รายงานวิจัยฉบับสมบูรณ์

ON ARCHITECTURAL SURFACE:
THE DIALECTIC BETWEEN
REPRESENTATION AND OPERATION

โดย ดร.ต้นข้าว ปาณินท์

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ABSTRACT

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The research intends to explore the power of architectural surface-façade in both aspects of its interior operation and exterior representation. It focuses on the role of architectural façade-surface to shape and reshape the identities of both architecture and place. How architecture as it appears in direct experience -- be it in its immediacy as a given texture or in its remoteness as an image – gives us references and clues to the work of architecture itself and of larger social, cultural, political and natural framework of its location. This two-way movement towards an inner and outer horizon endows architectural surface with the capacity to generate meaning – or ideology and locates it in the crucial juncture by which it seems capable of transcending its on superficiality in many possible directions.

Does the façade respond to its internal operation (function-production)? Does it also carry the task of representation, conveying the messages inherent in its historical-traditional characteristic (responsive to social, cultural, political aspects)?

Are there other ways of thinking and working with the topic that avoid dichotomy or the subjugation of one concern to the other? The task of disclosure in architecture is not limited to that of representation in the traditional sense of the word. An alternative strategy could involve seeing the building's external façade, surface or cladding as elements that structure both the building's skin and its spatial-temporal operations, which includes both its

interior tasks towards its function and exterior tasks towards the context. Architectural façade cannot be considered as an object independent of human activities. It has a decisive role in laying down the framework for human occupation, both within the body of architecture and within the city.

This inquiry into the depth of its architectural surface (façade-skin-covering-dressing-cladding) touches upon its visible and non-visible manifestations, i.e. upon its practical, material, constructional and representational aspects. Addressing various examples and innovative ways of thinking and building architectural surface in contemporary practice, the subjects include not only the relation between surface, material and production. The theme also suggests the relation between surface and meaning, image, form, space, human occupation as well as location in terms of the dialogue between architectural surface and its surroundings. Thus, this research addresses surface as a basic premises of architecture. The manifold of architectural surface appears not only within the parameter of architectural body but also outside of it. Surfaces of architecture and their surroundings are not two separate things, for they represent the different levels of boundaries in which we dwell.

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ON ARCHITECTURAL SURFACE:

THE DIALECTIC BETWEEN REPRESENTATION AND OPERATION

CHAPTER 1

INTRODUCTION

EXECUTIVE SUMMARY
1.1 RESEARCH GENESIS & PROBLEM STATEMENT

How can architecture overcome the conflict between its interior and exterior obligations and respond to both its functional-technical demands and its representational tasks?

How can architecture be considered as a distinct built construct yet enmeshed in the settings that surround them?

How can architecture take parts in the city's spatial and temporal operations?

These interrelated questions are most apparent and unavoidable in the design of the external surface of buildings. Traditionally, this was the problem of designing a façade. Yet, since the early part of the twentieth century, with new technologies of construction, the nature and definition of the building's appearance became the subject of repeated consideration. The task of designing a façade has become questionable. Even the word façade itself became problematic.

What does architectural façade mean?

How has architectural façade been composed?

How has architectural façade been transformed throughout history?

When and how did architectural façade become a fundamental concept in architectural theory?

Does the façade respond to its internal operation (function-production)? Does it also carry the task of representation, conveying the messages inherent in its historical-traditional characteristic (responsive to social, cultural, political aspects)?

Are there other ways of thinking and working with the topic that avoid dichotomy or the subjugation of one concern to the other? The task of disclosure in architecture is not limited to that of representation in the traditional sense of the word. An alternative strategy could involve seeing the building's external façade, surface or cladding as elements that structure both the building's skin and its spatial-temporal operations, which includes both its interior tasks towards its function and exterior tasks towards the context. Architectural façade cannot be considered as an object independent of human activities. It has a decisive role in laying down the framework for human occupation, both within the body of architecture and within the city.

Problem 1: Concerning the body of architecture: The conflict between operation and representation.

Visually, many contemporary buildings either reflect their systems of production or recollect earlier styles and motifs. This division between production and representation is in some ways an extension of that between modernity and tradition, as well as between global technology and regional characteristics.

This research intends to explore ways in which design can take advantage of both architectural representation and production. The study will begin with the theoretical and practical isolation of the building surface or façade as the subject of architectural design. The properties of the building's surface, whether made of concrete, metal, glass, or other materials, are not merely superficial: they construct the spatial effects by which architecture communicates. Through its surfaces a building declares both its autonomy and its participation in the surroundings.

In tracing the handling of this surface, this research examines both the transformation of the concept of architectural façade throughout the history

of western architectural as well as the cases of traditional Thai architecture, and a case study of contemporary buildings in Bangkok's Rattanakosin Ancient City.

In contemporary architectural practice, production and representation often stand in conflict to each other. For architects, the mass production of building elements has led to an ever-increasing source of materials from which to configure an architectural project. The built project which is the outcome of such configuration often results in the kind of representations that oscillate between visual reflections of the current systems of production and pictorial recollections of the particular past styles and motifs. While the first practice attempts to express aspects of modern production, the second offers images of outdated modes of operation. Both practices are equally problematic. The buildings that yield their appearance to the modern modes of production and assembly process often neglect the aspects of architectural symbolic representation. As for the buildings that harbor its images on historical profiles and nostalgic recollection, they often ignores the opportunities for new configurations based on the availability of both new and old materials and methods of construction.

Speaking of representation is to recognize the problems of architectural appearance. The question of images and appearance is not a new phenomena specific to contemporary architecture. The question of style and appearance had troubled architects since the nineteenth century. Yet the argument concerning architectural appearance in relation to its modes of operation, or the way it works within itself and within a given context, has not given this topic the same degree of attention. There is a greater ambiguity regarding the parameter of such discussion today. Representation cannot be limited to the communicability of the image. Thus, architecture's correlation between its modes of operation and its appearance has to be reconsidered.

Examples of this conflict between operation and representation can be found in the so-called commercial and institutional buildings built during the second half of the twentieth century. In Thailand, architects have not been spared of such conflicts. While the first category can be seen as the *business of the building*, the second can be viewed as *the art of*

architecture. Projects that could have been included in the first category are the buildings for most business and industrial purposes, that of the shops, offices, and modern urban residential buildings. Those of the second category include most institutional and civic projects such as schools, religious buildings, libraries as well as individual dwellings. Moreover, when it comes to the second category, the question concerning the specific character of Thai architecture often emerges.

If we compare the designs in each category, at times, the distinction between architectural "business" and "art" could be alarmingly strong. It is rather obvious that the former conforms and accommodates the logic of the new modes of production, the latter to the aspirations and conventional motifs of representation. While the first kind of work results from industrial solutions and the modern methods and materials used in its construction, the second results from the combination and composition of elements that have been used for long periods of time, and thus should look familiar and appropriate (with historical forms and motifs that can be used for suitable solutions). The first is a matter of building production, "business," the second of architectural representation, "art."

The question, thus, concerns the alternatives to this division between architectural production-operation and representation. This concern is, in many ways, also an extension of that long-debate between modernity and tradition.

Problem 2: Concerning Architecture and the City: The double tasks of Architectural Façade

Being in the city, one is surrounded by multiple layers of architectural surfaces. In the normal run of affairs, these surfaces both serve our interests and sustain them. Our impression of the city is often shaped by its constructed face, which is, in turn, the manifold of frontal façades intended to represent the perfectly inviting aspects of the place. Yet, the opposite is also true. Along with the smart and healthy surfaces, we also notice the extra-ordinary images of the seemingly accidental, sick, dumb, morose, and uninviting surfaces. These are often the surfaces tucked behind, beside, beneath or beyond the immaculate *façades.* They readily become the morbid faces of the no man's land.

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As much as an interior room is enclosed by its walls, the city is also a network of exterior rooms enclosed by the buildings' surfaces. While the areas enclosed by the buildings' frontal facades easily become glorified public spaces, a kind of beautiful display, the in-between spaces surrounded by the dismal surfaces are not merely the by-product or the left-over. They should be seen as a special kind of setting, the different kind of exterior rooms that are bounded not by the building's *facades* but by the surfaces in-between. Within these hidden passages and the unreachable spaces, one discovers the spatial and surface patterns without which the city fabric would be crippled.

While the beautiful and carefully designed façades sustain the interests of the city spectators, the hidden surfaces of the areas in-between serve the interest of those who dwell within the city. Both the glossy and the gloomy surfaces should always be seen as an integral part of the city. Their continuity, differences, moments of transformation and disruption, all represent more than skin-deep details. It is the moments of changes within the city's continuous façades that represent the way the city is being used and occupied. Without the differences between the carefully-maintained frontal façades and the beaten-up surfaces, the city itself becomes inarticulate.

Looking at these surfaces, no matter how spectacular or banal, perhaps it is worth asking: what are their roles within the fabric of the city, how did they come to be? Building within the city, architectural façades inevitably perform double tasks, responding to both its internal demands and external obligation towards the public realm. These tasks are translated onto, and into the external surfaces of the buildings. It is the relationship between the ensembles of architectural surfaces that lend materiality to the city's boundaries. Understanding their tasks, these contrasting surfaces ceased to be only the face but also a part of the multiple boundaries of our environment.

1.2 . RESEARCH OBJECTIVES AND SIGNIFICANCE

This research is a theoretical research which inquires into the specific theme of architectural surface. The cases of traditional Thai architecture

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and the site of Rattanakosin Ancient City serve as a case study to elucidate the inquiry, which aims to explore the meaning and implication of architectural façade and surface, focusing on the conflict of architectural operation (function, production) and representation (social, cultural, political aspects) which inherent in the tasks of architectural façades.

1.2.1. The research intends to explore the power of architectural façade-surface in both aspects of its interior operation and exterior representation. It focuses on the role of architectural façade-surface to shape and reshape the identities of both architecture and place. How architecture as it appears in direct experience – be it in its immediacy as a given texture or in its remoteness as an image – gives us references and clues to the work of architecture itself and of larger social, cultural, political and natural framework of its location. This two-way movement towards an inner and outer horizon endows architectural surface with the capacity to generate meaning – or ideology and locates it in the crucial juncture by which it seems capable of transcending its on superficiality in many possible directions.

1.2.2. Using traditional Thai architecture and Rattanakosin Ancient City as a case study, this inquiry into the depth of architectural surface (façade-skin-covering-dressing-cladding) touches upon its visible and non-visible manifestations, i.e. upon its practical, material, constructional and representational aspects. Addressing various examples and innovative ways of thinking and building architectural surface in contemporary practice, the subjects include not only the relation between surface, material and production. The theme also suggests the relation between surface and meaning, image, form, space, human occupation as well as location in terms of the dialogue between architectural surface and its surroundings. Thus, this research addresses surface as a basic premises of architecture. The manifold of architectural surface appears not only within the parameter of architectural body but also outside of it. Surfaces of architecture and their surroundings are not two separate things, for they represent the different levels of boundaries in which we dwell.

1.2.3. Endowed with historical, social and cultural significance, the architecture of the Rattanakosin Ancient City has inevitably been situated in

the dichotomy of modernity and tradition, as well as the conflict between its interior operation and exterior representation.   This research, while focusing on various aspects architectural façade, will use the Rattanakosin Ancient City as a site for a larger discussion on the functional and representational role of architectural surface and its power to shape and reshape the identities of both architecture and place.

1.3. LITERATURE REVIEW

1.3.1. The history of Thai architecture the Rattanakosin Ancient City

There exist a large number of historical studies, surveys and researches of Thai architecture and the Rattanakosin Ancient City. (see Bilbiography) A number of studies and surveys deal with the history of the Rattanakosin period, which address its social, cultural, political, economic as well as architectural aspects.   Those researches concerning the architectural aspects of the Rattanakosin Ancient City mostly study the transformation and development of its planning, including the past and current problems at the level of urban design.   The detailed studies on the planning development and problems of each area have been conducted by many research teams. Yet the study on the aspect of architectural façade is still lacking. It has often been included briefly as a part of the planning study.

Vimolsiddhi Horayangkura's comprehensive study on the development of architectural concepts and styles has offered an overview of the changes in architectural characteristics in Thailand.[1] It focuses on the transformation of architectural styles from the beginning of the Democracy period (the end of the reign of King Rama VII, 1932 AD to the present).

As a study concerning the architectural concepts and styles, Horayangkura's research does address the issue of architectural appearance. The study has categorized different characteristics of various styles that have dominated the architectural culture of Thailand over the recent past.   This question related to the aspects of architectural appearance and style includes the notion of architectural space, form, as well as surface-façade. The research has established an overall framework for an understanding between the shift in architectural styles and other involving factors. Social, cultural, economic as well as political aspects of Thailand were taken into account. The study has given case studies of both

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public and private architecture, in which the notion of architectural concepts and styles are either collective or uniquely specific.

1.3.2. On the concept of architectural surface

The notion of surface and cladding became a primary architectural concept during the second half of the nineteenth century. It emerged as a fundamental category of architectural theory and practice along with the notion of space. Since then, both concepts of surface and space has shaped and reshaped a new horizon in architectural design. They both became familiar terms in the discourse of modern architecture. There are three major theories that have brought 'surface' to enter the mainstream of architectural theory – the theories of Gottfried Semper, Karl Bötticher and Adolf Loos. (see Bibliography) These theories, while recognized surface as a fundamental concept of architecture, they also implied a sense of architectural autonomy. Architecture was considered as either technical-constructional or representational object. It was not considered as a framework for human activities. In other words, the notion of surface has been addressed in architectural theory as a design concern independent of the inhabitants. Therefore, the basis for this research will be the relationship between architectural surface and activities of inhabitants at both levels of interior dwelling within the perimeter architecture and exterior dwelling within the city.

