanging chain model, where the physical behaviour of the model results in the arches for the Sagrada Familia (Thomas, 2004). Here the acknowledgement of the material's agency leads to the development of a form, albeit one inflected materially. As such, the contemporary interest in the material remains within the 'interior' of architecture, ignoring the cultural and political issues that an engagement with the material might yield. Driving this collection is the intention that the essays presented here do more than ask what the formal possibilities of these shifts in thinking about material may be.

Building materials are constituted by a whole complex of practices, and contribute their specific properties to practices which in turn produce new objects and situations. They are social and cultural constructs, produced through the complexities of legislation and regulation, through techniques of production and fabrication, through language and use. In turn they create possibilities and limitations, ways of working and experiential conditions which are specific and individuated.

The awareness of the materiality nowadays is beginning to grow through the work of Indonesian architects. Many young architects started their study, in many projects, by including the attention to material. In the case study of Office Project at Sorong Papua done by TSDS Interior Architects, the attention to material has been applied since the early planning stage, which will be explained below.

THE ACTUALIZATION OF THE WORK OF TSDS INTERIOR ARCHITECTS, OFFICE PROJECT AT SORONG PAPUA

The common definition of Architecture is the process of planning, designing, and constructing buildings. Design is quite an important step in and since Robert Somol until Marc Angelil, design process has been using five steps in architecture, and also interior, planning: space, programming, technology, contextual and form (Angelil, 2003).

Materiality is usually referring to the above process. Thus, in realizing the work of Sorong Papua project office, TSDS Interior Architects is also applying it only slightly reorder the steps:

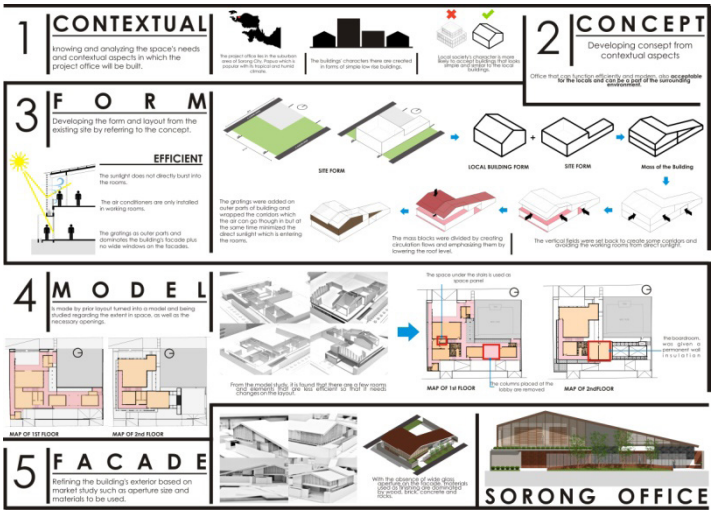

Figure 1. Architecture Design Process for Sorong Papua Office
Source: TSDS Interior Architects Personal Archives

- Context: is a process of knowing and analyzing the space's needs and contextual aspects in which the project office will be built. For instance, the project office lies in the suburban area of Sorong City, Papua which is popular with its tropical and humid climate. The buildings' characters there are created in forms of simple low rise buildings. This consideration is based on the local society's character who are more likely to accept buildings that looks simple and similar to the local buildings.
- Concept: is a process which concepts are developed from contextual aspects. TSDS Interior Architects plans to build a project office that can function efficiently and modern, also acceptable for the locals and can be a part of the surrounding environment.
- Form: is a process of developing the form and layout from the existing site by referring to the concept. TSDS Interior Architects tried to create it as efficient as it could be by designing for the sunlight not to directly burst into the rooms. The air conditioners are only installed in working rooms. The gratings as outer parts and dominates the building's facade plus no

wide windows on the facades. The wood screens were added on outer parts of building and wrapped the corridors which the air can go though in but at the same time minimized the direct sunlight which is entering the rooms. The mass blocks were divided by creating circulation flows and emphasizing them by lowering the roof level. The vertical fields were set back to create some corridors and avoiding the working rooms from direct sunlight.

- Model: is made by prior layout turned into a model and being studied regarding the extents in space, as well as the necessary openings. From the model study, it is found that there are a few rooms and elements that are less efficient so that it needs changes on the layout.
- Façade: Refining the building's exterior based on market study such as aperture size and materials to be used. With the absence of wide glass aperture on the façade, materials used as finishing are dominated by wood, brick, concrete and rocks.

Reordering the steps is acceptable as long as iteration process is included in every step of the process. The iteration process is always applying understanding about materiality and sensibility in architecture to result in the best creation.

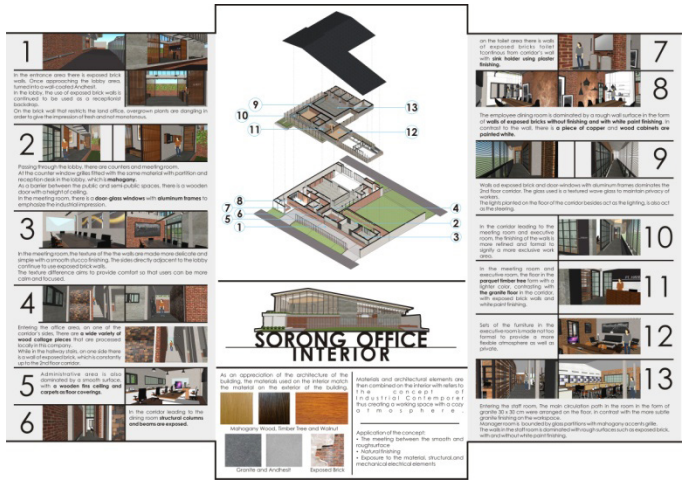

Figure 2. Interior Architecture Design Process for Sorong Papua Office
Source: TSDS Interior Architects Personal Archives

Experiencing the materiality differences in every room enriches sensibility. That experience is supported by material variety (see figure 2). The experience and material variety were also went through iteration stage, which resulted in a coherent form and material use in building construction.

In this design, as an appreciation of the building architecture, the materials used in the interior matches the exterior material of the building.

Material and architectural elements are then combined on the interior referring to the concept of industrial contemporer, to create a working space with a cozy atmosphere. The concept is combining the smooth and rough surface, using natural finishing, and also exposure to the material, structural, and mechanical electrical elements.

For instance, the entrance area of the office is dominated by the use of exposed brick walls. Once approaching the lobby, Andhesit replaces and dominates the area. But inside the lobby, exposed brick walls is still found to be the backdrop of receptionist space. Meanwhile, on the brick wall that

restricts the land office, overgrown plants are dangling everywhere to give the impression of freshness. The counters and meeting rooms are dominant with the use of mahogany, door-glass windows, and aluminium frames. The wall texture of the meeting room uses smooth stucco finishing, with the sides directly adjacent to the lobby is continue to used exposed brick walls. The office area have a wide variety of wood collage pieces on the corridor's sides, and exposed brick walls on the hallways stairs' sides. Administrative area uses a wooden fins ceiling and carpets as floor coverings. Structural column and beams are exposed in the corridor leading to the dining room. Other materials used are sink holder using plaster finishing, walls of exposed bricks without finishing, white paint finishing, copper, wood cabinets painted white, parquet timber tree and granite floor.

EPILOGUE

In the future, architects may have to reconsider their role as form givers, and develop materials rather than only give them shapes. Creativity in architecture must involve form and materials as one package, with labour lies in the centre as the connecting bridge.

Speaking about labour, one definition by Hannah Arendt (1958) is describing it as the activity which corresponds to the biological process of the human body. She also stated another term, work, as the activity which corresponds to the unnaturalness of human existence. Another keyword connected labour and work is the term craft. The presence or absence of craftsmanship as a practice will lead to an alienation experienced to a higher or lower degree in labour division that exists in all forms of production.

Craftsmanship plays an important role in architecture, but nowadays, with the fast developing of technology, craftsmanship faces a new challenge. For instance, computer programs were recently developed and designed to obtain what we might call authorless results. A computer numerical control (CNC) off-site fabricator is of necessity indifferent to the ultimate destiny of the parts produced: automobile body one day, building curtain wall the next. There is surely a considerable measure of technological boosterism, comes in rhetorically with the globalized "knowledge-based economy" in which the professional either sinks or swims according to his digital capacity.

What used to be done in craftsmanship is now almost all replaced by technology. Few works are still need the hands of the labour, but we cannot say that technology is not dominant. Material and operative transformations taking place in the building industry cannot ignored by the profession because many of the innovations are coming from the profession itself.

The market for cars and planes is by structure different from that in the field of built form, where the product is not a freestanding object reducible to the status of commodity. At the same time, the dematerialization of building has taken place in the last half century has totally transformed the distribution of costs in the realization of a structure.

We cannot avoid the techno-utopic language that came with the emergence of digital design and construction, since it is potential to realize spaces and forms unimagined. While this productive potential is unavoidable in contemporary building production, it is only in its infancy as far as its future application is concerned (Frampton, 2010).

Contemporary architectural discourse is more focus on the integration between form and material findings. But this does not mean something in a romantic way when encountering the fragmented notion of modern era. Advances in technology should be addressed in line and keeping the principle of unity in balance. The existing craftsmanship could have evolved, along with the emergence of

technology that is an extension of the human body. It is precisely this attitude of new innovations can be formed.

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INNER TERRITORIES: CAPACIOUS GEOMETRIES IN SPACE AND MIND

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ABSTRACT

When artist Rachel Whiteread created a 'positive from a negative' in her cast of Room 101 from George Orwell's *1984*, she manifest a physical object from an interior void. Making palpable that which cannot be seen, a Whiteread cast illustrates that whether or not you can see or touch it, space shapes you. The purpose of this paper is to move beyond object, beyond subject, to aspects of architecture that are not visible but nevertheless have an unimpeded affect on the mind.

Stemming not from the mind nor the building, geometry is a convergence of the surface of space and its unique impact on us. Geometry then, appropriated by architects as neither vessel nor void, poses the paradoxical challenge about the imperceptibly of interior space itself. Using philosophical and architectural examples from the East and West, this paper will show that the interior is a space with an edge, an invisible but comprehendible selective surface between inside and outside, carrying with it capacious geometric signifiers that transcend culture.

From the Garbhagriha at Prambanan, to St. Benedict's Chapel in Switzerland, the built edifice is merely a vessel where the architect's desire to imbue solemnity can never be fulfilled but through the inner psyche of the subject.