From the above mentioned theories, architectural 'surface' or 'cladding' is not only a matter of covering the surface of one material with another, but it also implies another level or architectural representation. In other words, architectural surface or cladding carries its meaning, and does have the power to communicate. It conveys not only its own internal technical or constructional aspects, but also the larger social and cultural characteristics of the place and time.

Architectural surface both encloses and finishes. As the whole thickness of architectural enclosure, such as walls, floors and ceilings, defines space, the enclosure itself is also defined by its finishing. Surface, be it for decoration or protection, is an act of ordering and defining the order of architectural enclosure. It is the definition of both space and materials.

At the core of these theories are the belief that materiality and production form a point of intersection where human intellect and will meet with the objective world.   This assessment of the nature of materials and technologies of production became central.   It also involved an understanding of how architecture developed its physical form in earliest human culture.

But while these theories stressed a recognition of material's tangible properties and artistic potentialities, they cautioned against the overvaluation of material properties.   Buildings and other artistic objects did not spring into being solely from the demands of the physical world. Architecture could not be reduced to materialism.   Ingrained with the demands of production and an inclination toward comfort and warmth, were other drives toward symbolism and spiritual expression. The world of ideas emerged in alliance with materiality and needs.[2]   In other words, architecture sprung from both its purposiveness and its purpose.

From these theories, architectural enclosure acquired its architectural value by defining a new spatiality, or inner world, separated and protected from the outer world. Yet, the concept of *architectural surface-cladding* became problematic when it was interpreted only as the covering, paneling, or sheathing of a building in a technical or aesthetic sense.   The art of cladding was at times taken as synonymous with the externalization of architecture, an application of arbitrary decorative surface at will.   The *surface-cladding* concept is not to be interpreted as the literal mask, the externalization of the façade.

There exist different levels at which architectural *surface-cladding* performs. As surface cladding acts as finishing, it also encloses. Apart from the material and technical aspects of cladding, it exerts the empathetic language upon the inhabitant. Surface cladding is that which is responsive to the character and function of the building, hominess on a house, security for a bank, and respect in a secular institution.[3] These effects are produced by both the materials and the form of the space.

The *Surface-Cladding* notion is partly a response to the cultural expectation of frontality that calls for architectural order and definition. The purposes of

cladding are responsive to spatial, material, and technical as well as representational aspects of the building. Architectural surface-cladding is not only a working of the flat surface of the façade, but also a manifold of boundaries and enclosures, which binds architectural ensembles into a unified whole. Architectural surface is a tool to bind all parts and materials together into a new visible order. It also defines the way buildings are used and occupied. Architectural cladding is a response to the natural desire of humans to order, to bind, to shelter and to delimit. In order for space to be considered as a part of either an architectural body or a city, it needs to be bound, ordered and differentiated at the same time that it is integrated as part of a larger field. *Surface-Cladding* is what lends both material and form to space. The spatiality of architecture as well as the city comes into being through this logic of binding and ordering the multiple levels of architectural boundaries which are the surface of our environment.

1.4. RESEARCH METHODOLOGY

Built works can be used to clarify these questions, especially those from the early twentieth century to the present. The concern with the difficulties and opportunities of the external surface of buildings begins with the theoretical and practical isolation of that surface as the subject matter of architectural design. The autonomy of the surface, the free façade, presumes a distinction between the structural and nonstructural elements of the building, between the frame and the surface.

One way of developing this question would be to pursue the reciprocity between the intentions behind an architectural project and the imperatives of construction, and in particular the role of technique. In contemporary architecture, both process and methods of construction play an increasingly important role in the development and realization of many projects. In seems, that the historical position of mass production as one of the dominant factors of architectural progress requires rethinking.

This research is a theoretical research through a specific case study. Thus there exist two primary methods that will run in parallel and in accordance to each other. The first and primary method tackles existing theory and philosophy related to the topic of architectural surface, which the second

method deals with the Rattanakosin Ancient City as a case study. Thus the research is divided into two interrelated parts.

PART I: THEORY

1.4.1. Theoretical Research

While the research will also present physical surveys of the built work, the primary method will be a parallel study of the related architectural theory and philosophy concerning the subject of architectural surface. The primary sources for such theory will be the architectural treatises from the end of the nineteenth century and the beginning of the twentieth century, when surface and cladding became primary architectural concern. Yet, the review of such theory will not be the focus of this research; it will only be used as a universal framework for the discussion. Recent theoretical writings related to the topic will also be studied. The theoretical sources used in this research consist of the works written in German, French, English and Thai. (see bibliography)

PART II: CASE STUDY

1.4.2. Initial Historical Research

The pretext for this research will be an initial and mandatory study of social, cultural political as well as architectural history of the Rattanakosin Ancient City from necessary literatures and research documents.

In Addition to the initial historical study, this research will be conducted on the basis of two main methods.

1.4.3. Architectural Survey Research

In addition to the fundamental theoretical study, the research will also employ the method of architectural survey. It will largely use photographic documentation as a research tool. Graphic documentation of built works will act as an implementation. Interviews with different groups of inhabitants in the Rattanakosin Ancient City will also be conducted.

1.4.4. Integration and Synthesis

As the two parallel methods serve as the basic framework for this research, the final outcome will be a synthesis of the physical survey and the theoretical study. On the one hand, the theories concerning the subject of

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architectural surface will act as a fundamental reference for our understanding of the nature of the Rattanakosin Island's façade.   On the other hand, the specific façade characteristics of the Rattanakosin Ancient City will be used to elucidate the universal concept of architectural surface. On the other hand, the theories concerning the subject of architectural surface will act as a fundamental reference for our understanding of the nature of the Rattanakosin Island's façade.

1.5. RESEARCH SCOPE

1.5.1. Theoretical Research.

The theoretical research will include an in depth study and analysis of theories related to the subject of architectural surface. The primary sources for such theory will be the architectural treatises written towards the end of the nineteenth century and the beginning of the twentieth century, when *surface-cladding* became primary architectural concern.   It will also include contemporary architectural writings, but only those that contain critical study on the topics relating to the theme of architectural surface. Studies that offer merely historical accounts of architectural styles and appearances will not be considered.

1.5.2. Physical Survey of the Case Studies

Physical survey of the case studies will begin with initial research on the history of the Rattanakosin Ancient City will include its social, cultural, political and architectural history from the reign of King Rama 1st to the reign of King Rama 9th (1782 AD to the present). The study of architecture in Rattanakosin Ancient City will focus on the architecture from the beginning of the Democracy period (the end of the reign of King Rama 7th, after the political revolution, from 1932 AD to the present).   In other words, this period of Rattanakosin Ancient City's architectural history coincides with the period in which the concept of architectural surface first entered the mainstream of western architectural theory.

The survey will cover the area of the Rattanakosin Ancient City, both the inner and outer parts. The perimeter of the inner part is encircled by the inner moat, while the outer part of the Rattanakosin Island is marked by Klong Ong-Ang Bang-Lum-Poo. The survey will focus on different aspects of the Rattanakosin Island's façades which is interrelated notion of

architectural skin-covering-dressing-cladding. The survey will include the façade's visible and non-visible manifestations, i.e. upon its practical, material, constructional and representational aspects as well as the roles of architectural façade within the fabric of the city.

1.6. RESEARCH BENEFITS AND OUTPUTS

The subject of this research "*On Architectural Surface: The Dialectic between Representation and Operation/ A Case Study of Rattanakosin Island's Façade*" is twofold – a concept and its meaning, and architectural culture and its preoccupation. The architectural culture is that of Bangkok's Rattanakosin period, where its built work represented the paradoxical nature of architecture and cities in respond to modern society. The concept in question is the concept of architectural surface, which was first explicitly formulated as a fundamental architectural concept during the second half of the nineteenth century.

1.6.1. As a theoretical investigation of the concept of architectural surface, the research will also establish an understanding on the roles and implications of architectural façade towards the city. It will generate a better apprehension on the relationship between two conflicting tasks of architectural surface – the double obligation of architectural surface towards its interior operation (function-production) and its exterior representation (responsive to social, cultural, political aspects). The theoretical ground for an understanding of various factors that determine the appearance of architectural surface-façade must be made. The research will also build a framework for a better understanding of the relationship between architectural surface and activities of inhabitants at both levels of interior dwelling within the perimeter architecture and exterior dwelling within the city.

1.6.2. As an comprehensive study of the Rattanakosin Island's architectural façade, the research will elucidate the transformation of the city's surface over the past two hundred years, with a specific focus on the façades of the building built after the political revolution (from 1932 AD to the present). It will help establish the relationship between social, cultural, political as well as technological demands and the representational obligations of the

buildings' surfaces. Without such understanding, our built work will continue to carry the discordance between the aspects of modernity versus tradition, global technology versus regional characteristic. Through an in-depth study of the built work, the research will build a framework for an understanding of various factors revolving the transformation of architectural surface in Rattanakosin Ancient City.

1.6.3 Outputs

International Conferences and Proceedings

Parts of the research results and findings have been presented at two international conferences related to the topic. Results and commentaries from these presentations are documented for further development of the inquiry.

1. Panin, Tonkao, "The Hidden Face of the City: Architectural Surface and Territorial Transformation," A paper published in Proceedings of Symposium BMB 2005: Identity and Globalization, Design for the City, Bordeaux, 2005.

2. Panin, Tonkao, "Urban Spectators: The Transformation of World Class Cities Through the Eyes of Urban Tourists" A paper published in Proceedings of UPE International Conference: World Class Cities, Kasetsart University, Bangkok, Thailand, January 2007.

Other Publications

Related studies in the filed of architectural theory have also been published as articles:

1. Panin, Tonkao "The Passage of Time: Le Camus de Mezieres and the Times of the Day Traditions," Article published in Na-Jua, Journal of the Faculty of Architecture, Silpakorn University, Bangkok, 2004.

2. Panin, Tonkao, "TEN: The Dialectic Between Communal and Individual Living," Article published in On Site: Design At Work, issue 13, 2005, The Canada Council For the Arts, Makeda Press, Calgary, Canada.

3. Panin, Tonkao, "Once Upon a Time: Le Corbusier's Apartment at 24, rue Nungesser et Coli," Article published in On Site: Design At Work, issue 15, 2006, The Canada Council For the Arts, Makeda Press, Calgary, Canada.

References

[1] Vimolsiddhi Horayangkura, et al, *The Development of Architectural Concepts and Styles: Past Present and Future*, Bangkok: Assoication of Siamese Architects, 1993.

[2] For further details on the subject, see Wolfgang Herrmann, *Gottfried Semper*, pp. 121-123, Mallgrave, *The Four Elements*, pp. 16-41, and Schwarzer, *German Architectural Theory*, pp. 175-179.

[3] Joseph Rykwert, "Architecture is all on the Surface," pp. 28-29.

PART I THEORY

CHAPTER 2

THE TRANSFORMATION OF ARCHITECTURAL FAÇADE

IN THE HISTORY OF WESTERN ARCHITECTURE

2.1 THE MEANING OF FAÇADE

How the building will look is among the fundamental questions architects must deal with when designing a building. This part of the practice simply means composing the buildings' façade. Designing the façade has become such a common part of the practice that architects no longer ask: What do we compose? What does it respond to? Yet at a closer look, this seemingly common practice presents a paradox. Buildings are not flat pictures. How often that buildings are seen straight on they way they are designed? As David Leatherbarrow noted in his influential book *Uncommon Ground*, peculiarities of location as well as the exigencies of building use usually prevent us to experience buildings the way their façade designers do. Nevertheless, the practice persists throughout history simply because buildings are meant to be seen, each building must be designed to have their appearances.[1]

Yet the question worth asking is: Does designing a façade is similar to composing a painting? Is a building front face being perceived as a pictured plane or a tableau? It might be true of facades on papers, or drawings still being composed before they actually get built. Facades on papers do have edges and broad expanse like paintings, the lines, angles that divide the tableau as well as figures and shapes that appear across the surface seem to reveal the building's content in the same way that colors and figures display the subject matters of paintings.[2] But these façade compositions on flat surfaces take for granted the neutrality of their background for they are composed against the white of the paper much like a painting hung against the wall. This presents a sharp contrast between figure and ground that can never occur once the building has been built because there can never be an empty context no matter nondescript or

banal the location might be.[3]   At any rate, the opposite is more likely to hold true.   The setting can easily be more catching than the building, causing the ground to become ever more prominent than the figure. Yet, despite such occurrences, every built design is meant to stand apart from its surroundings because each is supposed to hold its own identity, whether such identity is much similar or different from its vicinity.   Without this, it seems that a building could never be identified, which explains most architects' desire for originality, in itself a problematic paradox.   And because buildings are composed as if they are to appear on a tableau, the practice of façade composition has become questionable. This is, first and foremost, the problem that this research will try to demonstrate. As it will argue for the reverse, this research thus aims to understand the way buildings have been born out of, and can still be enmeshed in the settings that surround them. The consequences of this reflect both the perception and the ways the building works within its context.