Keywords: geometry, interiority, architecture, space, surface

PERCEIVING THE IMPERCEPTIBLE

> "Euclid has fully explained every quality of the circle, but has not, in any proposition, said a word of its beauty. The reason is evident. Beauty is not a quality of the circle, it lies not in any part of the line, whose parts are all equidistant from the common center. It is only the effect, which that figure produces in the mind, whose particular fabric or structure renders it susceptible of such sentiments." (Hume, 1826, p. 181)

On the 28th of October 1993, the *East London Advertiser* published an article covering Rachel Whiteread's concrete cast of a Victorian house. In the article a local designer, Dick Stringer, claimed 'I think it's brilliant! I like the inside-outside quality. It's a new way of seeing traditional things.' (Kloster,

1993) Cast in concrete from the volumetric space inside a house nearing demolition, Whiteread takes the interior of the building, which is unable to be seen, and converts it into a visible object.1 A temporary exhibition, 'House' questions the relationship between space and sense-perception.

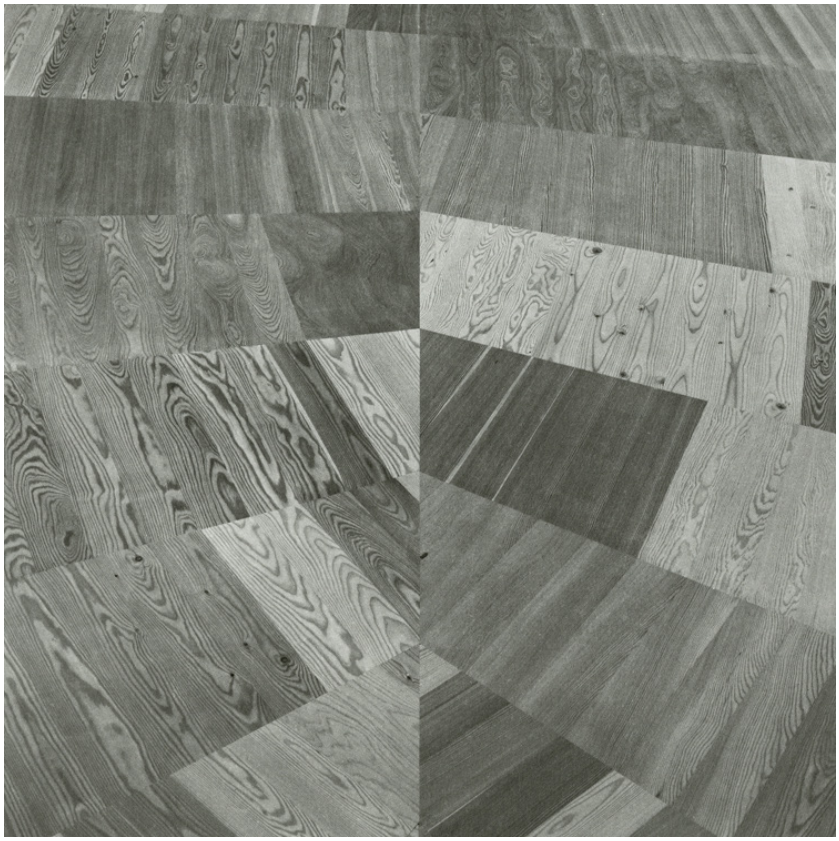

Figure 1. Convergence of floor pattern at St. Benedict's Chapel
Source: Peter Zumthor 1985-2013: Buildings and Projects, Vol. 1 (Zumthor, 2013, p. 55)

If 'House' illustrates undefinable space and its meaning, her similar cast of George Orwell's Room 101 conflates the space inside with hapticity. Whiteread cast a mechanical room in the basement of the BBC headquarters where Orwell worked, also numbered 101, which is reputed to be his inspiration for the chamber featured in *1984*. The intuition of touch, torture, and pain reifies the space inside with the space of the mind through fear that you 'dare not give a name to.' (Claypole, 2003) To experience a Whiteread cast is to perceive the invisible. House or torture chamber we understand the otherwise imperceptible.

It is precisely this vacuous imperceptibly that allows space to reside both in the subject and the object - in the participant and the architecture - transcending mere phenomenological experience. Less about geometrical architecture than it is about the interiority of geometry through architecture, this paper aims to establish a link between East and West through the interstitial nature of space itself. Based on textual and architectural evidence I will argue that Peter Zumthor, although perceived to ignore meta-

phenomenological experience, is following ancient and historical notions of space in both his writings and buildings. Through a reversal of the figure-ground relationship, the paper will provide a framework for answering larger philosophical questions: What role does the object play in spatial experience, and more specifically what is the relationship between the building and its enclosed interior space? How does one experience sensory perception of space when it is unable to be perceived? How is geometry ascribed within us?

Sculptor could scoop award for her concrete capers

There's a stoney house!

BEFORE and...

...AFTER!

THE arts world flocked to the East End this week when a top sculptor unveiled a cast of a Victorian house.

The three-storey lump of concrete could win Hackney-based artist Rachel Whiteread a top national prize.

Bow Neighbourhood, which had bulldozed a string of houses to add to Mile End Park, struck a deal with the 30-year-old artist earlier this year.

Rachel would tear down the house - 193 Grove Road - after she had filled it with concrete and turned it into a memorial to a home.

The piece, ogly feet from where the first V2 rocket landed, is named 'house' and made with a £50,000 sponsorship.

BY ULLA KLOSTER

But ex-tenant and war-hero Sidney Gale, who was ordered out of his childhood home by the neighbourhood, was not impressed by the 'house'.

He said: "That money would be better spent on buying a new house.

WEE WEE

"They've taken the wee wee out of me."

The white sculpture, finished on Tuesday, will be razed to the ground by the end of November. So far it has got mixed reactions from East Enders.

Bow nanny, Harriet Wyborn, 22, said: "You must be joking! I thought it was an old building waiting to be knocked down."

Retired bus driver Jim Champness, 62, of Roman Road, Bow, said: "I've got my memories of growing up in Whitechapel during the War already without this. I think it's a waste of money."

But Palmer's Road based designer, Dick Stringer, 40, said: "I think it's brilliant. I like the inside-out quality. It's a new way of looking at traditional things."

Rachel, hailed the rising star in the English art establishment, has been shortlisted for the Turner Prize. Some of her other work can be seen at the Tate Gallery.

■ OFFTHE CUFF P24

Figure 2. Newspaper article with reaction to Whiteread's 'House'
Source: East London Advertiser (Lingwood, 1995, p. 133)

Chora

Sometime around the year 360BC, Plato wrote perhaps his most far-reaching and diverse dialogue: *Timaeus*. In it he initially describes the island of Atlantis, and its ultimate destruction at the hands of Athens, which 'put an end' to Atlantis' 'unprovoked' expedition against Europe (Plato, 1985, p. 1159). Most notable about the writing, however, is its description of the framework of space, which Plato terms *Chora* (Ancient Greek: χώρα). Perhaps the most obscure and hazy of the dialogues, it 'nevertheless had the greatest influence over the ancient and mediaeval world,' (Plato, 2013, p. 3) as it attempted to explain the existential nature of the universe. Conflating science, theology, and mathematics, its confusion to the modern reader resides in the nature of ancient philosophy itself. Attempting to scientifically explain that which is hidden from view, metaphysics is imbued with an insatiable desire to understand the whole of nature with minimal knowledge of its component parts. [2]

Chora as understood Platonically 'intervenes within the binary oppositions which he establishes as fundamental - being/becoming, intelligible/sensible, logos/mythos.' (Theodorou, 1997, p. 45) Originally depicted by Plato as an interstitial receptacle, the territory of *Chora* is both physical and mental. Neither

being nor non-being, it is between the sensible and the intelligible, through which everything is framed but in which nothing resides.
Revisited with Kant's Transcendental Idealism,[3] Heidegger's clearing, and Derrida's Khora, a contemporary reading of space is compounded by its situation both perceptually *and* conceptually. Maria Theodorou (1997), in her doctoral research at the Architectural Association in London, through the act of division unifies our experience of space when she says *Chora* is 'produced by separating thinking and experience. It belongs to neither, but marks or even produces the separation between them. It conforms to the theory of ideas, as a realm separated from the realm of experience yet necessitating a concept of space as enduring container in order for things to be defined.' (Theodorou, 1997, p. 47) As such, Platonic *Chora* behaves similar to Kant's space. Whereas Kant defines space as *both* intelligible and sensible out of its necessity, for Plato it is 'neither intelligible nor sensible, yet which is produced by necessity.' (Theodorou, 1997, p. 47)

Around the same time as Plato was writing *Timaeus*, the last of the major Hindu Upanishads were written. (Radhakrishnan, 1994) Although it is generally accounted that Alexander the Great brought Greek philosophy to India in 326BC, as Dr. Neria H. Hebbar posits, 'the direction of knowledge might have flown the other way' as early as Pythagoras. (Hebber, 2009) German philosopher Arthur Schopenhauer, an admirer of Upanishads and a philosopher concentrating on Plato and Kant, noticed similarities between Plato's thought in the dialogues and the Upanishads. (Hebber, 2009) Much like *Timaeus*, the Upanishads are usually in the form of a dialogue between two people or animals and contain Hindu truths about the nature of hidden reality.

GEOMETRICAL SPATIALIZATION AT PRAMBANAN

1000 years after the writing of the Upanishads and *Timaeus*, Hinduism was rising in Indonesia. During this time, known as the 'classical period' (Jordaan, 1996, p. 3), the temple complex at Prambanan was constructed. Built between the ninth and tenth centuries A.D, (Jordaan, 1996, p. 45) Prambanan was originally a complex of 240 temples located in Central Java. The holy compound is assembled of eight main shrines or ***candi***. The Shiva temple is the tallest and largest temple in Prambanan, measuring 47 metres tall by 34 metres wide. Located at the center of the complex it contains five chambers: four small chambers in four cardinal directions and a large main chamber in the center accessible from the east. (Ariswara, 1996, p. 12) The central chamber, Garbhagriha (garbha graha or womb-chamber) houses the largest temple in Prambanan and is the holiest space in the temple complex.

Carved on interior surfaces of the Shiva temple are bas-reliefs telling the story of Ramayana, a Hindu epic dating from around the fourth-century B.C. (Fontein, 1973, p. 21) The illustrations of Hindu epics on the balustrades at Candi Shiva reveal not only the temple's mythical narrative, but also the design and construction that grounds them. Like their western counterparts at Athens, the temples at Prambanan are a literary device designed to elucidate Hinduism's spiritual existence within the larger metaphysical context. Unlike their western counterparts, however, the temples are unique in that they include reliefs indicative of their architectural significance - carved in elevation, perspective, and a crude gestalt axonometric. (Dumarcay, 1993, p. 5) Hidden within the stones of Prambanan is evidence of the temple not only as a spiritual object, but also one of interior spatial formulation through sacred geometry.

Sacred Geometrical Organization

In Hindu cosmology the world is represented as having eight directions, each represented by a specific god. Known as 'Guardians of the Directions,' these deities rule the eight directions respectively, with east always the most predominant and spiritual direction. From organization of temple-precincts to interior geometry of the Garbhagriha this eight-fold cosmological world-view has a direct consequence

embodied in the geometry of the square. The square has not four, but eight attributes: four sides and four corners.

Laxman Thakur (1999), in an article critically analyzing geometry in Hindu temples, claims that they originate solely from a square-based plan, titled Vastupurusamandala, to achieve a 'balance between plan and elevation.' (p. 263) Stemming from a geometry of the square, Prambanan begins with the Garbhagriha - itself a single large square derived from four smaller squares - as the basic geometrical unit of the temple. From the inside outward, the remainder of the temple's external geometry is driven from the repetition of squares in plan and section. Corresponding with the Guardians of the Directions the square in Hinduism transfers symbolic meaning not only to architectural form, but architectural space itself.[4]

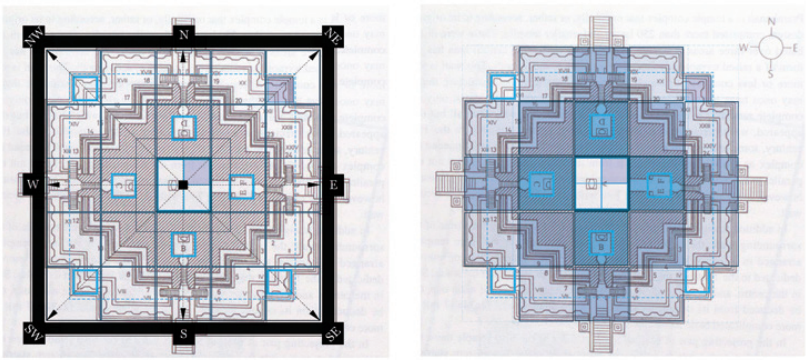

Figure 3. (left) The Garbhagriha is made up of four smaller squares, which combined with the four smaller shrines makes a total of eight. Furthermore, the volume of the Garbhagriha is eight of these cubic volumes serving as the basic geometrical unit of the Candi Shiva aligned with directional orientation.
(right) The Garbhagriha is surrounded by four squares, which are adjacent to eight more squares, which are adjacent to eight more squares, for a total of total of twenty. The Garbhagriha's four smaller squares are repeated at each corner of the temple, bringing the total to twenty-two.
Source: Author. Plan underlay from *In Praise of Prambanan* (Jordaan, 1996, p. 6)

Walter Henn (Henn, 1969), on the use of grids in architecture, states that 'in Indian architecture the use of the square as the basic unit and... the principle governing the layout was chiefly a matter of religious significance.' (p. 4) If god is the order of the universe, it stands to reason that an architecture venerating the divine is formed from pure and orderly geometry. In Hindu temple design, the square represents a 'mark of order, of finality to the expanding life.' (Kramrisch, 1991, p. 22) Directly or indirectly, this use of geometry is meant as a means to connect with god through space.

English architect and historian William Lethaby, in *Architecture, Nature, and Magic* (1956), posits spiritual significance and connotations with the origins of geometric space:

> "The discovery of the square as a general geometric idea was a great advance of the mind. The square, when discovered, became a rival... of the circle, in representing the foundational conception of building, and general adoption of the square type of building was soon reflected back on the world structure.' (p. 18)

Lending credence the geometrical hierarchy and spatial significance of the Garbhagriha, architecture exhibits an internalized derivation as its core philosophical principle. The Prambanan, viewed externally,

presents itself as a seemingly disordered combination of sculptural elements lacking clear geometrical formulation. On closer inspection, however, the divine chambers within the temple are formed by a singular geometry that transcends its spatial envelope. The resultant space enclosed is a spiritual vessel through geometry, *but how*? What is geometry's impact on spatial experience? Is geometry, as an organizational and representational tool, reified within interior space; does it originate from the subject, the object, or neither/both?

Out of sight and imperceptible, space and geometry add an additional layer of depth to architectural experience - what Swiss architect Peter Zumthor calls beauty.

ZUMTHOR'S INEFFABLE BEAUTY

Peter Zumthor has written and published little in his career, tending to let the architecture speak for itself. At first glance his few writings appear to only emphasize sensory aspects of architecture. Without closer inspection one may miss his deep appreciation for something beyond atmosphere, beyond object. Although Zumthor's writings only obliquely elucidate space and geometry, it is not proof that he considers them irrelevant in his work. Underpinning much of his phenomenological or spiritual writing is an understanding of something beyond the senses. He refers to this as 'beauty', (Zumthor, 2006) which could be defined as the coalescence of mental and physical space that transcends objects or perception of objects.

Conspicuously tucked away toward the end of the first chapter, there is a small section of *Thinking Architecture*, his first and most famous book, directly explicating Zumthor's views on space and geometry. Titled 'Composing in Space' (no doubt a musical metaphor), this small section, which I quote in full, may offer more insight into the design and experience of Zumthor's buildings:

> "Geometry is about the lays of lines, plane surfaces, and three-dimensional bodies in space. Geometry can help us understand how to handle space in architecture.
> "In architecture, there are two basic possibilities of spatial composition: the closed architectural body that isolates space within itself, and the open body that embraces an area of space that is connected with the endless continuum. The extension of space can be made visible through bodies such as slabs or poles placed freely or in rows in the spatial expanse of a room.
> "I do not claim to know what space really is. The longer I think about it, the more mysterious it becomes. About one thing, however, I am sure: when we, as architects, are concerned with space, we are concerned with but a tiny part of the infinity that surrounds the earth, and yet each and every building marks a unique place in that infinity.
> "With this idea in mind, I start by sketching the first plans and section of my design. I draw spatial diagrams and simple volumes. I try to visualize them as precise bodies in space, and I feel it is important to sense exactly how they define and separate an area of interior space from the space that surrounds them, or how they contain a part of the infinite spatial continuum in a kind of open vessel.
> "Buildings that have a strong impact always convey an intense feeling of their spatial quality. They embrace the mysterious void called space in a special way and make it vibrate." (Zumthor, 2006, pp. 21-22)

For Zumthor, space is not only defined by objective elements, but it also allows for a deeper experience. What about the 'mysterious void' allows for it to have a 'strong impact'? Later in the book he asks about the nature of beauty: 'Is beauty a concrete property of a thing or an object that can be described or named, or is it a state of mind, a human sensation? Is beauty a special feeling inspired by our perception of a special form, shape, or design? Does beauty have a form?' (Zumthor, 2006, p. 71)

Never providing concrete answers to these questions, Zumthor posits beauty as a unity through

participation - a subjective interaction with an object - which allows for its existence. He says that 'whether an appearance that touches me really is beautiful cannot be properly judged by the form itself.' (Zumthor, 2006, p. 77) Indicating there is something beyond visceral perception that requires the mind, space contributes to an 'understanding' of architecture.[5] (Zumthor, 2006, p. 19) Like beauty it is neither inherent to object nor subject, but rather a 'spark that jumps from it to me,' (Zumthor, 2006, p. 77) Beyond object, yet still reified by it, Zumthor's beauty is Plato's *Chora*.

St. Benedict's Chapel (Sogn Benedetg Chapel, Sumvitg; 1988)

In 1984 an avalanche destroyed a Baroque chapel at the entrance to a hamlet near Sumtvig. Architect Peter Zumthor was chosen to build something 'new and contemporary for future generations.' (Zumthor, 2014, p. 63) Four years later St. Benedict's Chapel (*Sogn Benedetg Chapel*) was inaugurated on an old mountain trail above the hamlet, protected by the forest above from any future avalanches. (Zumthor, 2014)

Like Prambanan the geometry of St. Benedicts may be difficult to detect upon first glance. Unlike, Prambanan, the chapel draws its influence not from the square, but from the circle. Described by Zumthor's engineer as 'half a lemniscate,' (Zumthor, 2014, p. 63) the curves of the interior space of the chapel enclose and conceal a circle. [6]

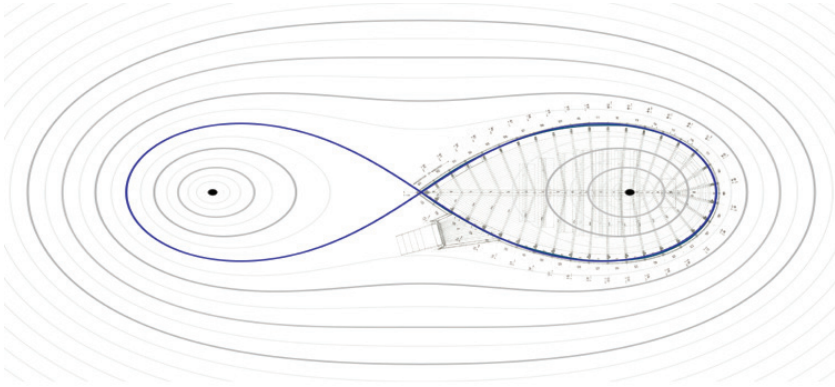

Figure 4. St. Benedict's Chapel shown in one half of a full lemniscate
Source: Author. Plan underlay from *Peter Zumthor 1985-2013: Buildings and Projects,* Vol. 1 (Zumthor, 2013, p. 57)

Zumthor has indicated that he had a problem with 'predominating geometrical form' such as a 'square' or 'circle.' (Zumthor, 2014, p. 63) As such, the design of St. Benedicts is an altered geometry that hides the circle from its form, yet is still able to be cognized from within. As the only two-dimensional shape seen holistically by itself in nature, the circle symbolizes spiritual connotations that transcend culture. Deemed the most perfect two dimensional shape, the circle 'comprehends in itself all the figures there are.' (Plato, 1989)

William Lethaby further elucidates the geometric universality of the circle in *Architecture, Nature, and Magic* (1956):

> "The earliest constructive works of man - holes for shelter, pits for burial, and clay vessels - would obviously have been more or less round in general like a child's sand pit or bird's nest. At some time an observant man must have noticed that the sun in the heavens was a perfectly true example of the same shape." (p. 59)

St. Benedict's interior is framed geometrically. The influx and convergence of the pattern on the wood floor and ceiling at the altar is the subsequent edge of a metaphorical and literal apogee: the hidden center sphere. Furthermore, the overall width of the chapel is twice the diameter of this inner sphere. The chapel is a conflation of curved, three-dimensional volumes and straight, two-dimensional surfaces.