It might be true that the façade is what identify the building. Yet, the practice of composing the façade as in independent tableau poses a problem. Has there ever been a case when a building is seen as an independent object standing apart from its surroundings?   Once we start composing a façade on a white paper, we immediately assume this practicing as independent, thus we already neglect our experience of the cities and towns to which buildings belong. We then, assume for each building the same kind of distinction we might otherwise reserve for special cases such as monuments.[4] What would happen to cities when each of its parts strives to assume for itself freestanding self-expression, often at the expenses of the operative relationship of the whole setting? But even if the self-expressive facades on papers have been built, would the forces of the whole urban ensemble allow them to remain independent?   Would the sense of commonality and congruence eventually emerge after the facades have been transformed?

When shown a design, its plan is what one generally registers first. But when approaching any building, its façade is what one recognizes.   To arrive does not mean to navigate through the network of the building's space, but means to stand in front of a façade.   It signifies a face-t-face encounter which is a commonplace of human life. Without facades, we

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tend to believe, there would be nothing to recognize in architecture, no semiotic substance, no signs, nothing to come into focus, only more background objects. Perhaps this is true for the certain buildings within the history of architecture, which can also be seen primarily as a history of facades. But has this always been the case?

THE TRANSFORMATION OF ARCHITECTURAL FAÇADE
2.2 PRE-RENAISSANCE FAÇADE

Today we tend to view architectural facades as composed pictures. But consider most sacred building before the Renaissance, or pre-perspective period, the fronts of those buildings were not necessarily meant to be viewed as such. Before the advent of perspectival optics, although most sacred buildings were designed to have facades in a way that their fronts were distinguishable from their backs, these buildings were to be seen more as constituents of a topography that supported them. The boundary between the sacred and the secular were only occasional and always topographical. In other words, the temple façade was both a front and a back-drop for a wide range of affairs, either religious or prosaic.[5]

Opening onto public spaces, the pre-Renaissance sacred buildings were often enmeshed in the prosaic activities of their surrounding settings. For example, transept doors of old St. Paul cathedral in London were regularly opened to make way for a horse market that passed through its interior, an act that can never be considered as a presentation of visual significance. Only occasionally that festive events would call for a temporary installment of props in public spaces, only to be removed from sight thereafter.[6] In other words, the architecture of commemoration was thought of as improvised scaffolding for public celebration. This type of visual presentation was never permanent for buildings and urban settings were valued for the performances they accommodated, not the visual representation they communicated.

When considering façades of secular buildings in the pre-Renaissance period, the kind of pictorial quality we assume for our contemporary façades becomes even more dubious. In most city buildings, the representational or theatrical quality can hardly be found. Although all the buildings had entries, the walls in which they were placed were not meant to be seen as

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pictures or composed images.(fig 2.1) Only occasionally one would find a ceremonial window, portal or shrine cut into the wall in a position urged by the overall vicinity.[7] The significances of all openings, doors, windows, entrances, portals, were in their performances and operations, or the way their answer to the usages. Thus, geometric structure, order and arrangement could hardly be found. Instead the facades appeared be incongruently ordered, at times seemed haphazard. Yet, what one could "read" out of such seemingly discordance is the internal organization or the interior usages of the buildings, the openings appear only at points where the needs call for. The enclosing walls of domestic buildings in this pre-perspective period were not seen as an aesthetic work that bears an author's signature, but more as an instrument of "operates" as a part of the constituent ensembles of the place.

Leatherbarrow noted in *Uncommon Ground* that in the pre-perspective period, as no one ever recorded the name the of the architects who designed these domestic buildings, neither individuality of conception nor of expression seems to have been important then, as it was not the time when "images" are everywhere and everything that is built is thought to "communicate." Thus the emphasis on composing a building face during this pre-perspective period would have exhibited neglect of common sense.[8] Thus, for the pre-Renaissance buildings, architecture was hardly a fine art because it was inextricably caught up in mundane affairs. Yet, during the periods that followed, architectural facades became something else altogether.

2.3 FROM THE RENAISSANCE TO THE LATE NINETEENTH CENTURY

In contrast to the pre-Renaissance period, architecture that followed during the next four hundred years entered a different path. From the period of the Renaissance to the late nineteenth century, architectural history was marked by a grand history of façade types. Buildings were represented by frontal planes of picture-like display. Retrospectively, such idea of frontalism has sometimes been considered as born of out of a rigid, static concept of life, especially by the protagonists of modern architecture.[9] Nevertheless, with the advent of perspective, and the concept of perspectival view during the Renaissance period, many things in the discourse of architecture have changed.

Perspective means window, thus represent an act of looking through a window. It implies both a sense of depth and a sense of picture plane or picture frame. With Brunelleschi's invention of a single point perspective system, everything is looked at, or presented with one point of view. This idea of looking from the front became important during the Renaissance period. Architecture was to be looked at in the same way one is looking at a picture plane, which explains the importance of façade composition during the Renaissance. The order of the building's face that responded to the view from outside became important. During the Renaissance period, many pre-Renaissance buildings were renovated, giving new and updated appearances.(fig 2.2) Buildings were given new façades, sometimes detached from the body of the building, sometimes independent of the interior structure. Thus, the practice of designing only the façade emerged. The façade was allowed independence from the spatial and structural configuration of the existing buildings.

Different approaches towards façade composition between the Renaissance period and the preceding era can be exemplified by buildings surrounding Dante square in Verona.(fig 2.3) Behind Dante's statue, two cornered buildings provide a backdrop. Palazzo Scaligeri presents a seeming haphazard face. In other words, the building seems to have neither a façade nor a composed face. It does not respond to the plaza. The sizes, levels and positions of its openings vary, which means the order of the façade responds to the functional demand of its interior. Yet, in contrast to Palazzo Scaligeri, the building next to it seems to have a perfectly composed face or a façade with well defined order that was meant to be looked at from outside. Everything is arranged much like a picture plane. The order of the façade was designed from the outside for the purpose of visual composition.

Such prevailing compositional practice during the Renaissance has paved ways to the practice of façade design during the nineteenth century.

In the nineteenth century, façade became completely detached from the spatial and constructional concept of the building. It became a mask that

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can be put on top of any buildings. In other words, building facades were interchangeable.

It became a common practice during the nineteenth century for buildings to borrow façades from the Greek, Renaissance or Gothic according to the representational meaning that these façades imply.

During the Nineteenth Century, Vienna witnessed a major change in its urban structure. The city walls and fortifications were demolished, and replaced with a wide tree-lined boulevard, the celebrated *Ringstrasse*, or Ring Street. (fig.2.4) Along this ring road encircling the old city, major building projects were launched. Many public buildings as well as private dwellings were constructed in styles thought to be proper for each projects. It resulted in the new Gothic church, the Baroque imperial theater, the Greek parliament and the medieval town hall.(fig. 2.5-2.8) As for the private dwellings, each and every apartment building employed different styles deemed grand and majestic. The architecture of the *Ringstrasse* freely borrowed architectural vocabulary from the past to create the image of the golden era. Constructed in the Nineteenth Century, the *Ringstrasse* buildings employed modern materials and techniques of construction. Yet, behind the façades of the *Ringstrasse*, another type of Viennese life loomed. The working class's struggle, the trace of the era's economic hardship, the physical and mental problems of the city, all were hidden behind the constructed façade.

For example, a parliament in Vienna borrowed the Greek façade because Greek symbolized democracy, the concept of republic, while the University employed the Renaissance façade because the Renaissance symbolized the notion of learning and knowledge.   Another nineteenth century Viennese church was clothed in Gothic façade because the Gothic period represented the growth and the spread of Christianity.   Thus during the nineteenth century, the practice of façade design became completely representational. It had very little to do with internal demands.

Such practice prevailed in the nineteenth century, prompting architectural theorists and historians to question the notion of "style" that architecture seemed to arbitrarily adopt. In 1828, a German theorist Heinrich Hübsch

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published a treatise titled "In What Style Should we Build?" generating strings of theoretical responses from contemporary thinkers.[10] Style, Hübsch advocated, should be inherently connected with modes of construction as well as materials, thus never independent of culture, climate, as well as other local conditions. The representational quality should be taken into account, yet should not become an overriding concern that causes disregard for other internal operative demands, whether functional or structural.

2.4 THE TWENTIETH CENTURY

Despite Hübsch's pioneering advocacy, architects since the nineteenth century have faced with conflicts between representational and operational functions of façades, which is still prevalent today.

Nevertheless, Hübsch's concern regarding the notion of interchangeable styles represented by arbitrarily composed façades was echoed during the period of modern architecture.

A look at the development of modern architecture shows that the existence of a frontal plane of picturelike display has been transformed. Elevations soon came to replace façades. Theo van Doesburg presented a strong view: "In contrast to frontalism, which was born out of a rigid, static concept of life, the new architecture offers a plastic richness of an all-sided development in space-time."[11] Van Doesburg further rejected the artistic or aesthetic part of architecture of the previous era, for "art has poisoned our life. Aesthetic has infected everyone. No single object remains unaffected."[12]

With van Doesburg's remarks, echoed by others, it affirms that the architecture of the modern period aspired to reject the nature and the idea of the frontal façade. Yet the outcome was paradoxically opposite from its intention. Despite modern architecture's aim to be true to modern modes of material, construction and technique, much of it came to be stylized, even those that were meant to be determined by technological concerns. Thus the term machine aesthetic and the idea of decorative engineering have been handed down to us. In other words, modern architecture's rejection of the aesthetic part of architecture was in essence the rejection of

the "past styles" rather than negation of the idea of aesthetic itself. Instead, it has inaugurated another style of aesthetic, that of machine and engineering. In the end, the question concerning the necessity of façade remains unanswered.[13]

In many early modern buildings, the lack of façade can be considered as a consequence of the functionalist approach to design. This method was best suitable for utilitarian and domestic architecture, whose inherent representational nature was considerably less than that of public and civic architecture. Denying the necessity of façade, modern architecture naturally faced difficulty when dealing with the idea of monument. A few CIAM meetings, most notably CIAM 8 in 1951, took up the question of the monument as a constituent of civic space in the heart of the city. Most of the modernists ideals was arguing for a new phase of modern architecture that would find solutions for the new style, yet when it comes to the alternatives for the necessary architectural façade especially in cases of the monument, they never clarify such solutions.

If we look closely into the modernists' dealing with building elevations, the conflict between their theory and practice became more evident. Despite their denial of the importance of building's frontality, many of the buildings during the period presented an overriding concern towards their façades. Le Corbusier, Richard Neutra, Rudolf Schindler, Erno Goldfinger, to name a few, all produced architecture with conscious awareness of its façade composition, if not aesthetic in the traditional sense of the word. But their buildings show another kind of aesthetic handling that at any rate still convey representational language prevailed in architecture over the centuries.

Even with the mute façades of Adolf Loos, it would be wrong to consider those buildings faceless.(fig 2.9) Rather, Loos's domestic buildings present another kind of face intended to be quiet and mute, their characters are strong, intentionally set themselves apart from the buildings of the previous era. As for his public buildings, especially that on the Michalerplatz, the relationship between the building's face and the surrounding public environment was the architect's major concern.(fig 2.10) The façade motifs, patterns and organization all were composed in tune with all the

buildings occupying the same plaza.   Consciously avoiding direct resemblance, Loos employed different language of architecture to create the compositional resonance between his buildings and those surrounding it.   It is a language at once modern and traditional, representing the new material and technology at the same time paying respect to the building's majestic and religious neighbors.

Yet, despite evidence in buildings of Loos, Corbusier, and others, we still cannot neglect the modernists' anti façade manifestoes and consider closely the dissimilarity between buildings and paintings.   Which part of architecture that resonate pictorial expression, which part does not?

2.5 CONCLUSION: RECONSIDERING FRONTALITY

With buildings from antiquity to the Middle Ages, the Renaissance to the nineteenth century, the notion of façade composition has been one of the major concerns for architects, if for varying reasons. But with occasional but obvious cases such as those of the secular buildings in the pre-perspective periods and those of the modernists ideals, we have to wonder if there is a kind of disclosure in architecture that is not painterly of scenographic, not a matter of display. Is there a kind of architecture that is also inconspicuous in its accomplishment of other purposes?[14] With these questions, we have to reconsider the notion of frontality and with it the centrality of perceptual experience in architectural order.

The notion of façade becomes problematic when we consider it as something pinned onto the building's front side. With this idea, architecture is immediately turned into an exhibition or showcasing of images. If we consider the façade as the side through which entry occurs, an architectural experience would only happen during approach and end with arrival.   Thus to overcome such limitation we have to remind ourselves that buildings have more than one side. The front, the back, the sides, all plays a part in our perceptual recognition of the building.   Leatherbarrow explained this matter in Uncommon Ground that the frontal display takes for granted perceptual or perspectival distance.[15]   Although the façade is essential in its scenographic presentation, it is always separated from where we are by a space that may be insignificant.[16] Similar to actors on a stage, façades on a street always depend on such distance. Without the darkness in the

theater, no performance would ever be seen; we would only see audiences in front of us, which is the reason why a space between a façade and the viewer is considered insignificance in itself for it functions much like the dark space in the theater.   Clarity of any façades depends upon this distance, either too far away or too close at hand, the façades cannot be read at all.   During the Renaissance period, with perspective tradition, this distance and vantage point were always predetermined.   Manners in which such standing points were sometimes marked out were carried out through many different means such as a change in level, varied illumination, or a brass ring on the floor, regardless of the location of the façade, whether in the city or a garden.[17]

This calculated viewing distance was found only in front of the frontal façade.   At the rear of a building, such deliberate viewing distance is rarely found.   The back of a building often merges with its vicinity, allowing other buildings and settings to come into the field of awareness, thus making such façade harder to notice.   In other words, with close proximity with both the viewer and other setting, aesthetic distance is voided.   As one finds at the front an aesthetic field, the back side of a building presents a practical field into which all constituents of the setting operate.   Only in monuments that viewing distance on all four sides of the building or object can be found.   Yet a city, town or neighborhood can accommodate only a few monuments without risking its cohesion or the existence of its tacit structure.[18]   With too many free standing monumental objects, a place easily becomes disintegrated.   Thus, despite its scenographic and pictorial ideal, the building façade still carry the vocabulary of integration, merging or blending commonplace in architectural discourse.

At any rate, considering the notion of architectural façade, it is also necessary to consider the matrix or the milieu in which buildings reside. The ambience or context can be considered as an ensemble of a setting in which the buildings are appropriated into some kind of action.   Despite its major task of being identifiable, the buildings façade does not exist in and of itself independent from other elements of the buildings. Perhaps we can learn from the pre-perspective experience that all buildings are continuous in itself and within its surrounding setting.   In other words, there was no partiality in which buildings are selectively presented in parts, but only

continuity that buildings are seen as a part of the continuous field of practical experience. In other words, all parts of buildings operate, or interwoven into practical situation. A table, a desk, a floor and ceiling, a door, a window are a part of an interior ensemble as much as a door, a window, a roof, a garden and a street are a part of an exterior setting of a neighborhood or a town. When relationship of this kind ceases to exist, architecture becomes only an aesthetic object failing in its necessary operative tasks. But with overemphasis on practical functions, architecture remains in the same category as utilitarian objects lacking inherent semantic dimension that gives meaning to all architecture. A building's representational and operational balance is partially held within the thin layer of its façade, no matter what we choose to see it.

As architectural façade has been transformed throughout the history of western architecture, the concept of façade/surface/cladding has only been systematically formed in the discourse of architectural theory in the nineteenth century. The next chapter will thus investigate the emergence of the concept in the nineteenth century theory.

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CHAPTER 3

THE EMERGENCE OF THE CONCEPT

IN THE NINETEENTH CENTURY:

THEORIES OF ARCHITECTURAL FAÇADE-SURFACE-CLADDING

> *The architect's general task is to provide a warm and livable space. Carpets are warm and livable. He decides for this reason to spread out one carpet on the floor and to hang up four to form the four walls. But you cannot build a house out of carpets. Both the carpet on the floor and the tapestry on the wall require a structural frame to hold them in the correct place. To invent this frame is the architect's second task. This is the correct and logical path to be followed in architecture. It was in this sequence that mankind learned how to build. In the beginning there was cladding.*
>
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Adolf Loos,[1]
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In the beginning there was cladding,[2] proclaimed Adolf Loos in his essay *Das Prinzip der Bekleidung*, which addressed the very fundamental question regarding the origins of architecture. From the opening paragraph, regardless of his historical and anthropological accuracy, Loos had made it clear that the creation of a structural framework is historically and logically secondary. To invent walls and frames, the structural basis that allows architecture to stand, is the architect's second task. The original motive of architecture is the creation of livable space, which is formed by the configuration of the covering membrane, be it a carpet, a textile hanging, or an animal skin. Space is created according to purpose and need.

Loos acknowledged his sources explicitly. As an Austrian architect and writer, known for his polemics, Adolf Loos was familiar with Gottfried Semper's architecture in Vienna. Taking after Semper's brilliant pedagogy and rigorous research, Loos continued to claim that mankind learned how to build in this sequence. The essence of his essay lies in its first five opening paragraphs. However, with minute detailed emphasis on materials, the *principles of cladding* are at times diminished to a mere

surface treatment for either technical or aesthetic effects. Thus, the readers are left to wonder what the notion of *Bekleidung* means to Loos. Generally translated as "cladding," is *Bekleidung* a matter of covering the surface of one material with another, or is it something else altogether?

Loos imagined the primordial man as follows: man (with or without body ornamentation) sought shelter and protection from inclement weather; hence, he sought to cover himself. Such covering is the oldest architectural detail. Originally it was made out of animal skins or textile products. Yet, the covering had to be put up somewhere if it was to afford enough shelter to a family. Man started spreading out carpets on the earth under his feet and hanging them up around him. Thus, providing protection from all sides marked the beginning of architectural enclosure. Yet those carpets could not stand on their own, and this marked the beginning of a solid, rigid framework to support those carpets, be it a structural framework or a wall. In this way, the idea of architecture developed in the mind of mankind.[3]

Membranes of some kind provide rooms or livable space. As man covers himself with clothing, he provides habitable rooms and livable space for his body. The primary impulse of architecture, according to Loos, is to clothe/to clad, an act that pertains to the way the building is occupied and used. Yet, Loos's essay split the *Bekleidung* notion into two seemingly irreconcilable components. On the one hand, Loos seems to suggest that the first motive of architecture is the cladding of surface for technical or aesthetic reasons. On the other hand, his argument also implies that enclosure-making is the first impulse for architecture, just as we clad in order to make a livable room. Thus the cladding concept refers simultaneously to the creation of surface finishing and the creation of inhabitable space.

For Loos, cladding both encloses and finishes. As the whole thickness of architectural enclosure, such as walls, floors and ceilings, defines space, the enclosure itself is also defined by its finishing. The cladding also needs to be clad. Cladding, be it for decoration or protection, is an act of ordering and defining the order of architectural enclosure. It is the definition of both space and materials.

It is through Loos's writings rather than Semper's that the notion of cladding entered the mainstream of architectural theory.[4]   Loos introduced his polemics with a great debt to, and perhaps at the great expense of, Gottfried Semper.   Without Semper's concept of *Bekleidung*, perhaps Loos's idea of function and its relationship to form could not have been so clearly formulated.

3.1 THE ART OF CLADDING

Gottfried Semper was among the leading German theorists whose arguments framed much of the Nineteenth-century debate on constructional and material expression.[5] Semper seemed to devote critical attention to the higher value of artistic symbolism.   He wrote of an artistic/utilitarian drive in which evolving materials and structural support systems were integrated with a representational language of artistic ornament, regarding the ideal symbolism of real buildings to be of vital importance.[6]

At the core of Semper's theory was his belief that materiality and production form a point of intersection where human intellect and will meet with the objective world.   After a succession of German idealist philosophers who believed that art must transcend material reality, such as Kant and Schiller, Semper defended the materiality of architecture from the domination of the subjective imagination.   He proposed that theorists to take into account man's handling of the physical world rather than considering solely the mind's imaginative faculty.   For Semper, the unity of culture was located in the ways that people satisfied both their spiritual and material drives in the act of making artistic and useful things.[7] This assessment of the nature of materials and technologies of production became central to Semper's thinking. It also involved an understanding of how architecture developed its physical form in earliest human culture.   In contrast to the idealist philosophers, Semper placed great importance on the artistic expression of materials.[8]

In his 1934 essay, *Preliminary Remarks on the Polychrome Architecture and Sculpture in Antiquity*, Semper entered the polychrome debate. Along with Jacques-Ignace Hittorff, Semper believed that Greek temples had been painted in antiquity. *The Preliminary Remarks* was a work that

provided the first key to Semper's *Bekleidung* theory. Semper considered polychromy as a continuous historical process - that is, as a practice characteristic of every period of high artistic achievement and therefore manifest in both pre-Greek and post-Hellenic architecture.[9] In the opening pages of the Preliminary Remarks, Semper described the human delight in color as fundamental to our being, residing in our instinct for play and adornment.[10] Thus the first crude shelters were varnished or dyed with an imagination favoring bright colors in variegated combinations. Concurrent to the first surge of religious concepts, this instinct went through refinement. Technically, the process of polychromy was additive in its overlaying of procedures and celebratory motifs while stylistically, it was a process of symbolic and visual refinement.[11]

Over the next few decades, this plea for the empirical understanding of materiality would be developed and refined in many ways, yet Semper would remain adamant in his belief that a deeply rooted appreciation of color was paramount to Greek artistic thinking and that this propensity revealed something of fundamental importance to all artistic activity.[12] In his mature work on style published three decades later, Semper developed this idea further and introduced his theses of cladding (*Bekleidung*) and material transformation (*Stoffwechsel*) which would later be the basis for Loos's idea of the aesthetics and functions of cladding.

Despite Semper's emphasis on materials, his notion of function was not one-sided as Alois Riegl would later interpret it. For Semper, buildings and other artistic objects did not spring into being solely from the demands of the physical world. Architecture could not be reduced to materialism. Ingrained with the demands of production and an inclination toward comfort and warmth, were other drives toward symbolism and spiritual expression. The world of ideas emerged in alliance with materiality and needs.[13] In other words, architecture sprung from both its purposiveness and its purpose.

Semper's next theoretical efforts appeared seventeen years after the Preliminary Remarks, due largely to the success of his practice and six difficult years of political exile. *The Four Elements of Architecture* was a work that Semper composed in 1850, shortly before and after moving to

London. While the first part dealt with the continuing issue of polychromy, the second part focused on the development of arts' primeval motives through the theory of the four elements.

While in Dresden, Semper had already begun to advance the idea of the primordial forms (Urformen) in architecture and had delineated two ideas or motives generating the first abodes, the enclosure (Umfriedung) and the roof.[14] Subsequently, he added the hearth to this list, and defined the surrounding wall (Einfassungmauer) as the first element of antique architecture among the southern races, and the primordial seed (Urkeim) for dwellings.[15] The enclosure acquired its architectural value by defining a new spatiality, or inner world, separated and protected from the outer, also by surrounding the hearth, or the social and spiritual counterpoint for the dwelling. In his Dresden lectures, Semper formulated two themes that were to be the focus of The Four Elements.[16] The notions of hearth gathering, walling, and roofing were regarded as basic ideas giving rise to architectural form. Another theme was the division of these motives into two fundamental dwelling types: the wall-dominated architecture of the south and the roof-dominated dwelling of the north.[17]

The Four Elements was based on the symbolic-structural function of the art form and its relationship to the tectonic concept of a building. Semper formulated a theory of artistic development in which all forms ultimately derive from the four social and artistic motives of hearth-gathering, mounding, roofing, and walling. Corroborated by the evidence of the Caribbean hut he saw in the Crystal Palace Exhibition of 1851, Semper's four elements were comprised of a hearth, an earthwork, a framework, and an enclosing membrane. (fig. 3.1) Semper assigned certain tectonic crafts to each of the four elements: textile to the art of enclosure and thus to the wall, carpentry to the structural frame, masonry to the earthwork, and ceramics to the hearth. After presenting the four motives, Semper focused on the enclosure and began to outline what later became central to his thinking: the metamorphosis of the motive into the idea of cladding (Bekleidung). The theory of cladding, thus, evolved from his thesis of the transformation from mats, carpets and wickerwork into the wall.[18]

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This last motive, for Semper, arose in aboriginal societies with the definition of spatial boundary by means of hedges and vertically-hung mats. This hanging mat was later transformed into the art of textiles, first used alone as spatial enclosures, and then later applied to the more durable wall that served as its backing.[19] Semper further argued that this spatial motive underwent another transformation around the time of the first Mesopotamian civilizations when the textile characteristics of the wall hanging were symbolically and visually transposed onto such materials as tile, brick, mosaic and alabaster wall panels. With the formation of Greek architecture, the textile, or dressing, motive attained its artistic culmination by transforming itself into a thin veneer of paint - a spatial dressing that for Semper covered the whole exterior surface.[20] Here Semper proposed an interpretation of the development of architectural form as a process of symbolic transformation, where the desire was to clad the construction's materiality with the expressive form.

This idea underlies the *Stoffwechseltheorie*, the theory of symbolic conservation, in which the mythical or spiritual values attached to certain structural elements cause them to be translated into petrified forms. Here the dressing or cladding of the wall was viewed as a kind of petrified fabric that symbolized a transformation of nomadic textile forms into a more permanent material.[21] This *Stoffwechseltheorie*, *"deals with the product of human artistic skill, not with its utilitarian aspect but solely with that part that reveals a conscious attempt by the artisan to express cosmic laws and cosmic order when molding the material."[22]* Thus, material and construction were subject to the same evolutionary process as every other artistic phenomenon.

Nine years separated *The Four Elements* and Semper's best-known publication *Der Stil in den technischen und tektonischen Künsten; oder praktische Ästhetik* (Style in the Technical and Techtonic Arts or Practical Aesthetics), written during the period 1860-1863. His emphasis on the four elements is superseded by a comprehensive consideration of the more basic technical operation underlying artistic creation.[23] Semper then developed a theory where material imagination stood at the center of architectural activity: the theory of cladding *(Bekleidung)*. Merging the ideal

and the real within the course of history, Semper saw the evolutionary path of architecture as linked by material and spiritual demands.