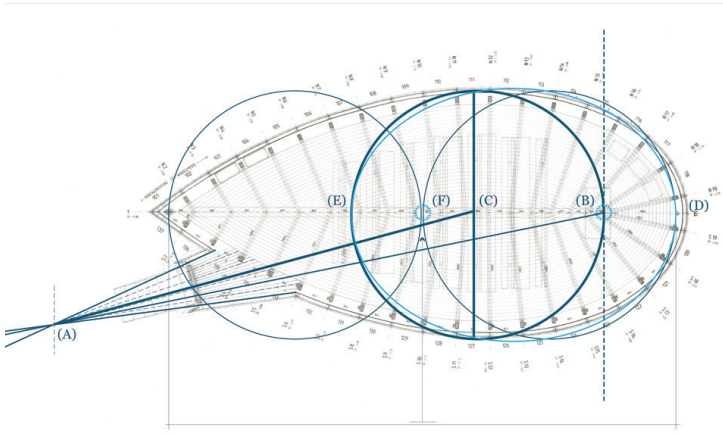

Figure 5. The convergence point of the entrance space (a), aligned with the floor and ceiling pattern at the altar (b), reconverge with the center of the central sphere (c) at the converge point (a). The center of the entrance axis is therefore aligned with the hidden central sphere (ac). The length of the chapel is twice the diameter of the central sphere. An ellipse is formed between the interior edge of the chapel (d) and the tangent of the center circle opposite the altar (e). One of the two foci of this ellipse is the location of the altar, the convergence of the floor and ceiling pattern, and the opposing edge of the center sphere itself (b). The other focus of the ellipse is the center of the chapel (f).
Source: Author. Plan underlay from *Peter Zumthor 1985-2013: Buildings and Projects,* Vol. 1 (Zumthor, 2013, p. 57)

When describing the chapel's design, Zumthor says 'the idea that its exterior form would be defined by a single interior space fascinated me.' (Zumthor, 2014, p. 63) The entrance into the building masks and reveals the surface of the sacred chamber within. The interior space is enclosed by vertical supports which do not cease at the point of entry, but remain present as a reminder of the capacious space within. Furthermore, the supports continue along the perimeter of the chapel, detaching the enclosure of the building, which Zumthor defines as a 'simple vessel' (Zumthor, 2014, p. 63), from its interior. The interior space is detached from the edge of the exterior form manifesting the surface of space within the chapel through negation.

Martin Heidegger, describing the relationship between space and aesthetic experience, said that 'sculptured structures are bodies' demarcated and formed by a 'setting up an inclosing and excluding border.' (Heidegger, 1969, p. 3) This act is when 'space comes into play.' (Heidegger, 1969, p. 3) Buildings create a border that delineates included (inside) and excluded (outside) areas. These areas, which are defined as architectural space, are not only influenced by the presence of the border itself but conversely exert an influence on the border as well. This border, or surface, is where we conceive through perceptive clues, the presence of space.

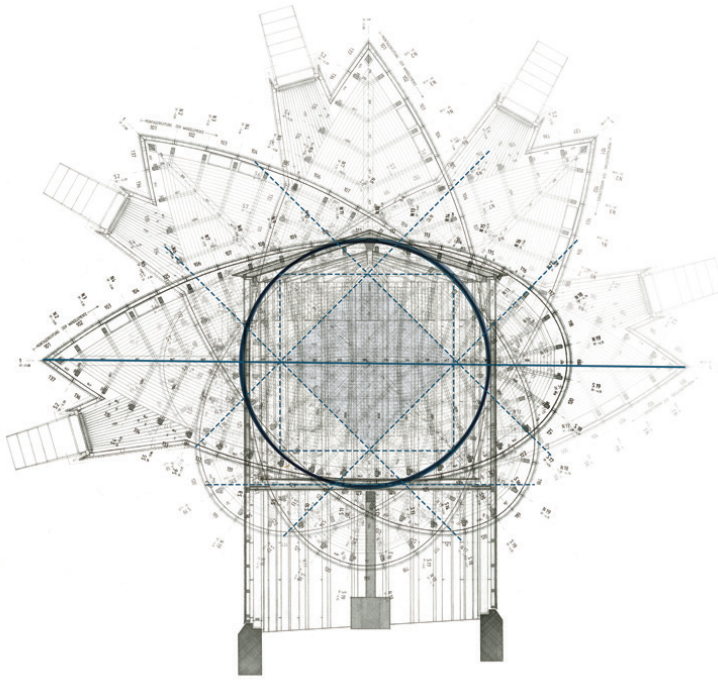

Figure 6. Overlay of the section and plan rotated around the radial axis section showing the central space as a sphere.
Source: Author. Plan underlay from *Peter Zumthor 1985-2013: Buildings and Projects*, Vol. 1 (Zumthor, 2013, p. 57)

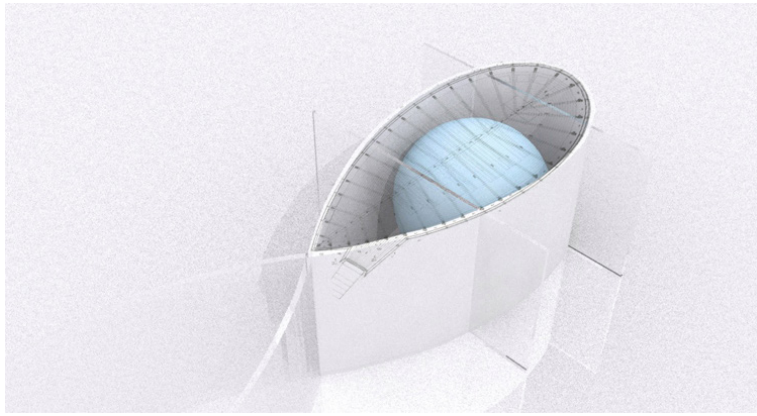

Figure 7. The chapel is a space within a space: a sphere within an extruded lemniscate.
Source: Author.

SURFACE OF SPACE

There is a difference between architecture the object, insofar as it encloses the void, and the experience of it. Physical, tangible aspects of architecture exist regardless of our ability to see or touch them; however, these objects only reify interior space when they conform to our perception and cognition with their surface. As such, space is paradoxical in the sense that it requires both subject and object, yet stems solely from neither. Like Plato's *Chora*, we participate in the activation of the spatial receptacle. Our presence is required for it to exist.

A receptacle that is simultaneously the exterior of the interior and the interior of the exterior, the surface of space is a finite, or rather, infinitely small, surface that reveals the beginning of a resultant space. Usually delineated by walls, thick or thin, the surface of space is a barely perceptible membrane that geometrically encloses volumes we call space. Indicative of meta-phenomenological human experience, only indirectly through the vessel of architecture can we experience the void.[7] We may, thus, only conceive of space obliquely because our sensible faculties lack the ability to perceive it. As evident in both Candi Shiva at Prambanan and St. Benedict's chapel, the surface of space is not only a border between space and object, but also between subject and object.

Seemingly different, the Shiva temple at Prambanan and St. Benedicts are more similar than initially meets the eye. Both are sacred edifices directionally oriented according to their religious practices; at Prambanan the Garbhagriha opens toward the east; whereas, at St. Benedicts the altar and apse are located to the east. Both temples' geometry originates with a simple volumetric shape, either cube or sphere. Both are derived from a singluar space that is extruded outward; at Prambanan the space inside is embedded within a mass that bears little formal relation to the exterior of the temple beyond geometric organization; whereas, at St Benedicts the building form very closely mimics the form of the space inside, much like a balloon that is filled with water. In both cases, however, the architecture begins geometrically from within and flows to the exterior beyond

CONCLUSION

Built only five years prior to Whiteread's 'House', St. Benedicts chapel is also a contemporary approach to the reification of the surface of space as a means of making visible that which can't be seen. Although similar to Whiteread's 'House' in that the transformation and definition of an undefinable area is the intent of the architecture, St. Benedicts differs from Whiteread's because we do not perceive this inverse reaction of interior and form. At Prambanan, we declare pessimistically that the interior cubic volume contains nothing capable of being sensed, but optimistically we conceive the notion of a spiritual geometric volume through definition between surface and void. While not intrinsic to empirical appearances space is nevertheless dependent upon them. It, like geometry, requires objects to inform it; yet, its existence carries no characteristics of that self-same object. In the Garbhagriha at Prambanan there is nothing inherent to the stone walls that makes them square. Furthermore, there is nothing about the interior volume that is intrinsically cubic. Geometric experience is meta-phenomenological.

Geometry like space exhibits certain similar truths. We cannot determine geometry without the prior experience of space itself; however, space is enigmatically framed by geometry. They physically reside between the subject and object, like Plato's *Chora*, and also reside mentally between sensation and thought. Geometry insists on this requisite coalescence of subject and object, superseding sensory or aesthetic experience, to describe a larger system of exchange that is not purely humanist. Similar to Western philosophical notions, from Plato to Derrida, there is a universal appreciation for the reverberation of the unrepresentable: the unattainable. Paralleled between East and West, spatial experience harbored in geometry transcends race, culture, or epoch.

ENDNOTES

[1]In Warped Space, Anthony Vidler (2002) states: "Architecture schools from the late 1930's on have employed similar methods to teach 'space' - the art of the impalpable - by means of palpable models" (p. 145), thus invoking that space exists but cannot be sensibly experienced.

[2]In the Critique of Pure Reason Immanuel Kant describes this as *Metaphysica Naturalis*: "For human reason, without being moved by the mere vanity of knowing it all, inexorably pushes on, driven by its own need to such questions that cannot be answered by any experiential use of reason and of principles borrowed from such a use; and this a certain sort of metaphysics has actually been present in all human beings as soon as reason has extended itself to speculation in them, and it will also always remain there. And now about this too the question is: How is metaphysics as a natural predisposition possible? i.e., how do the questions that pure reason raises, and which it is driven by its own need to answer as well as it can, arise from the nature of universal human reason?" (Kant, 2009, B21)

[3]In his letter to Marcus Herz in 1772, Immanuel Kant asks, 'on what grounds rests the reference of what in us is called representation to the object?' (Kant, 2001, 130; p. 117) This question, perhaps the most liminal of his writings, drove Kant to his decade-long inquiry resulting in the first Critique. Kant uses space, as a means of encounter between the form and matter of appearances, for the backbone of his argument about space. Transcendentally posited under a 'Copernican revolution', space provides the framework for objects of our outer sense to conform to the requirements of our power to know. In other words, rather than merely receive impressions from objects outside of ourselves - like an animal - Kant proposes that objects actually conform to our ability to understand them.

[4]Prevalent in architecture throughout the Javanese civilization is an emphasis on ornate stacking of stones. At Prambanan, however, there is an increased emphasis on the interior space within the temple. Furthermore, the repetition of 224 smaller temples arranged in 4 concentric square rows have a deeper symbolic meaning.

[5]When talking of working drawings, Zumthor emphasizes these self-same hidden qualities of architecture, when he says, '[working drawings] reveal something of the secret inner tension that the finished architectural body is reluctant to divulge: the art of joining, hidden geometry, the friction of materials, the inner forces of bearing and holding, the human work that is inherent in man-made things.' (TA 18-19)

[6]In algebraic geometry, a lemniscate may refer to any of several figure-eight or infinity-shaped curves.

[7]Unlike Metaphysics, meta-phenomenology still requires an object. As such it is not beyond-physical, but rather beyond the sensible. Through perception we can only know characteristics of objects (color, taste, odor, etc) - not qualities inherent to the objects, or framed by them.

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A BUILDING BLOCK APPROACH FOR ASSEMBLING INTERACTIVE MEDIA ARCHITECTURAL INSTALLATIONS

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ABSTRACT

Building architectural installation is at the present trend in the art and interior architecture design field, with the value of such installations branching from mere aesthetics to the realm of interactivity. This paper presents a design framework for building an interactive media architectural installation in five steps: conception, simulation, prototyping, implementation, and installation. A project named Light Dam is shown as an example to demonstrate the feasibility of such a framework. A few possible applications have been envisioned and their relation to interior architecture design methods is also discussed.

Keywords: media architecture, interactive architecture, interaction design, media façade, lighting design

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BACKGROUND

Building architectural installation is at the present trend in the art and interior architecture design field. Moreover, with the coming of Information Age, the value of such installations has extended from mere aesthetics to the realm of interactivity. In other words, architecture has become an inhabitable media interface (Jeffrey and Muriel, 2008) that communicates information and responds to its surroundings (Haeusler, 2009; Bert, 2012) thanks to physical computing technologies (Dan and Tom, 2004). Architecture nowadays no longer functions just as a 'machine for living' as stated by Le Corbusier, but as an interface to communicate information and emotions; walls, floors, and facades can now be transformed into interactive artefacts by integrating sensors and actuators that work to give architecture a thoroughly dynamic appearance and range of emotions.

This strand of design research, generally known as 'interactive architecture' (Bullivant, 2005) or 'media architecture' (Schoch, 2007), has been carried out in practice by several noted architects and artists for years, including Peter Cook and Colin Fournier (the Kunsthaus Graz BIX media facade), Daan Roosegaarde, Thomas Schielke, as well as Michael Fox– all known for embedding media technology and interactivity into architectural designs.

However, with the flourishing developments in interactive media architecture, corresponding new architectural compositions and designs also need to be explored further.

EXPLORATIONS

How can we develop a flexible interactive media architectural system that has the ability to assemble a variety of architectural forms to fit different site conditions? How can physical computing technology better facilitate designers with building blocks as they search to implement media architectural installations in various forms?

This paper is a report of our exploration and use of an iLight building block model in the composition of an interactive media architectural installation by the name of Light Dam. In following section, we will review relevant works in media architecture, interaction design, and new media art. Afterwards, the iLight building block model will be elaborated in further detail, followed by a description of the Light Dam project as an application example. The results of the project will be unveiled and possible applications and future directions will be suggested.

RELATED WORKS

Works related to our project were drawn from the fields of media architecture, interaction design, and new media art. They included BIX Kunsthaus Graz done by Peter Cook and Colin Fournier in 2003, and the many architectural and art installations done by Daan Roosegaarde, Daniel Rozin, Lumiblade, Michael Theodore, Michael Fox, United Visual Artists (UVA) and ART+COM.

However, many of above works are tailor-made design/art pieces of a fixed form and, thus, offer very little flexibility if one hopes to reconfigure them for different media representational purposes. Their fixed form also means that system maintenance can be particularly difficult.

With the above drawbacks in mind, instead of tailor-making a design piece, our project proposed using a modular building block model similar to the work Six-Forty by Four-Eighty (Marcelo et al, 2011), Media Block Chair (TeamLab, 2012), and Tangible Pixels (Wen et al, 2012). The advantages of the building block model are that designers have more flexibility when it comes to the construction of different architectural forms (Figure 1).

The building block approach offers the following features: First, it can be built into an architecture of any scale (the number of building blocks used can be increased or decreased.) Second, with reasonable structural mechanics present, it can be built into an architecture of any form or shape. Third, the constructed architectural form is modifiable within a reasonable range. Fourth, within a limited scope, the building block can be moved and/or modified by the public themselves. Lastly, its unified, block-like shape lends itself to mass production and application.

The features mentioned above were intriguing enough that we decided to design a modular brick system for the assembly of an interactive media architectural installation. Compared with similar works (e.g. Marcelo et al, 2011; TeamLab 2012; Wen et al, 2012), which focus on human-block and block-block interactions, we aimed to design an interactive media architectural installation that embodied building block features in their totality.

THE I-LIGHT BUILDING BLOCK

By reviewing relevant architectural design projects and technologies, we were inspired to develop a system that embraced both flexibility and reconfigurability. We envisioned each building block as being individually responsive and displaying its own input and output behaviours. Such modular building blocks could then be arranged and composed collectively to form a larger interactive surface.

In our building block design, which we named iLight, LED lights, which display information and offer interactivity, are the output behaviour, while infra-red sensors are the input mechanism. Put together, the iLight unit acts as a standalone interactive lamp that responds when a human hand approaches its sensor.

Figure 1. Architectural forms with flexibility.
Source: (From left to right) Six-Forty by Four-Eighty, Tangible Pixels, and Media Block Chair

Each iLight unit is 40 x 40 x 40 (cm) large and made of inflatable polyurethane with a matte surface. Not only are such materials naturally inviting, the matte texture combined with the lighting effects creates an aesthetically appealing atmosphere.

In the middle of each iLight is an acrylic tube that passes through the entirely of the unit. The importance of the tube is that it acts as a sensor when a hand is put into it. A white LED light strip and infrared sensor are attached to the tube. The light strip and the sensor are then connected to an Arduino-based microcontroller that we designed for controlling input/output behaviours of each iLight. The circuit board on the microcontroller can control up to 8 actuators and can receive analog signals from up to 8 sensors that will trigger actuation of the effects (in this case the flickering of the light).

Each iLight is connected to a main controller to enable the iLight units to perform pre-programmed animated lighting effects as a whole, while allowing the public to also interact with each iLight unit individually.

THE LIGHT DAM PROJECT

To demonstrate the feasibility and applicability of the iLight building block system, we used iLight building blocks to construct Light Dam—a temporary interactive media architectural installation composed of 114 iLight units. The design and development of the project Light Dam is elaborated below.

Concept

Marina Bay in Singapore was chosen as the site to implement our iLight concept and the Light Dam project. As the location is by the sea, we were inspired to build the Light Dam and make use of its animated lighting effects as a poetic response to the sound of the waves. The Light Dam was assembled with 114 iLights to form a "fluid wall" with light waves fading in and out in a breath-like rhythm (Figure 2 right). We hoped that passersby around Marina Bay would see the installation and then approach to further interact with it.

Interactive Design

The installation can also be seen as an exploration between physical interaction design, lighting architecture, and human behaviour. In its normal state, shimmering lighting effects flow down the installation like a waterfall. However, passersby are invited to place their hands inside an individual iLight

to "block the falling water"; doing so will transform the shimmering of the lights into blinking, and the light of the rest of the iLight units above the same column fade away. The iLight will then resume its initial random effects when people move their hands away from it.

Figure 2. (Left) Light Dam 3D sketch and (right) installation displaying animated lighting effects.

DESIGN PROCESS

The design process of the Light Dam project can be summarized in the following steps: conception, simulation, prototyping, implementation, and installation.

Conception

First, a brainstorming session was carried out to come up with several different design alternatives of a lighting media architectural installation. Images of various design works were refereed to during discussion and paper sketches were used to help visualize the concepts. Scenario making and storyboard techniques are also used to depict the interactive behaviour of the installation design. A lighting designer, an interaction designer, and a computer programmer were also present in this phase.

Simulation

After the design was chosen, a detailed design drawing was produced and the software SketchUp used to simulate the final installation form in 3D (Figure 2 left). 19 Columns, each composed of 5 iLight units with preset animated lighting effects, are also simulated in Adobe Flash to check the visual effects for the installation.

Prototyping

After iterating the design and the animated effects, an iLight unit is prototyped to confirm the feasibility of its size, structure, materials, and design. A column made up of 5 iLight units is also built to test the experience on a human-scale, and the interactive function is fully tested with electronic circuits (Figure 3).

Implementation

After testing a prototype of a column, 19 iLight columns are built following the same method. Back-end supporting technologies include an iron-made base with standing bars to which the iLight columns will be fixed to and a hardware system to control the interactional and lighting effects.

Installation

When it came time for the installation, first, the iron base was placed in the designated location near Marina Bay, Singapore. (Figure 4 left). Next, iron bars were installed on the iron base as the supporting structure for the iLights. Third, iLight columns were placed on the ground (Figure 4 middle) and each

iLight unit in the same column interconnected with cable ties. Fourth, because the fully inflated iLight are oversized, iLight units were deflated by 1/3. Fifth, iLight columns were placed between the iron bars and their wires plugged into the circuit boards inside the iron base (Figure 4 right). Finally, all the iLight units were aerated, enabling them to be fixed between the iron bars.