The subject of *Der Stil* was twofold, focusing on the development of art's primeval artistic motives and a dissertation on the notion of *Bekleidung*.[24] The main body of *Der Stil* is divided into four primary divisions: textiles, ceramics, tectonics and strereotomy.   These are the classes of motives underlying architectural creation.   This subdivision depends on the process of creation and the degree of elasticity of matter, from the "flexible," the "plastic," and the "elastic" to "solid" material. Semper eventually added the fifth division of metal, which he believed developed later and borrowed its motives from the other classes. These divisions compose the two volumes of *Der Stil*, with the subject of textiles consuming the entire first volume. Semper appended the *Bekleidung* thesis to this textile section.

The textile section begins with a definition of the motive's basic function: 1) to string, to bind, and 2) to cover, to protect, and to isolate. Semper then examined style as it is conditioned by the material, the material's treatment and the transposition of the motive into cladding.[25] The cladding thesis was introduced in *Der Stil* by a subheading on the correlation of clothing with architecture, a subject that was never fully developed as he deferred the discussion on this topic to a never-completed third volume.[26] Nevertheless, Semper continued onto the principle of cladding and its influence on architecture.   In introducing this principle, he suggested that in Greece the cladding principle had become spiritualized, serving beauty more in a structural-symbolic than a structural-technical sense.

3.2 CORE-FORM AND ART-FORM

For Semper, each part of architecture could be thought of as being realized by two elements: the *core-form* and the *art-form*. The *core-form* of each part is the mechanically-necessary and statically-functional structure. It refers to the material and static function of an architectural element; for instance, the column's function of support.[27] The *art-form*, on the other hand, is the characterization by which the mechanical-statical function is made apparent.[28] It designates how the static function of the *core-form* becomes apparent; for instance, the way the Greeks rendered the supporting role of a column in a way that was artistic and expressive of its

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function. For Semper, the *art-form* might be conceived as a conceptual veil that overlays the column, giving it its characteristic expression.[29]

The sense of wholeness in architecture is generated by materials and elements being joined together, not by a natural unfolding such as the growing branches of a tree. Thus the work of architecture is unlike a work of nature with a tectonic structure. Architecture is made of dead and static materials. The *art-forms* of the building do not grow naturally out of its *core-forms*. Yet Semper remarked that

> "decorative symbols have no real static function, but it is wrong to conclude that they are applied and added from outside."[30] Semper later gave the example of the Greeks, the only people who achieved "giving their architecture structure and tectonic products an organic life so to say....Greek temples and furnishings are not constructed and skillfully joined, they have grown, they are not structures adorned by having floral and animal forms attached to them; their forms are like those that organic forces call forth when striving against mass and weight."[31]

Semper saw the *art-form* as arising at the same moment when the mechanical scheme of the *core-form* is conceived, so that the two are thought of as a unity and are born simultaneously.[32] For Semper, both the structural part and the decorative symbol are closely related so that one cannot be altered without affecting the other. In other words, each must be a primary element born simultaneously with the whole. In this way, decorative symbols are not considered pure adornment but rather as coverings suggestive of a function performed by the core to which they are closely related.[33] As Semper suggested, human artistic skill revealed a conscious attempt by the artisan to express cosmic laws and cosmic order when molding materials. The making of ornament is also a making of order to arrive at an articulated surface. In this way, ornament might be seen as a legible surface or as a covering suggestive of the function performed by the core.

As Semperian rationale illuminated the architecture of antiquity, it also opened the door for the externalization of the façade. While the *Stoffwechseltheorie* allows for an "evolution" of materials which are modified when changed from one to another, this evolution also allows ornament to increasingly free itself from the core to which it closely clings. If this suggests certain autonomy of cladding motives, a moment may arise

when ornament conceptually emancipates itself from the core and becomes mere adornment. The formerly symbolic decoration may also become more and more of an arbitrary addition to the body of architecture once it is fully emancipated. In other words, the theory of the art-form and core-form relationship that seemed to fit Greek architecture became problematic in the stylistic eclecticism of the Nineteenth century. Cladding at times became arbitrary rather than an answer to necessity.

3.3 BINDING, WEAVING, DRESSING

In the *Four Elements*, Semper differentiated the walls from the compressive earthwork, or load-bearing mass. This distinguishes the massiveness of the fortified wall as indicated by the German word *die Mauer*, from the light screen-like enclosure signified by the term *die Wand*. Although both terms imply enclosure, it is the latter that is etymologically related to the German word for "dress" (*Gewand*) and the verb *winden*, "to embroider, to sew."[34] The German word *Bekleidung* derives from the verb *kleiden*, "to dress," which came from the root *Kleidung* meaning "clothing." Both *Kleidung* and *Gewand* are connected both etymologically and logically to the concept of binding or *Verbindung*.

According to Semper's rationale, the acts of weaving, binding, knotting or sewing were the first of all arts answering to human need.[35] (fig.3.2) As cladding is an answer to the human instinct to bind, to order all architectural elements and parts to create livable space, it is also symbolic, suggestive of the cosmic order and the function performed by the core.

The concept of *Bekleidung* became problematic when it was interpreted only as the covering, paneling, or sheathing of a building in a technical or aesthetic sense. The art of cladding was at times taken as synonymous with the externalization of architecture, an application of arbitrary decorative surface at will. The interpretation of the *Bekleidung* concept as the literal mask, the externalization of the façade, was the basis of attacks that other theorists lashed upon Semper.

For some of the Nineteenth Century theorists, the "*art of cladding*" had led architecture down the false path of "*externalization*," the path in which undue prominence is given to the façade of a building.[36] Theorist such as

Alois Riegl and August Schmarsow failed to acknowledge Semper's idea of the reciprocity between the spiritual and the material drives, thus neglected the fact that the *Bekleidung* theory was also suggestive of spatial creation. Cladding was thus misinterpreted as something diametrically opposed to the creation of architectural space.

3.4 THE PURPOSES OF CLADDING

On January 24, 1856, at the Polyteknikum of Zurich, Semper gave a short inaugural lecture on ornament, which was focused upon the double meaning of Greek *kosmos*. *Kosmos, cosmos*, from which "cosmetic" was derived, signify both the order of the heavens and ornament.   This ambiguity between order and ornament allowed Semper to view early Greek adornment as a process of applying decorative order *(Gesetzlichkeit)* to form: *"when one decorates, one more or less consciously imposes a natural order on the object that is adorned."*[37]   This instinct of cosmic adornment, for Semper, was the key to Greek tectonics. Such instinct was also manifested in everyday life in the Greeks' intelligible adornment of their bodies.[38] Semper further argued that this intelligibility of body adornment, derived from decorative instinct, also carried a purpose. Bodily accessories that modify one's physical appearance, such as a mask, were based on the impulse to terrify a foe. Along with the mask, painting and tattooing of the body were other manifestations of this tendency. Finally he arrived at the conclusion that: *"It would not be too paradoxical to seek the origin of certain traditional surface ornament in the art of tattooing."*[39]   This suggests architectural ornament as a form of body-dressing or the masking of physical appearance. Semper wrote:

> *I think that the dressing and the mask are as old as human civilization, and the joy in both is identical with the joy in those things that drove men to be sculptors, painters, architects, poets, musicians, dramatists, in short, artists. Every artistic creation, every artistic pleasure presupposes a certain carnival spirit, or to express myself in a modern way – the haze of carnival candles is the true atmosphere of art. The denial of reality, of the material, is necessary if form is to emerge as a meaningful symbol, as an autonomous human creation.*[40]

By suggesting the masking of reality and of material, Semper implied different levels at which cladding performs. Men also mask the material of the mask. First, the dressing may camouflage the material in a physical

sense in the same way that Greek polychromy covers the marble underneath in order to conceal its material nature so it can be perceived as a pure form. Second, the art-form or artistic dressing may also camouflage the thematic content of the work and represent a message otherwise unrepresented, just as a man may wear a mask to presume another identity.

Semper's attention to the mask lies in its content, the virtue of which is artistic symbolism. The goal of the mask is the representational language it conveys. By tracing the historical and artistic/utilitarian drive in which evolving materials and structural support systems were clad by the language of artistic ornament, Semper attempted to construct a universal account of the nature of building more than a stylistic or technical aspect of the surfacing itself.

The purpose of cladding is the point that separates Semper's theory from Loos's. Although Loos's idea resonates with Semper's *Bekleidung* notion, his theory also rejects certain symbolic representations of the surface. The task of the surface was to cultivate the property natural to the materials and the nature of each setting. Leaning toward the technical and formal language of materials, Loos's *Bekleidung* theory was a way to create the unity of each setting through the nature of cladding material, not through its symbolic language. Despite the differences, Semper's symbolic language and Loos's material language were a means to unify the ensembles of elements within each setting. They illustrate the will to create *Gesamtkunstwerk* with a certain level of pictorial reality. While Semper considered cladding to be symbols, Loos's cladding was considered to be materials. For Loos, the ethics of the mask lie in the applicability and methods of production of materials. This ethical concern, however, was generated by new technology and material that emerged without their own language of form. The elasticity of material such as poured cement allows it to be molded into all forms. Loos's *Bekleidung* theory coincides with one of the major effects of industrialization: the increased use of veneered construction.[41] At the time Loos was writing, the adverse effects of this type of construction were much clearer to him than they had been to Semper. Hence, the difference between Semper and Loos toward the

Bekleidung notion was partly marked by the effects of new technology, materials and methods of construction.

Loos' attitude toward the ethics of material underlies his objection to the *Ringstrasse* buildings in Vienna. As mentioned in the previous chapter, the *Ringstrasse* was lined with new buildings that employed different styles of façades according to their representational meanings. These façades had no connection to different ways in which buildings are used, occupied and built. In other words, the façades were simply interchangeable.

Loos's critic towards the *Ringstrasse* architecture was about its deception. In his essay Die Potemkinsche Stadt, or the Potemkin City, of 1898, Loos asserted that Vienna was not different from a village built in Ukraine by Count Potemkin, a Russian field marshal and favorite of Catharine II. In 1787, Potemkin built a sham villages for the occastion of the Empress's visit, giving the impression of a high level of prosperity among the impoverished population. In this essay, Loos objected the fictitious language implying the opposite of reality and the way such language was carried out. In the interest of rent ability, the landlord is forced to nail on a particular kind of façade to the building. Loos linked the façades of the *Ringstrasse* building to props made out of canvas and pasteboard or figurative surface applied to the building.

As for Loos, the problem of masking the *Ringstrasse* buildings was due to the unethical language of materials. Cladding works as far as there is no confusion between the cladding and the materials clad. The boundary must be clear. Cladding must respect its own language of form. With poured cement imitating the stonework of the entire façade, such as in many cases of the *Ringstrasse*, the mask becomes a deception rather than the revealing of another content.

> *Every material possesses its own language of forms, and none may lay claim for itself to the forms of another material. For forms have been constituted out of the applicability and the methods of production of materials. They have come into being with and through materials. No material permits an encroachment into its own circle of forms. Whoever dares to make such an encroachment notwithstanding this is branded by the world a counterfeiter. Art, however, has nothing to*

> *do with counterfeiting or lying. Her paths are full of thorns, but they are pure.*[42]

There is a level at which forms convey the nature of materials and methods of production. The virtue of cladding, for Loos, lies in its performative representation more than its symbolic aspects. Loos's critical view towards the ethical function of architectural cladding became evident in his critique of ornament. His critique was not directed at a problem of ornament or not ornament, but at a problem of meaning. The designers of that time often regarded surface as a provocation for the ornamental inventor.[43] For Loos, ornament must be integrated with the way the building is built. As well as the way it is used which is opposite to the decorated sheds his contemporaries purveyed.

In his famous essay, *Ornament und Verbrechen* or *Ornament and Crime* published in 1908, Loos aimed to distinguish different kinds of ornament, not different ornamental shapes, nor different ornamental styles but two kinds of ornament, the first being indicative or capable of pointing away from itself towards something necessary but otherwise unrepresented, and the second being ornament which distracts or fails to represent and is unnecessary.[44] Such unnecessary ornament is what is exemplified on the surface of the buildings of the *Ringstrasse* and was criticized by Loos. Architectural cladding is not a matter of covering up but a matter of indicating, pointing or revealing in the similar way that the small details of everyday life reveal the physiognomy of the culture.

According to Loos, as cladding clads, it also encloses. Apart from the material and technical aspects of cladding, Loos was also concerned with the empathetic language that cladding exerts upon the inhabitant.(fig.3.3) Surface cladding is that which is responsive to the character and function of the building, hominess on a house, security for a bank, and respect in a secular institution.[45] These effects are produced by both the materials and the form of the space. What Loos proposed here was a kind of empathetic emphasis on *Bekleidung* to which Semper did not allude.

3.5 CONCLUSION

From Gottfried Semper to Adolf Loos, the concepts of architectural surface, cladding, dressing, or the *Bekleidung* notion is partly a response to the cultural expectation of frontality that calls for architectural order and definition. This culture has transformed the face of architecture throughout the twentieth century. The purposes of cladding are responsive to spatial, material, and technical as well as symbolic aspects of the building. Cladding is not only a working of the flat surface of the façade, but also a manifold of boundaries and enclosures, which binds architectural ensembles into a unified whole. Cladding is a tool to bind all parts and materials together into a new visible order. It also defines the way buildings are used and occupied. Architectural cladding is a response to the natural desire of humans to order, to bind, to shelter and to delimit. In this sense, Semper's proposal of the wreath as the archetypal work of art, responds to the instinct and desire of mankind. Such desire antecedes all human artifacts, and hence precedes all spatial construct. In order for space to be considered as a part of either an architectural body or a city, it needs to be bound, ordered and differentiated at the same time that it is integrated as part of a larger field. *Bekleidung* is what lends both material and form to space. The spatiality of architecture as well as the city comes into being through this logic of binding and ordering the multiple levels of architectural boundaries in which we dwell.

References

[1] *"Hier hat der architect die aufgabe, einen warmen, wohnlichen raum herzustellen. Warm und wohnlichen sind teppiche. Er beschließt daher, einen solchen auf den fußboden auszubreiten und vier teppiche aufzuhängen, welche die vier wände bilden sollen. Aber aus teppiche kann man kein haus bauen. Sowohl der fußteppiche als auch der wandteooiche erfordern ein konstruktives gerüst, das sie in der richtigen lage erhält. Dieses gerüst zu erfinden, ist erst die zweite aufgabe des architeckten."* The first paragraph of Adolf Loos, "Das Prinzip der Bekleidung," first published in *Neue Freie Presse*, September 4, 1898. Translated as "The Principle of Cladding," in Adolf Loos, *Spoken into the Void*, pp. 66-69.

[2] *"Im anfange war die bekleidung."* Loos, "Das Prinzip der Bekleidung." Second Paragraph.

[3] *"Der mensch suchte schutz vor den unbilden des wetters, schutz und wärme während des schlafes. Er suchte sich zu bedecken. Die decke ist das älteste architekturdetail. Ursprünglich war sie aus fellen oder erzeugnissen der textilkunst. Diese bedeutung erkennt man noch heute in den germanischen sprachen. Diese decke mußte irgenwo angebracht werden, sollte sie genügen schutz für ein familie bieten! Bald kamen die wände dazu, um auch seitlichen schutz zu bieten. Und in dieser reihenfolge entwickelte sich der bauliche gedanke sowohl in der menschheit als auch imindiviuum."* Loos, "Das Prinzip der Bekleidung," Second Paragraph.

[4] See Joseph Rykwert, "Architecture is All On the Surface. Semper and Bekleidung," in *Rassegna* 1998, v.20, n.73, pp. 20-29.

[5] See Micthel Schwarzer, "Freedom and Tectonics," in *German Architectural Theory and the Search for Modern Identity*, Cambridge, MA, 1995, pp. 167-200.

[6] Schwarzer, *German Architectural Theory and the Search for Modern Identity*, pp 172-176.

[7] See Micthel Schwarzer, "Freedom and Tectonics," in *German Architectural Theory and the Search for Modern Identity*, Cambridge, MA, 1995, pp. 167-200.

[8] Ibid.

[9] See Harry Mallgrave's introduction of Gottfried Semper, *The Four Elements of Architecture and Other Writings*, translated by Harry Mallgrave and Wolfgang Herrmann, p. 14.

[10] See Gottfried Semper, "The Preliminary Remarks on the Polychrome Architecture and Sculpture in Antiquity," in *The Four Elements*, pp. 45-74.

[11] For further discussion, see Wolfgang Herrmann, *Gottfried Semper: In Search of Architecture*, Cambridge, MA, 1989, pp. 125-126, and Mallgrave's introduction to *The Four Elements*, pp. 2-16.

[12] Mallgrave, *The Four Elements*, p. 13.

[13] For further details on the subject, see Herrmann, *Gottfried Semper*, pp. 121-123, Mallgrave, *The Four Elements*, pp. 16-41, and Schwarzer, *German Architectural Theory*, pp. 175-179.

[14] From a manuscript dated circa 1846, see Wolfgang Herrmann, *Gottfried Semper theoretischer Nachlass an der ETH Zurich: Katalog und Kommentare*, Basel, 1981, p. 81. See also Mallgrave, *The Four Elements*, p. 23.

[15] Ibid.

[16] From the same manuscript dated circa 1846.

[17] Herrmann, *Gottfried Semper*, pp. 165-173. See also Mallgrave, *Gottfried Semper, Architect of the Nineteenth Century*, New Haven, 1996, pp. 182-189.

[18] For further details see Herrmann, "The Genesis of Der Stil," in *Gottfried Semper*, pp. 88-100. See also, Mallgrave, *Gottfried Semper*, pp. 290-302.

[19] Gottfried Semper, *The Four Elements of Architecture*, pp. 74-129.

[20] Ibid.

[21] See further discussion in Herrmann, *Gottfried Semper*, p. 149.

[22] Quoted in Herrmann, *Gottfried Semper*, p. 151.

[23] Mallgrave, Gottfried Semper, *The Four Elements*, p. 29.

[24] See Harry Mallgrave's introduction of, *Empathy, Form, and Space: Problems in German Aesthetics*, Santa Monica, CA, 1992, p. 33.

[25] Gottfried Semper, *Der Stil in den technischen und tektonischen Künsten; oder praktische Ästhetik (Style in the Technical and Techtonic Arts of Practical Aesthetics)*, written during the period of 1860-1863. See further analysis in Mallgrave, *The Four Elements*, pp. 29-40.

[26] Mallgrave, *The Four Elements*, pp. 29-40.

[27] See Wolfgang Herrmann, "Semper and the Archeologist Bötticher," in *Gottfried Semper: In Search of Architecture*, pp. 139-152. See also Harry Mallgrave, *Gottfried Semper, Architect of the Nineteenth Century*, New Haven, 1996, pp. 219-222. And Mitchell Schwarzer, "Freedom and Tectonics," in *German Architectural Theory and the Search for Modern Identity*, Cambridge, MA, 1995, pp. 167-200.

[28] Karl Bötticher. "Das Prinzip der hellenischen und germanischen Bauweise hinsichtlich der Übertragung in die Bauweise unserer Tage," in *Allgemeine Bauzietung* 11 (1846), pp. 111-125. Translated as "The Principles of the Hellenic and Germanic Ways of Building with Regard to Their Application to Our Present Way of Building," in *In What Style Should we Build?: The*

German Debate on Architectural Style, translated with an introduction by Wofgang Herrmann, Santa Monica, CA, 1992, pp. 150-151.

[29] Herrmann, Gottfried Semper: In Search of Architecture, pp. 139-152.

[30] From Semper's manuscript, quoted in Ibid.

[31] Ibid.

[32] See also Mallgrave's discussion of Semper in Empathy, Form and Space, pp. 32-34. -

[33] Ibid.

[34] For further discussion about the words die Wand and die Mauer, see Kenneth Frampton, Studies in Tectonic Culture, Cambridge, MA, 1996, pp. 61-92.

[35] Ibid.

[36] Ibid.

[37] Semper, Über die formelle Gesetzmässigkeit des Schmuckes und dessen Bedeutung als Kunstsymbolik, Zurich, 1856, p. 6. "Wo der Mensch schmückt, hebt er nur mit mehr oder weniger bewußtem Tun eine Naturgesetzlichkeit an dem Gegenstand, den er ziert, deutlicher hervor." See further discussion in Mallgrave, Gottfried Semper, pp. 269-274, and note n. 62, p. 406.

[38] Mallgrave, Gottfried Semper, Architect of the Nineteenth Century, p. 270.

[39] Semper, Über die formelle Gesetzmässigkeit des Schmuckes und dessen Bedeutung als Kunstsymbolik, Zurich, 1856, p. 9. "...so dass es nicht zu paradox ware den Ursprung gewisser überlieferter Flächenornamente in der Tätowierungskunst zu suchen." See further discussion in Mallgrave, Gottfried Semper, p. 406.

[40] Semper, Der Stil, I, p.231 n.2, translated in "Style: The Textile Art," The Four Elements, p. 257.

[41] E. Ford used the word veneered construction, to exemplify non-load bearing cladding. See E. Ford, The Details of Modern Architecture, Cambridge, MA, 1990.

[42] "Ein jedes material hat seine eigene formensprache, und kein material kann die formen eines anderen materials für sich in anspruch nehmen. Denn die formen haben sich aus der verwendbarkeit und herstellungsweise eines jeden materials gebildet, sie sind mit dem material und durch das material geworden. Kein material gestattet einen eingriff in seinen fomenkreis. Wer es dennoch wagt, den brandmarkt die welt als fälscher. Die kunst hat aber mit der fälschung, mit der lüge nichts zu tun. Ihre wege sind zwar dornenvoll, aber rein." 5th paragraph of Loos, "Das Prinzip der Bekleidung." Translated in Spoken into the Void, p. 66.

[43] Joseph Rykwert, "Adolf Loos : The New Vision" in *The Necessity of Artifice* (New York: Rizzoli, 1982): 67.

[44] David Leatherbarrow, "Interpretation and Abstraction in the Architecutre of Adolf Loos" in *JAE* (Summer 1987): 2-9.

[45] Yet Loos overlooked that Semper himself invented ornament constantly. But while Semper did so with direct historical reference, Olbrich and Hoffmann later invented ornaments seemingly out of thin air. These kinds of unhistorical surface ornaments offensive to Loos, were not far from those proposed earlier by Owen Jones. In his *Grammar of Ornament* published in 1857, Jones suggested that natural forms, particularly flowers and leaves provided for a new and completely unhistorical kind of surface treatment. This was demonstrated through various structural analyses of natural forms such as flowers in his book. This structural analysis was provided by Christopher Dresser, who later proposed a different approach to surface ornament which would inspire response that is directly stimulated by the ornament that might vary from room to room. See discussion regarding Jones and Dresser in Rykwert, "Architecture is all on the Surface," pp. 28-29.

PART II   CASE STUDY

CHAPTER 4

THE FAÇADE/SURFACE OF THAI ARCHITECTURE

If the purposes of architecture surface/cladding/façade are responsive to spatial, material, and technical as well as symbolic aspects of the building, architectural surface cannot be seen as a working of the flat surface of the façade, but it is also a manifold of boundaries and enclosures, which binds architectural ensembles into a unified whole.

In many ways, architectural surface/cladding is a tool to bind all parts and materials together into a new visible order. It also defines the way buildings are used and occupied. In any given cultures, architectural cladding, apart from acting as enclosure, also responds to particular ways of lives, habits, conducts, believes as well as technologies. It reflects the dwelling culture of each and every civilization. After establishing a ground understanding on the concept of surface/cladding/enclosure/facade as well as their many roles in the making of architectural artifacts, this chapter will address the notion of surface/cladding/enclosure/façade of traditional Thai architecture, in relation to the theories addressed in previous chapters.

Using traditional Thai architecture as a vehicle, this chapter will demonstrate that architectural cladding is a response to the natural desire of humans to order, to bind, to shelter and to delimit. If Gottfried Semper is right that the act of biding and weaving leads to an archetypal work of art, then architectural surface/cladding, which holds a strong link to such archetypal acts, also responds to the instinct and desire of mankind. Such desire antecedes all human artifacts, and hence precedes all spatial construct. In order for space to be considered as a part of either an architectural body or a city, it needs to be bound, ordered and differentiated at the same time that it is integrated as part of a larger field. *Surface/cladding/enclosure* is what lends both material and form to space. The spatiality of architecture only comes into being through this logic of binding and ordering the multiple levels of architectural boundaries in which we dwell.

4.1 ELEMENTS OF THAI ARCHITECTURE

PREAMBLE: THE PRIMITIVE HUT

Vitruvius openly stated in the *Ten Books on Architecture* that behind the wooden primitive hut lies the origin of all architecture.[1] This passage by Vitruvius has often been rephrased and repeated by writers on the classical theory of architecture. An archetypal wooden hut, with four columns, was considered the direct model of Greek stone temple. This idea was also echoed by Marc Antoine Laugier, the French theorist who repeated once again in *An Essay on Architecture* of the eighteenth century what Vitruvius had proposed many centuries ago.[2] For Laugier, this primitive hut appeared as a structure with four columns, girders and a covering roof, noticeably with no wall or enclosure. Sitting or Rising from an earthwork, the hut seemed to grow from the ground, with columns resembled tree trunks, only later that the girders were joined and the roof was constructed.(fig4.1) This vision implies prioritization of the tectonic aspect of architecture. The supporting structure was born first, other elements only follows afterwards. The primitive hut thus gave birth to the column-and-beam trabeated system of Greek temple.

This emphasis on the structural support of architecture as the original drives for all architectural constructs was rejected by Gottfried Semper. For him, the structural parts could not have been the primary elements of architecture, for they only give the framework but provide no enclosure necessary for human dwelling. Semper proposed that if building activity of a people began with domestic architecture, then it derived ultimately in the form of a hut. But unlike Vitruvian primitive hut, Semper differentiated between two forms of primitive dwellings: one, a firm enclosure of an open place erected for the protection of the hearth and for defense, a form that he called court building, whose essential motif was the wall; and the other, the hut whose basic form was the roof either directly attached to the substructure or resting on supports.[3] For Semper, these huts that had served as dwellings at the beginning of history had long since vanished, except perhaps two: certain ancient clay models and the Chinese house. The Chinese house (much similar in terms of primary elements to those of

other Asian, African, Polynesian huts) is, in Semper's opinion, a frozen image of a primeval timber building – represented as well that primitive phrase that had never gone beyond material needs.[4]

Along with the Chinese house, Semper later used the model of the Caribbean hut to demonstrate his idea.   It is a hut, with the roof supported by columns of bamboo, its structural parts are tied together with ropes of coconut fiber, it is covered with palm leaves, the terrace has bamboo railings, the walls consist of mats.[5]   He then concluded that it is an instructive illustration of the system based on the four constructive elements of architecture.   In the Caribbean hut, all elements of ancient architecture appear in their most original and unadulterated form: the hearth as center, the mound surrounded by a framework of poles as terrace, the roof carried by columns, and mats as space enclosure or wall. Not only the structural frame as in Vitruvian hut, but the hearth, the mound, the framework, and the enclosing membrane are all considered the primary four elements of all architecture.