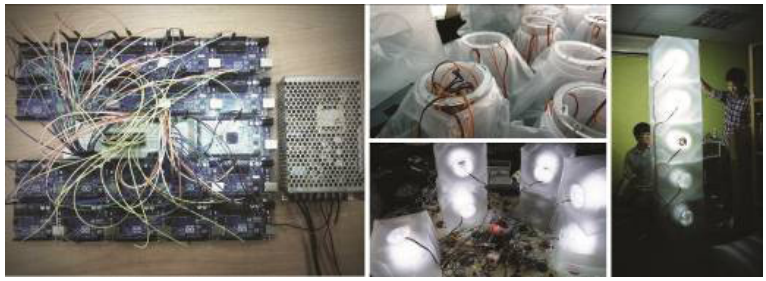

Figure 3. Prototyping phase of the design process.

Figure 4. (Left) Installation of iron base; (middle) iLight columns on the ground; (right) Connecting the circuit boards inside the iron base.

The installation was temporarily exhibited at Marina Bay, Singapore, before being showcased at Huashan Creative Park in Taipei and MOCA (Museum of Contemporary Art) in Shanghai.

RESULTS AND DISCUSSIONS

During the exhibition period in Marina Bay, Singapore, from our informal field observations, we found that both children and adults were attracted to the installation—often approaching to touch the inflated, matted iLight units, or taking photographs in front of the installation. People were seen talking, staring, smiling, or take photographs at either end of the tube that ran through each iLight unit. All in all, it could be said that the project was a success; not only as a media installation, but also as a social interface that fostered both implicit and direct person-to-person interactions (Figure 5).

The process of building the Light Dam went through 5 phases—similar to the steps one would find in a traditional interior architecture design process: conception, simulation, prototyping, implementation, and installation. The differences in each phase are elaborated below.

During the conception phase, when talking about traditional interior architecture design, it's enough to produce plan, elevation, and section drawings. However, in interactive media architecture design, scenario building or storyboards are also needed at this stage to illustrate the interactive behaviour of the architecture and its effects.

During the simulation phase, 3D software is widely used as a tool to test and confirm the feasibility

of new ideas in the realm of interior architecture design. However, interactive media architecture simulation requires timeline-based media or animating tools to visualize the dynamic outcome with which the designed project will interact.

Figure 5. Interactions with the Light Dam.

In the prototyping phase, traditional interior architecture uses physical models to further validate the ideas in play. However, interactive media architecture requires the integration of sensors and actuators to test the interactive functions of the design. Oftentimes, interactive prototypes are iterated and revised several times in order to achieve a version that is closest to the final design.

In the implementation phase, traditional interior architecture builds on a 1:1 scale according to the finalized plan, elevation, and section drawings. However, when implementing interactive media architecture, implementation also includes sensors and actuators and their integration within the installation structure.

During the installation phase, both traditional interior architecture and interactive media architecture share similar processes. Parts are brought on-site for assembly. Minor changes to design may occur depending on on-site constraints and limitations.

Possible Applications

As we have seen, the Light Dam has been successful in playing the role of a social catalyst, i.e. inviting the public to interact with it and with one another. We were encouraged by the visitor's responses and their interactions with the Light Dam. Based on our experience, we envision the system could be further developed for the following applications.

As a communicative media

The Light Dam can be used to display text or images, thus communicating information or atmospheric senses. It can be applied outside as a media façade, or inside as an information landscape. It can be designed in different forms in accordance with site conditions, brand images, or aesthetic goals. The system can also be integrated with client-server communication frameworks to serve as a billboard where the public can edit and share messages using personal handheld devices.

As an ambient awareness partition

The system can be designed as an interior partition system, with people to either side of the partition sharing an awareness of the other as proximity sensors embedded in the iLight lead to changes in light effects when someone draws near. Such a system is suitable for the workplace as it offers a discreet, ambient awareness of others.

As an information shelf

The system can be designed as a shelf where physical objects (magazines, books, or other items) can be placed inside each iLight. The light effects indicate where object are located and makes it easier for them to be retrieved. Such a system can also be integrated into, for example, a retail space or showroom to showcase items for sale.

As a playful landscape

The Light Dam project was also a space where the public was able to relax and play. People of all ages were drawn to the installation to explore its interactive options—either interacting with individual iLight cubes, or the installation as a whole. The interactive atmosphere offered a space where the public could play, or simply rest their minds.

Limitations

The Light Dam, as a whole, demonstrated the feasibility of the iLight framework, however, such a building block system does have some potential issues in an architectural design context. First, during implementation, one needs to consider structural mechanics when assembling iLights that will cover a large area. In our case, we used an iron-made base and bars as fixtures, however, this choice should be carefully considered in the simulation phase when choosing to assemble different architectural forms. Secondly, the material we chose for the iLight units was inflatable polyurethane that is too light and soft for architecture design. As a result, we needed to design a supporting structure and installation process in response. Nevertheless, soft and light material, like inflatable polyurethane, is suitable for light architecture, display architecture, or architectural installations. Overall, one can say that the material characteristics of the iLight not only play a major role in determining assembly methods, but also put certain constraints on structural flexibility.

Future Directions

As a real building block for design

Based on the initial building block concept, we believe that the iLight system, when fully implemented, can offer designers an alternative method for building architectural forms. By stacking and arranging iLight units in different ways, designers can observe architectural forms directly and possibly reconfigure

them on site. Doing so merges the prototyping and implementation phases, making the construction process more intuitive and direct. Furthermore, this method offers a possible return of craftsmanship in building media architectural prototypes, as well as increased popularization and lowered thresholds for media architecture design.

The interactive building block system can be used to assemble different interactive spaces through the use of various layouts such as stacking or hanging. It also gives designers a channel through which they can explore novel interactive architectural forms. As well, while the Light Dam offers only one interactive application, by replacing the actuators in the iLight units with mechanical or kinetic components, one can achieve a wide range dynamic architectonics or architectural expressions.

As a new type of furniture

The dimensions of an iLight unit can be managed and handled on a human scale. By itself, the iLight unit can be used a standalone lamp or a piece of household furniture, although, as we have seen, it can also be assembled to form a larger interactive ambience or media wall. The boundaries between furniture and architecture are thus blurred. By combining different interactive behaviours, the relationship between people, furniture, and architectural space is thus seen in a different light.

CONCLUSION

We propose an interactive building block approach for designers when assembling interactive architectural installations. An interactive architectural installation composed of iLights can be easily assembled, moved, or adjusted to fit different environmental constraints. Although only one design application of the iLight system has been shown here, replacing the actuators in iLight units with mechanical or kinetic components, one can realize many more applications. We believe that introducing this type of architectural framework into interior architecture design will go a long way to establishing new interactive design concepts and compatibilities.

The approach we propose is an alternative method to building reconfigurable architectural installations. We argue that more experimentation should be attempted in order to find better ways to lower the threshold for media architecture design and the integration of media interactivity into the traditional architectural design process.

The next step for this project will be to refine the system framework—thus making it even more compact, easier, and practical for designers with no or little programming skills to build media architectural prototypes—and to conduct usability evaluations based on the revised system.

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MODULATING INTERIORITY AND EXTERIORITY IN ARCHITECTURE

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ABSTRACT

According to French philosopher Maurice Merleau-Ponty, the dualistic aspects of perception are experienced as interiority or the inner psychological life and exteriority or the material world. The internal experiences perception or subjectivity, whereas the external experiences the perceiving of objects or objectivity. The difference between interior architecture is a perception of space in contrast with exterior architecture, as the perceiving of an object along the horizon. A method of comparative analysis between Henri Bergson's treatise on perception and image alongside Maurice Merleau-Ponty's phenomenology of perception forms the basis for modulating interiority and exteriority in architecture. The purpose is to contribute to knowledge-based research on interiority and exteriority in the fields of philosophy and architecture. In conclusion, the key findings regarding convergence and connectivity between interiority and exteriority concern the flow of space and the in-betweenness related to inner spatial perception and external objects. An object in architecture has an inner horizon which, in spatial and temporal terms, connects objects with each other along an external horizon. The object-horizon mechanism creates a perspectival space so the subject observes an object from a particular vantage point. Thus, the spectator 'inhabits' the space.

Key Words: Architecture, Interiority, Exteriority

INTRODUCTION

> "*Thus, while the living body became an exterior without interior, subjectivity became an interior without an exterior, an impartial spectator.*" (Merleau-Ponty, M., 1945, pp. 64-65).

The purpose of this essay is to examine the philosophical aspects of interiority and exteriority in relation to interior and exterior architecture. The architectural design process involves subjective recognition of interiority and our perception of buildings as objects set in a cognitive landscape. Our imagination in creating art and architecture results in the manifestation of representations, drawings and models.

Firstly, the sequence of the essay discusses interiority and exteriority in the context of Henri Bergson's theory of perception and Merleau-Ponty's phenomenology of perception. Secondly, space and

perception are defined within Merleau-Ponty's ontology concerning an analysis of surrealist and metaphysical paintings by Giorgio de Chirico. Thirdly, Merleau-Ponty interrogates the correspondence between sensation and stimulus or the *constancy hypothesis* in Gestalt psychology. "Sky and Water 1" (M. C. Escher, 1938) illustrates the dual reading of figure-ground perception in positive and negative space. In the fourth section about modulating architecture, interiority and exteriority are discussed to link philosophical structures of object-horizon, point-horizon and figure-background with the creation of a virtual reality of exterior and interior architecture. The concepts of interiority, in-betweenness, and exteriority are investigated in the two case studies: The Middle East Project (Sou Fujimoto, 2013) and the Islamic Centre, Mosque, and Museum for Religious Harmony, Tirana, Albania (Bjarke Ingels, BIG, 2011). The two case studies are exemplary of globalization in the developing world with multi-national projects. Japanese architect Sou Fujimoto designed the Middle East Project, a commercial building. Bjarke Ingels, a Danish architect was responsible for the design of the Islamic Centre, Mosque, and Museum for Religious Harmony. The essay investigates the convergence of ideas of French philosophers Henri Bergson and Maurice Merleau-Ponty in connection with hyper-modern architecture of the twenty-first century. The conclusion focuses on key findings of convergence and connectivity between interiority and exteriority in relation to philosophical perception and the creation of interior and exterior architecture.

INTERIORITY & EXTERIORITY

As an introduction to the human experience of perception, Henri Bergson in *Matter and Memory* (1895) describes the realist perception of the universe as being where images arrange themselves on different planes. On the other hand, Bergson states that the idealist defines the system of images in relation to his body. For both realists and idealists, Bergson contends that, "Perception is pure knowledge in that to perceive means above all to know." (Bergson, H., 1896, p. 9) The interiority of perception is expressed in terms of spatial measurement, whereas time falls within the experience of exteriority as a manifestation of physical movement. According to Bergson, conscious perception is based on memories or 'signs', which recall former images. The oeuvre of immediate perception occurs within a single moment, say that of recognition of an object in space. A plurality of moments results as a series of external recollections or memories, which place an object within physical space in relation to movement across time. Bergson regards pure perception as a 'contraction of the real' world so that the vision or the physical reality of matter is an instantaneous experience.

Therefore, Bergson posits that conscious perception is an aggregate of images which define the material world. A virtual reality occurs between the presence of matter and the conscious perception of matter so that the object or the building is dematerialized or detached from its surroundings in space and transformed into a kind of picture or representation. The image therefore becomes a 'luminous object' expressed as a two-dimensional representation of reality. In developing this argument, which in parallel accords with the perceptual experience of architecture in space, Bergson notes that, "Every image is within certain images and without others; but of the aggregate of images we cannot say that it is within us or without us, since interiority and exteriority are only relations among images." (Bergson, H., 1895, p. 8).

In parallel with Bergson's thoughts, Maurice Merleau-Ponty in the *Phenomenology of Perception* (1945) states that perception is experienced between the dualistic constraints of interiority as the inner and psychological life and exteriority as the external material world. The internal experience is one of perception intellectually augmented by judgment and aided by the faculties of the senses, whereas the external experience involves the perceiving of objects as sensations, thus introducing yet another dualism or an opposition between subjectivity and objectivity. In a temporal sense, the object set within nature is translucent in that its interiority is perceived as part of the spatial continuum within a duration or

moment in time, which signifies its exteriority. The horizon connects the present with the past and the present with the future. The present, as a temporary intermediary, becomes 'the future of the past'. The multiplicity of relationships between the interior and the exterior in the spatial and temporal experience creates a reciprocal transformation that involves moving from an ambiguous, indeterminate perceptual world to a universal determinate world. The convergence between the two spheres of subjective and objective worlds results in the phenomenology of perception.

A difference occurs in the perceived world between the perception of interior architecture as space and exterior architecture as an object, such as a building. Instead of a dialectical opposition, the continuity between interiority and exteriority relates to the flow of space or to 'in-betweenness.' Dorothea Olkowski in *Merleau-Ponty, Interiority and Exteriority, Psychic Life and the World* (1999), observes that, "In short, from the exteriority of matter, to the in-betweenness of life, to the interiority of the mind, a continuum exists such that interior and exterior can no longer be separated into unique spheres." (Olkowski, D. et al., 1999, p. 5). The continuity of interiority and exteriority is a dynamic relationship between interior and exterior perception. To express this condition, an object such as a building has an inner horizon, which in spatial terms connects objects in space with each other on the outer horizon. Furthermore, Merleau-Ponty elucidates the situation as, "More precisely, the inner horizon of an object cannot become an object without the surrounding objects becoming a horizon, and so vision is an act with two facets." (Merleau-Ponty, 1945, p. 78). To map the relationship between a building and a particular landscape, the object-horizon mechanism creates an experience of visual perspective so that the subject, namely the person, observes the object, specifically the building in the landscape and in the process, according to Merleau-Ponty's terminology, the subject 'inhabits' the object. The act of inhabiting an object likens philosophy to architecture whose purpose is to realize habitable places.

Therefore, subjectivity is transformed into objectivity as an idea of the body within the world. Within Merleau-Ponty's phenomenal field as a subjective reality, the recovery of perceptual experience occurs as an abstract dialectic between the inner and the outer. The phenomenal field in psychology is the subjective reality in which awareness encompasses objects, people, behaviour, thoughts, and images. (Syngg, D., Combe A., 1949). Although Merleau-Ponty and Bergson pose similar arguments about perception, their thoughts often differ. For example, Merleau-Ponty states, "This phenomenal field is not an 'inner world', the phenomenon is not a 'state of consciousness' or a 'mental fact', and the experience of phenomena is not an act of introspection or an intuition in Bergson's sense." (Merleau-Ponty, 1945, p.66). The phenomenal field embraces direct experience in the perceived world.

In this context of the empirical-intellectual dialectic, the subjective experience of the perceptual world has to become more and more rational for the objective world to become more determinate. According to Merleau-Ponty, "Thus while the living body became an exterior without an interior, subjectivity became an interior without an exterior, an impartial spectator." (Merleau-Ponty, M., 1945, p. 64-65). Here the emphasis is placed on experience rather than two separate spheres of the subjective world and the objective world. To describe the experience of perceiving and moving from interior architecture to exterior architecture, the process involves movement from an ambiguous, indeterminate perceptual world to a determinate, sensual world.

Relative to conceptual architectural design, the representation of images resulting in the two-dimensional projection and phenomenological perception of an architectural idea is apparent in Sou Fujimoto's Middle Eastern Project (2013) where the experience of interiority and exteriority is expressed as a virtual reality with the repetition of the Islamic arch and the Cartesian grid to form the skin of the building and to choreograph the continuous flow of exterior and interior spaces. The idea of in-betweenness defines the architectural quality of determinate space for the Islamic Centre, Mosque, and Museum for Religious Harmony, Tirana, Albania (Bjarke Ingels, BIG, 2011) as an architectural polemic

on the convergence of space and form. Before launching on a discussion of interior and exteriority in relation to the architectural case studies, a further understanding of space and perception is explored through Giorgio de Chirico's surrealist paintings.

SPACE & PERCEPTION

Merleau-Ponty defines physical space as being geometrical, dimensional, and homogenous in the sense of being orientated. Giorgio de Chirico's painting, *The Nostalgia of the Infinite* (1913), is an abstraction of spatial perception with two human figures placed in-between a tower and an arcaded pavilion. (Figure 1). The painting signifies infinite space and memory of a place. Merleau-Ponty understands the idea of depth involves movement as an interval between a body and an object in a visual field. Just as the Cartesian grid portrays a natural geometry, the signification of perspectival space reinforces the perception of distance and convergence that offers an illusion of depth. The De Chirico painting offers both a perception of interiority and a limitless exteriority on the horizon line between the two buildings in space. An arched pavilion in the foreground and a tower in the background frame the visual field to accentuate the flow of space that compels the eye to move towards the two figures. Hagi Kenaan identifies the two figures as being reminiscent of De Chirico and his dying father, set in an urban landscape, and yet connected by threads to a completely private world, possibly to the painter himself. (Kenaan, H. 2006, p. 17). Along the lines of Merleau-Ponty's rationale, the alleged distance relates to the apparent size and number of objects and the intervals in-between the object and the spectator. A degree of adjustment in perception and convergence of both thought and retinal images needs to occur before the arcaded pavilion and the tower are constituted as objects and an implicit memory of moving in-between objects is realized at a perceptual level. The ambiguity and scale of the arcaded pavilion in the foreground could be read as the base of a second tower. The exteriority is related to the perception of distance between the two objects. The shadows cast in the foreground imply an interval of time. The unfurled flags on the tower energize the painting with an imagined sound of the wind howling between the two structures, past the figures in space. A dualism occurs between interiority, as the inner or the psychological life infused with memory and exteriority as the external or the material world.

To avoid a static one-point interior perspective, De Chirico's *Metaphysical Interior with Biscuits* (1916) (Figure 2) portrays a cluttered studio space filled with memories of biscuits, easels, and arcaded images with multiple perspective points. Thus De Chirico's painting implies the incongruity between interior and exterior space as a surreal interior assemblage of memories and objects. The biscuits allude to a bland human facial expression, perhaps as an oblique reference to dispassionate subjectivity and human perception.

INTERROGATING PERCEPTION

In terms of interrogating perception, the classic Gestalt example of a two-dimensional figure-background is "*Rubin's Vase*" (1915) where a vase is perceived either as a black object on a white background or the profile of two confronted white faces with a black background. Another example of figure-ground perception is M.C. Escher's woodcut, "*Sky and Water 1*" (1938) where the fish and bird images invert along the horizon. The birds are the figures in the sky that become the background in the water and vice versa for the fish as the figures in the water and the background in the sky. (Figure 3). Merleau-Ponty states that this experience of perceiving a figure on a background is at the heart of understanding the phenomenon of perception. "It is the very definition of the phenomenon of perception, that without which a phenomenon cannot be said to be perception at all." (Merleau-Ponty, 1945, p.4.)

Figure 1. (Left) Giorgio de Chirico. *The Nostalgia of the Infinite,* (1913). Source: http://en.wikipedia.org/wiki/The_Nostalgia_of_the_Infinite
Figure 2. (Right) Giorgio de Chirico. *Metaphysical Interior with Biscuits*, (1916). Source: http://www4.ncsu.edu/~tjarmst3/gallery/architecture2.html

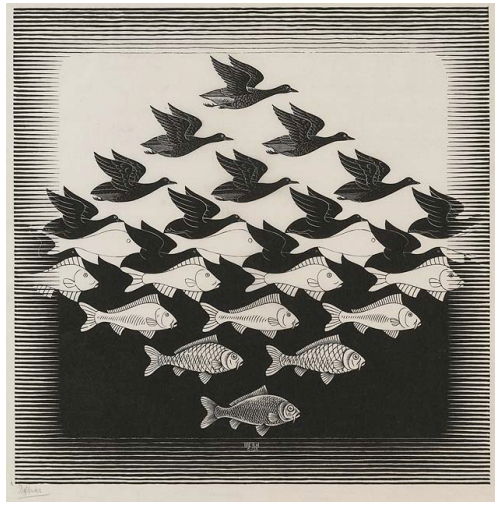


Figure 3. M.C. Escher. "Sky and Water 1" (1938) inverts birds and fish. http://www.gallery.ca/en/see/collections/artwork.php?mkey=37058

In relation to the strict correlation between stimulus and sensation in comparing what we see and how we perceive it, Taylor Carman notes that, "Merleau-Ponty inherits from the Gestalt School a critique of the *constancy hypothesis*, the assumption of the one to one correspondence between sensory and perceptual content." (Carman, T., 2008, p.28). Merleau-Ponty discusses an exception to the *constancy hypothesis* with the Müller-Lyer illusion of two parallel lines which are exactly the same length, but these differ in the direction of the arrow. (Franz Carl Müller-Lyer, 1889). The counterexample between stimulus and sensation means that some people perceive a difference in that the top line may appear to be longer than the bottom line, when they are in fact the same length. Hubert L. Dreyfus in his lecture on Merleau-Ponty observes that in accord with what the Gestaltists say, there is no important correlation between the stimulus hitting the sense organs and what we see. Dreyfus says, in so many words, that if the *constancy hypothesis* is wrong, then we just have to describe the way the world looks to understand what we see, so the phenomenal field becomes the recovery of direct experience. (Dreyfus, H., 2005,

Lecture 7, minutes 2-4). Both Carman and Dreyfus agree that Merleau-Ponty continues the critique of the *constancy hypothesis* by framing the argument between *empiricism*, which suggests that perception is based on an accumulation of sensations, and *intellectualism*, which requires that judgement is fundamental to perception. Taylor Carman observes that what we experience in perception is a stable, coherent world, irrespective of *empiricism* or *intellectualism*. The analysis of spatial experience links the dialectic of *empiricism* with *intellectualism* in philosophy and the sense of perception with interiority and exteriority duality in art and architecture.