Interrelated to the four elements, Semper derived the four archetypal tectonic crafts correspond to each element: ceramics to the hearth, masonry to the earthwork, carpentry to the structural frame, textile to the art of enclosure and thus to the wall.   Yet, considering the act of binding or weaving as the first art born out of human's natural desire to bind, to give order, Semper thus concluded that the most fundamental of the four primary elements of architecture is the enclosing membrane.   In other words, architecture arose out of the surfacing/cladding/enclosing elements.

4.2 THE FOUR ELEMENTS OF THAI ARCHITECTURE
The models of the Caribbean hut bears resemblance to what we know as Thai vernacular and traditional domestic architecture, which resemble the Caribbean hut both in terms of its primary elements and its fundamental tectonic methods of binding and weaving.(fig4.2)

From the theory of Four Elements, four archetypal crafts of textiles, ceramics, carpentry and masonry are the classes of motives underlying architectural creation.   Their differences lie in the technical operation of working with flexible, tough materials resistant to tension (textiles), working

with soft, plastic materials (ceramics), working with sticklike materials resistant to force along their length (carpentry), and working with solid aggregates resistant to compression (masonry).[6]

In certain types of Thai architecture, whether vernacular or traditional, their constituents still represent the primary elements in their original stages that had not gone through complex transformation. What marks the differences is that Thai architecture no longer contains all of the four elements in one type of spatial construct, but rather the four elements are separated, the four archetypal crafts are employed in different types of architectural artifacts. Yet, the original constituent parts can still be distinguished, and it is essential to trace them in order to understand certain manifestations of Thai architecture.

Anthropologists have agreed that the first sign of human settlement and rest after the hunt, the battle and wandering is the setting up of the fireplace and the lighting of the reviving, warming and food-preparing flame.[7] Around the hearth the first group assembled, around it the first alliance formed, and the first rudimentary religious concepts were put into customs. Throughout all phrases of society the hearth formed that sacred focus around which the whole took order and shape.[8] It is the moral element of architecture. And around it, according to the Theory of Four Elements, were grouped the three other elements, the roof, the enclosure and the mound.

But according to how different human societies developed under the varied influences of climate, natural surroundings, social relations, available materials, the combinations in which the four elements of architecture were arranged also had to change, with some elements becoming more developed while others receded into the background. This is perhaps the reason underlying the separation of the Four Elements in Thai architecture.

In order to trace the primary elements of its architecture, it is necessary to divide the traditional architecture of Thai culture into two categories: first the domestic traditional architecture of bamboo and wood on stilts with prefabricated walls, gable roofs; second the religious or ceremonial

architecture often of rich adornments. This later type, while being Thai also bears influences from India, Cambodia and other neighboring countries.

4.3 RELIGIOUS ARCHITECTURE

Along with the Four Elements of architecture, different archetypal crafts became organized technical skills according to these elements: ceramics and afterwards metal works around the hearth, water and masonry works around the mound, carpentry around the roof and its accessories, textile and wall fitter around the enclosing membrane. While carpentry and textile-like wall fitting technical skills have marked the identity and character of Thai domestic architecture, masonry and ceramic works have hardly taken shape in this type of spatial construct. (fig4.3) Instead, ceramic and masonry works prevailed in religious architectural constructs, creating a contrasting sense of permanence as opposed to apparent temporality in domestic architecture.(fig4.4)   Thus, in addition to the sense of rigidity, flexibility and elasticity, the four archetypal crafts also carry different symbolic connotation giving the different type of architecture various semantic meanings.

In religious constructs, structures such as Prang, Chedi and Mondop, all employed similar method of masonry construction.(fig4.5)   Instead of the binding technique in domestic architecture, Prang, Chedi and Mondop adopted bonding technique whose incremental staking masonry method in vertical dimension is conceptually opposite to the horizontal weaving technique.   The mound or platform earthwork is also an essential element in religious architecture. Structures such as assembly hall, ordination hall or cloister, whose body or at least the top part of buildings consist of carpentry wood work, always rest on noticeable platform earthwork.(fig4.6) As the act of stepping onto the different threshold mark the symbolic transformation of the arrivers, the mound earthwork functions as the vehicle for such transformation.   This mounded platform also marks the symbolic hierarchy, separating the sacred realm from their earthly surrounding.

Consider as a whole, the temple compound also resides within enclosing walls and cloisters. These walls mark the sacred ground or mound onto which the whole temple compound rests. Thus the notion of the mound or

platform earthwork does not answer only to technical necessities, but also to symbolic demands.

Appeared as solid with no interior spatial indication, structures such as Prang, Chedi and Mondop were not conceived without the vision of their surface characteristics.   The outermost layer of brickwork is always clad, either in layers of plaster or layers of ceramic tile or mosaic ornaments.(fig4.7)   However this use of ceramic is fundamentally different from what Semper advocated in the Theory of the Four Elements. Here the craft of ceramics do not form around the mound earthwork supporting the architectural constructs, but rather function as a part of a flat surface. Examples can be seen in the pediments of Thai religious architecture, as well as other parts such as the bases, where mosaic and ceramic tiles act as appliqué ornaments.(fig4.8-4.9) These colorful materials no longer bear connection to the solid mound, but become textile-like. They can be seen as a petrified form of a flowing or hanging fabric with colorful woven pattern. In other words, when the crafts of ceramic merged with the textile crafts, the solid mound has given ways to the thin layering surface, what ought to be supporting on the ground becomes a display on the façade.

4.4 DOMESTIC ARCHITECTURE
As for the traditional Thai domestic architecture, the dominating primary elements are different. Although all of the four elements of architecture are found in Thai architecture until today, it was the primitive technique evolved from the surface enclosure that has given Thai domestic architecture its identity and particular characteristics.

In addition to resting on stilts, another dominating characteristic of traditional Thai house since Ayutthaya period is that it often consists of a compound of cabins grouped around a raised platform terrace that also function as an outdoor multipurpose area. Although the formal proportions and styles vary from region to region, the elementary constituents of traditional Thai houses are mainly similar.

As a culture formed around the cultures of rice cultivation and water, along with tropical climatic shifts; the stilts as well as the steep gable roof answer to such cultural as well as topographical and natural forces. Raised above

ground, the traditional wooden Thai house compound creates its own platform separating itself from the natural mound underneath it.(fig 4.10) In other words, the mound does not hold the symbolic function of either creating the threshold or supporting activities as in religious architecture. What supports the whole prosaic affairs is thus the seemingly thin layer of tectonic wooden platform, making the compound float in midair. This gives the sense of profound lightness to the compound as opposed to the heavy masonry resting on earthwork in religious architecture. If Thai religious structures seem to grow out of the ground, its domestic constructs seem to be placed onto it. And with such faint and fragile relation to the earth, the house compound seems tectonically temporary and moveable compared to the monolithically permanent religious compound. If what prevailed in Thai religious constructs is stereotomic method, then tectonic bearing is what gives its domestic architecture an identity.

An important part of such tectonic demeanor is the prefabricated wall.(fig 4.11) One of the most dominating ingenuities of traditional wooden Thai house lies in its pre-made modular wooden wall and panel systems, which make the construction process fast and reliable. Pre-fabricated by carpenters, these wall and pediment panels are brought onto the site, hoisted into places between stilts. As they can be assembled quickly, they can also be taken down fast, allowing the whole compound to be relocated as need arises. The elaborate system of joinery also bears remarkable resemblance to the act of weaving and binding. In other words, the wall panels can be considered as having been woven from wooden fabrics, creating different patterns giving each and every cabin distinctive textural appearances. As for bamboo house of Thailand, it still bears traceable resemblances to the primeval Caribbean hut. It uses pre-made wall panels, which is perhaps the model for prefabricated wooden house. These panels too are woven and laced into different types of patterns, giving an identity of a thin and light enclosing membrane of tectonic nature, rather than the heavy masonry wall.(fig 4.12)

In traditional Thai domestic architecture, not only the walls that are perceived as enclosing surface. Other elements such as doors, windows, ornamental motifs or even the roofs are also perceived as such.(fig 4.13-4.14) For example, the traditional doors are often composed in forms of

swing or folded configurations. Both types of doors always employ the same material as the wall panels, rarely set themselves apart from adjacent walls, giving a sense of a continuous plane rather than a voided fenestration or openings as in most western architecture. When closed, these doors are a part of a continuous filed of membrane enclosing the space of the house. Windows are similar in concept. They are always configured as a part of the enclosure, built into each wall panel, either with twin planes or balustrades. As a part of the wall panels, both doors and windows are not conceptually similar to the piercing voids of western architecture, but semantically they become a part of the thin enclosing membrane wrapping or enveloping the space of the house.

For the roof, whether of permanent or transient materials, the sense of flatness is overriding. Overlapping tiers of roof planes, emphasized by stripes of colorful ceramic roof tiles in the cases of religious architecture, signify the flatness of surface, almost a-tectonic. Each tier of roof is seen as a plane with its own border separating it from the structural supports underneath. Seen from afar, each roof plane appears as if being painted with surface colors. (fig 4.15)   As for vernacular architecture, the primordial materials are often thatch for roofs and bamboo for other elements.(fig 4.16) The thatch roofs are made of grass or tree leaves, some with waxy water-resistant surface. Although the sizes and scales of these natural fibers vary, once made into a roof, they are perceived as extremely thin and flat continuous layering membrane enclosing the house, not unlike the wall panels. The way they are made confirm this aspect; they have to be pre-woven into sections of flat planes before they can be assembled atop the house.

Other elements such as balustrades and roof finials affirm the predominating sense of flat surface in traditional Thai domestic architecture. These elements relinquish their three-dimensional thickness for a sense of two-dimensional thin plane. Unlike the rounded structures of western architecture that give emphasis to the formal configuration, such traditional Thai elements become a canvas for flat ornamental motifs. In other words, traditional Thai ornaments seem to collapse their dimensions causing the forms to become surfaces.

4.5 THAI ARCHITECTURE

ARCHITECTURE OF SURFACE

ARCHITECTURE WITHOUT FAÇADE

The paradox about Thai architecture, be it domestic or religious one lies in the methods and perceptions of its surface/façade.   While the sense of flat surface and thin membrane is prevalent in most parts of its architecture, Thai constructs are hardly conceived with façades.

At first, this might seem conflicting, but the sense of flat surface in Thai architecture is only elemental.   The overriding sense of being made of thin membrane only appear when consider "each" element in its own, but never in the building as a whole.

As for domestic architecture, despite it being light and composed mostly of flat gliding planes, once assembled these planes become an integral part of the whole body.   The house is meant to be viewed as a whole compound, with each cabin relating to another, each element corresponding to others. It has never been a tradition in Thailand to build a house compound in close proximity to another.   Within the same compound, every cabin is being oriented perpendicularly in relation to others, but all do not face the same direction, which means that even though the compound has an entrance, it has no obvious representational front or face.   Rather, the house is allowed to be perceived from more than one point of view.   As a result, all sides must be proportionately designed, as there is always a chance they are approached from afar.   In other words, the compound has composed elevations but not facades.(fig4.17)

In religious architecture, perceptions given are not dissimilar.   For solid structures such as Chedi, Prang and Mondop, apart from them being hierarchically ordered in vertical direction, perhaps one of the most distinct characteristic of such structures is that they are conceived as three dimensional structures to be viewed from all sides.   Unlike most western monuments, they have no front, no back, and no sides.   Being perceived as similar from all vantage points, they simply have no façade, only surfaces that are inseparable from their own bodies.   As for other religious structures such as assembly halls or ordination halls, although they consist of four sides, they are placed onto the ground as freestanding objects,

rather than as buildings with fronts and backs lining the thoroughfares. All of their sides are equally accessible, thus it allows them to be perceived obliquely, as they often are. In other words, they have no predominating faces, but rather sides that are equal parts of the same body. Redentation at the corners of the buildings' bases as well as the spired roof forms diminishing in sizes as they rise are to communicate fully only when viewed obliquely.

Thus in traditional Thai architecture, despite each element being conceived as flat, it is the manifold of these planar membranes that creates a spatial body of architecture full of surfaces but without noticeable façade. Thus, the traditional Thai architecture was hardly a fine art because it was inextricably caught up in mundane affairs. Such is a balance between representational and operational dimensions of architecture that allows buildings to attend to their own internal affairs as well as answer to external demands.

The practice of surface architecture without obvious façade has prevailed in traditional Thai architecture until the advent of western urbanism in the nineteenth century. Once placed as a part of an urban ensemble within a city, Thai architecture faced a challenge. The conflict between internal demands and external representation thus arose. The next chapter will address the advent of façade notion in Thai urban architecture and its relationship to the fabric of the city.

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[2] Marc Antoine Lauguer, *An Essay on Architecture*, Los Angeles, 1977.

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[4] Ibid.