MODULATING ARCHITECTURE

Modulating architecture considers how philosophical principles of interiority and exteriority are applicable to the perception of interior and exterior architecture. However, as Dorothy Olkowski points out, in relation to Edward Casey's article on "*The Unconscious Mind and the Prereflective Body*," there exists a philosophical tension with the Cartesian grid. Olkowski notes, "But specifically and additionally, Merleau-Ponty links the prereflective with the body insofar as he is reacting to the French rationalist tradition established by Descartes according to which objects (bodies included) are nothing but opaque matter and minds simply mirror the world." (Olkowski, D. et al., 1999, p. 9). Merleau-Ponty observes that positing a single object in space means bringing together all the aspects of interior and exterior. Furthermore, in line with Bergson, if one experiences the body as an object in the sphere of the objective world, then there are threads connected to the perceiving subject in the sphere of the perceived world. Imaginary lines connect the perspectival space with the modulation of the Cartesian grid as shown in the Middle East Project facade (Fujimoto, 2013). (Figure 4). Moreover, Merleau-Ponty elaborates on the object-horizon structure, since to look at an object is to inhabit it. (Figure 5). The act of inhabiting is essentially the creation of an architectural world set in a landscape that is an array of external things or buildings that have representations in the virtual world. This is a state of inhabiting which is conducive to being in the world. To further amplify the subject of the body's spatiality in the perception of space, Merleau-Ponty contends that it is inadequate to say that the body is merely an opaque form. "As far as spatiality is concerned, and this alone interests us at the moment, one's own body is the third term, always tacitly understood in the figure-background structure, and every figure stands out against the double horizon of external and bodily space." (Merleau-Ponty, 1945, p. 115). Gestalt theory, which is based on form and involves the perception of objects on a background, is also applicable to buildings as objects set in a landscape. Merleau-Ponty stresses the notion of figure and background to indicate that the objective space is not just about the figure-background structure or even the body or the spectator in the point-horizon structure. To understand orientated space, the body is connected with orientation and objective spatiality: top and bottom, right and left. In relation to this sense of orientation buildings are located in the landscape. Convergence occurs on the point-horizon in-between the spectator and the object. Convergence also occurs between the object and the landscape in the object-horizon. In the figure-background structure, convergence occurs between the object as a figure and the background of the sky.

As the foundation for Merleau-Ponty's logic related to spatial perception and the point-horizon structure, the spatiality of our body is brought into being with movement, which is a measure of how the body inhabits space and time. By modulating interiority and exteriority, intervals of space and time occur in architecture. The bodily space is a fragment of objective space that occurs in space in-between objects. In relation to Elizabeth Grosz's investigation of Merleau-Ponty's conception of body image, Olkowski indicates that, "...the gestalt notion of structure or form, that is, every organism has an overall organization determined by its milieu that continually orders the position and function of its parts." (Olkowski, 1999, p. 15). In the context of a Middle Eastern milieu, Sou Fujimoto's project for the Middle East (2013) expresses an exterior architecture based on a crescendo of stacked arches, connoting an Islamic cultural icon to modulate the scale of the sloped triangular building. The form is modulated by the rhythm and

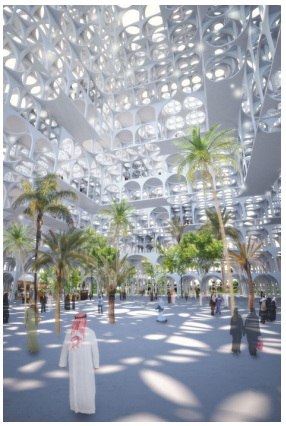
scale of the arches. The building facade adds to the perception of a mirage, of an infinitely ordered figure against a background of the sky. Universal space in the foreground is inhabited by spectators embodied in perspectival space. (Figure 6). Therefore, the building set in the plaza meets the criteria of spatial understanding as described in Merleau-Ponty's perception of object-horizon, point-horizon, and figure-background in relation to perspectival space.

Figure 4. (Above) Perspectival space reinforces the point-horizon structure and the figure-background structure with the azure blue sky.
Figure 5. (Below) The continuity of Interiority and Exteriority portrays the undulating aspect of object-horizon.
The Middle East Project (Sou Fujimoto Architects, 2013)
Source: http://www.archdaily.com/451090/sou-fujimoto-proposes-souk-mirage-master-plan-for-middle-east/

In terms of interiority, the interval of space and the point-horizon structure modulates water and light patterns to accentuate the architectural tension between solid and void, floating and static, as space is perceived by the spectator. The body can also be viewed as a figure against a background of geometric spatiality. (Figures 7 and 8). Light and water serve to modulate the representation of virtual reality, interiority, and exteriority.

The concept of in-betweenness or the demarcation between interior and exterior space is constituted in the Islamic Centre, Mosque, and Museum for Religious Harmony, Tirana, Albania (Bjarke Ingels, BIG, 2011). The profile of an ogee arch slices through the facade to add a cultural illusion related to the flow of space between earth and sky. (Figure 9). The ogee arch extruded in space forms an undulating shape in perspectival space.

Figure 6. A crescendo of stacked Islamic arches constitutes Exteriority.
The Middle East Project, (Sou Fujimoto Architects, 2013).
Source: http://www.archdaily.com/451090/sou-fujimoto-proposes-souk-mirage-master-plan-for-middle-east/



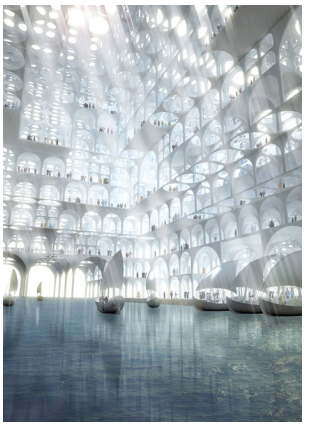


Figure 7. As a sense of Interiority, the spatiality of the body is brought into being by movement through space, both physically and perceptually.
Figure 8. The flow between Interiority and Exteriority is modulated by light and water, floating as a reflective plane.
The Middle East Project, (Sou Fujimoto Architects, 2013).
Source: http://www.archdaily.com/451090/sou-fujimoto-proposes-souk-mirage-master-plan-for-middle-east/

Their configurations are dynamic, symbolizing the convergence and divergence of various religions in the subjective sphere. The interiority of the mosque is connected with the in-betweenness of the circulation space with the exteriority of the building massing. The edge of in-betweenness frames a perforated membrane, allowing the perception of the flow of space and light from interior to exterior.

Perforations in the facade modulate the sequence between day and night with light emanating from the interior, likewise illuminating the facade. The boundary between interior and exterior is porous. (Figure 10). Merleau-Ponty comments on the relationship between cultural objects and memory. "Now, for empiricism, 'cultural' objects and faces owe their distinctive form, their magic power, to transference and projection of memory, so that only by accident has the human world any meaning." (Merleau-Ponty, 1945, p. 27). The deliberate repetition of the Islamic arch in Fujimoto's Middle East Project is an explicit representation, whereas in BIG's Islamic Centre, Mosque and Museum for Religious Harmony

spatial ambiguity occurs by abstracting the arch shape as a boundary between space and form. The typology of the Islamic Centre, Mosque, and Museum for Religious Harmony inspires principles of convergence and multiplicity. Bergson's definition of conscious perception, based on memories or signs, is applicable to the symbolism of the ogee arch as an Islamic cultural expression. This conscious perception is further reinforced by the use of the arch and imagery of an inverted dome of light to illuminate the religious activities. (Figure 11).

Figure 9 The ogee arch frames the fluidity of space and reinforces in-betweenness. Islamic Centre, Mosque, and Museum for Religious Harmony, Tirana, Albania (Bjarke Ingels (BIG), 2011)
Source: http://www.archiscene.net/museum/bjarke-ingels-tirana/

Figure 10. The boundary between interior and exterior is porous.
Source: http://www.archiscene.net/museum/bjarke-ingels-tirana/

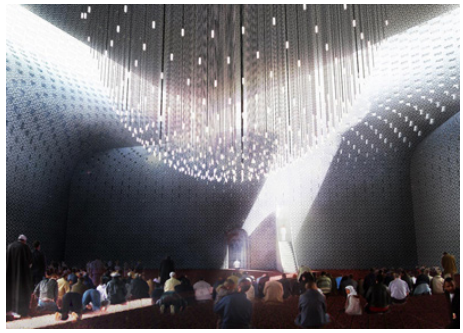


Figure 11. The inverted dome of lights creates an ambiguity between Interiority and Exteriority.
Islamic Centre, Mosque, and Museum for Religious Harmony, Tirana, Albania (Bjarke Ingels (BIG), 2011)
Source: http://www.archiscene.net/museum/bjarke-ingels-tirana/

CONCLUSION

The key findings regarding the philosophical and spatial convergence between interiority and exteriority concern the flow of space and the in-betweenness related to inner spatial perception and external objects. The method of comparing Bergson's and Merleau-Ponty's philosophies about perception results in a dialogue regarding interiority and exteriority in architecture. Two architectural projects, The Middle East Project (Fujimoto, 2013) and the Islamic Centre, Mosque, and Museum for Religious Harmony (Bjarke Ingels, BIG, 2011) signify representations of virtual reality between interiority and exteriority. The importance of these two projects in the developing world underscores an enhanced perceptual awareness of interactive space and form in hyper-modern architectural design.

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