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CHAPTER 5

ARCHITECTURAL BOUNDARY AND THE CITY:

THE CONFLICTS BETWEEN REPRESENTATION AND OPERATION
A CASE STUDY OF RATTANAKOSIN ANCIENT CITY

5.1 THE FACE OF THE CITY

CONFLICTS BETWEEN REPRESENTATION AND OPERATION

In the city, one is surrounded by multiple layers of architectural surfaces which both serve our interests and sustain them. Our impression of the city is often shaped by its constructed face, the manifold of inviting frontal façades. Yet, along with the smart and healthy *façades*, we also notice the extra-ordinary images of the seemingly accidental and uninviting surfaces. These are often the surfaces tucked behind, beside, beneath or beyond the immaculate frontal *façades.*(fig 5.1-5.2)

As spectator, one travels through the city observing its architecture and constructed space, transforming contemporary scenes into a personalized vision. To read across and through different layers and strata of the city requires that spectators established a constant play between surface and deep structural forms, between purely visible and intuitive or evocative allusions. Architecture in the city is not only a spectacle shaped by the representational order of planners and architects, it involves the public as well. It is inevitable that the composed city scenes are designed to be looked at and the spectator's amazement and memory evoked by the figural images. The spectator's city experience is inseparable from city imageries, for they either help or fail to produce a personal perception and view of the city. The meaning and visuality of the city's facade play a role in constructing representational images and architectural expressions of the city, in a way that they influence one's view, express or reveal one's perception and memory of the city.

It is inevitable that architecture of the city carries double obligations, which are manifested in the paradoxical role of architectural façade. On the one

hand, architecture is seen as the creation of self-contained spatial bodies; on the other hand, it is also the creator of the city's space. When self-contained spatial constructs are placed together, they are also arranged, in relation to one another, into larger spatial enclosures. Thus, architecture becomes the art of building cities. The relationship between the interior and exterior obligations of architecture is often marked by conflict. The struggles of most architects to fulfill these double tasks remain a testament to this problem.

Both the building's interior and the city consist of enclosed and interconnected spatial volumes. But the notion that "the city is like some large house, and the house is in turn like some small city,"[1] is also a paradox. While the ideas of boundary in architecture and the city share certain similarities, they also present irreconcilable conflicts.

The interconnectedness between the concepts of surface and space implies the double obligation of architecture towards both its interior operation and exterior representation. Yet, despite the simplicity of this view, the relationship between the interior and exterior obligations of architecture is often marked by conflict.

5.2 THE FACE OF RATTANAKOSIN ANCIENT CITY

During the late Nineteenth century, most authorities on the city laid claim to a scientific discourse. But their unsubstantiated incantations were limited to the affirmation of the scientific nature of the city in general and their own proposals in particular.[2] The result is that architects and planners produced only the linguistic indicators of scientific language. Most of the nineteenth century regulated city plan for urban development remained a testament to this method. The system of grids, uniformed building blocks, linear or radial extensions were employed, often emphasized by main thoroughfares in differing forms of circumferential ring streets or arterial boulevards.

The space of the city is seen as an infinite extension to be subdivided, thus the art of building cities became the art of subdividing city blocks. Space meant what was left in-between after self-contained and highly articulated spatial bodies were inserted. The buildings and the space remained two separate entities independent from one another. The nineteenth century

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cities thus created a large break between their time and any other before it. They were the cities that could be designed, regulated and created anew, using formal language.   London, Paris, Vienna and many other European cities exemplified such radical transformation.   And the face of the nineteenth century Bangkok was not exempted from such changes.

5.3 THE PAST:

REPRESENTATIONAL FAÇADE

Like so many other places, from the second half of the nineteenth century, the idea of a "city" had informed the transformation and extensions of Rattanakosin city, which had become the capital of Siam since the Reign of King Rama I, 1782.   As the serpentine network of canals has gradually been replaced by roads and streets, uniformity gradually took hold, which was a phenomenon forced by increasing urge of systematic industrialization not unlike many other nineteenth century cities.   The results of such forces, however, managed to lift the face of many cities. For Rattanakosin Ancient City since the reign of King Rama V, the symmetry, the regularity and the uniformity of the beautiful façades of the streets would easily render satisfaction admirable to the eye.(fig 5.3)   In addition to Temples, Palaces and grand civic buildings, most of the Rattanakosin Ancient City's streets were lined with shop-houses.   Two or three storied hybrid of Chinese and Western influences, these shop-houses has formed the face of the city.(fig 5.4)   The orderly city of Rattanakosin presented an image of streets and spaces for civilian, military and monarch ceremonies.   It has set the urban value in which many areas of Bangkok have followed, with regularity of outline and the courtly uniform pattern of facades.   This has created an ordered façade type throughout the Rattanakosin Ancient City that represents the order and the grandeur of the ruling class, the royal monarch.   Lining or enclosing the streets with uniformed façades has been a widely used method of the nineteenth century urban planning to create order and identity, and the case of Rattanakosin Ancient City was not different.

Since it was founded as the capital of Siam in 1782 the social and economic organization of Rattankosin Ancient City was determined by the presence of the ruling monarch and its palaces.   But as the nineteenth century progressed, such order was shifted.   As Siam became Thailand

and the ruling monarch has been replaced by democratic government in 1932 the structure of the city was shaped by official governments, military, artisans and growing commerce.   The change from the royal capital to a governmental and commercial one entailed the adoption of what tended to be recurrent building typologies throughout the urban area once enclosed by fortifications.   The common building types, besides existing temples and royal palaces, were new governmental quarters and commercial shop-houses.(fig 5.5)

As the uniformed shop-houses partly shaped the face of the city, their sense of hierarchy was translated in their vertical distribution.   Horizontally, every shop-house is uniformly composed; each unit replicated others next to it.   On the ground floor were shops or artisan workshops, with a mezzanine of modest lodgings over them.   Above this floor often consisted of one or two more stories reaching up to the attics, for the merchants, artisans and servants.   This uniformity of building typologies permitted the organization of street façades according to repetitive modules.   Thus it seemed that the city as a whole was built upon reliability of symmetry.   The structure hierarchically organized in its streets and architecture can be seen as a tangible evidence of the ruling power, both monarchal and governmental.

The adoption of uniformed façades in both civic and commercial architecture during the nineteenth century was also convenient from the technical and economic point of view. In fact, the buildings were mostly of plain and regular structures with columns or brick bearing wall, with wooden floors on the upper stories, and a constant articulation of fenestration. This constructional typology was represented on the front by decorative and repetitive structures, made with materials such as poured cement and plaster, imitation marble stucco and a few precious elements in stone. The façades were often commissioned to skilled craftsman as the finishing touches to the buildings.   The work of these specialists is particularly important in rich plastic ornamentation and moldings which distinguished the more important façades.

Although there has been no regulations on the design of architectural façade, most buildings within Rattanakosin Ancient City kept their

alignments and symmetry in check. The arrangement of the whole façade module has never been subjected to obligatory rules. Yet, the system of uniformed façades extends from royal palaces to major public and civic buildings as well as commercial quarters. During the late early period of the twentieth century, when the royal monarch's rule was replaced by democratic government, the face of the city has slightly been transformed. The grand avenue, such as Rachadamneon Boulevard that was once used for royal precession has become a symbol for democracy. As the place for the people, buildings along the Rachadamneon Boulevard adopted a remarkably more somber face. Highly uniformed, almost fascistic, buildings lined the Rachadamneon Boulevard seemed gigantic compared to the miniscule commercial shop-houses around them. Compared to the façades of the earlier era, these buildings are considerably less expressive in terms of ornamental details and motifs, yet their blankness makes them noticeable and even severe.(fig 5.6) They stand out as prominent urban objects, lined the street, yet separated from it, refusing to blend with any other structures around it. Along with other governmental buildings of the era, they have created an ordered façade type throughout the Rattanakosin Ancient City that represented the imposing order and the new ruling class, the democratic government.

5.4 THE PRESENT:
OPERATIONAL FAÇADE

Along the Rattanakosin Ancient City's main thoroughfares such as Rajadamneon Boulevard, the buildings lined the streets showed a uniform exterior that reflected the coherent uniformity of its interior organization.(fig 5.7) The focus on the façade and its expression seems to represent a statement of how the buildings should fit in within the structure of the urban ensemble and not necessarily concern itself with the microstructure.

This sense of introverted coherence is perhaps unavoidable in the public and civic buildings that are considered as the face of the city. In many cases along Rattanakosin Island's main streets, apart from the fact that the perimeter of the building fit the perimeter of the site, it is difficult to understand how the buildings were determined to take part in the larger ensemble of its urban neighbors. An attempt to compose a self-contained spatial body enveloped within its cladding may result in an articulated

building in its own right. The building's façade may represent its symbolic, material and constructional value.   But once the building is being considered within the city, the dialogue between its well-clad body and the spatial structure of the place it belongs is lacking.

Yet the question worth asking is; what would be the relationship between those faces and its internal functions, as well as its urban neighbours. Many façades in Rattanakosin Ancient City offer answers to such question.

Behind the buildings with external uniformity, there exist other buildings that were choreographed to respond to both internal demands and external obligations, which represent an attempt to reconcile its inner configuration with the shifting axis of its urban setting.   The sometimes-overlooked façades of residential, semi-commercial and commercial quarters often reciprocate the interior pattern of inhabitation.   Such buildings are a testament to the users' struggle to answer to both interior space and exterior form.

Most commercial shop-houses along the streets of Rattanakosin Ancient City today have been dramatically transformed. The once ordered façades have been added, altered, covered, and carved out.(fig 5.8) What has caused these alterations?   As the façades were originally designed with coherent and uniformed pattern to line or enclose the streets, they have created a sense of urban order and given the city a tangible identity. The uniformed façades were designed to be viewed from the outside, to give the borderline to the space of the streets, or to be the demarcation between public and private life of the city. Yet, it is inevitable that behind these uniformed façades, different kinds of lives occupy the spaces of the buildings.   Once these buildings were actually occupied and ownerships have often been transferred, buildings have been used for different purposes, and these purposes do not necessary . coincide with the uniformity of the façades.   Thus, most façades, especially ones that house commercial activities, have been appropriated through various means. For commercial purposes, each and every shop-house needs to be identifiable; they simply cannot afford to have the same face as any other buildings next to them.   Thus such commercial drives simply defeat the original purpose of these façade to give an order to the urban ensemble.   In other words,

the nineteenth century uniformed façade simply gave ways to an individualized one during the twentieth century. Façades become layered with increasing usages, demands and needs to communicate.(fig 5.9)

As the originally uniformed façades have been transformed, some have become haphazard, disordered, and even chaotic, when consider as a whole. These chaotic façades, such as ones along Kao San road, were not meant to represent the image of the city, yet they do form the identity of Rattanokosin City, albeit one that we may try to deny. Consider as a whole, they are seemingly un-composed and accidental, yet they all represent highly articulated façades. Each tries to communicate its own internal message, reflecting its internal usages. It is the kind of articulation that comes into being by the lives and activities behind those façades.

5.5 CONCLUSION
BETWEEN REPRESENTATION AND OPERATION

Throughout Rattanakosin Ancient City, one sees the different kinds of dialogue between the buildings and its surroundings. For some public and civic buildings, they show an overriding force of graphic composition that was also reflected in the facades, which complied with the building's external uniformity. Both the particularity of its internal settings and the external aspects of the city became secondary. Façade-making were matters of dividing space or inserting coherent composition onto a blank canvas. Thus, the façades that might be articulated and communicative in its own language became silent in the spatial and formal language of the city.

Most residential and semi-commercial quarters in Rattanakosin Ancient City presented a contrast to those of the uniformed of public and civil architecture. At first glance, the seemingly haphazard and small buildings, alleys, passageways seemed to be alienated from its grand public surroundings. Yet, those spatial structures are hardly silent.

At first glance, many of the small residential and semi-commercial architecture seems subservient to the grand façades encircled most main street blocks, as well as alienated from the other components of the city. It seems that these façades only correspond to the lives and activities behind them. Yet, at a closer look, many of the minor buildings show the clever

resonance between its façade and those of other buildings. They demonstrate correspondences with the place in scale, dimension and articulation of its entrances and other motifs. There also exist the façade gestures that yielded the buildings to their surroundings. Some architectural elements were deliberately created and placed within the public realm. Elements such as columns and windows were in many ways similar to those of other buildings around them. These overlooked and forgotten buildings created a sense of un-identical likeness between them and the other participants of the place, enough for the building to define itself and redefine other buildings around it. In the end, these seemingly silent and nonchalant buildings speak the language of the city, in a way the grand gestures of the public and civil building are never capable. For many of these "un-designed" buildings, the "accidental" façade and cladding was not only a matter of self-configuration, but also a question of urban order. The order and hierarchy of urban space was articulated by both the building's form and cladding.

The differences between the beautiful, carefully designed and maintained façades and the chaotically transformed onces demonstrate the conflict of interest between the internal and external obligations of architecture. While the façades that are considered the face of the city sustain the interests of the city spectators, the hidden façades serve the interest of those who dwell within the city. On the one hand, the city shows overriding concern toward the external configuration of architecture. The task of architecture is to clad and enclose the space of the city before taking into account its own internal business. Architecture is a tool used to create the hierarchy and order in public space. On the other end of the spectrum, architecture articulates its internal aspects regardless of the place it belongs; its walls exist only to demarcate its own boundary.

Perhaps many overlooked "accidental" and chaotic façades of the Rattanakosin Ancient City demonstrate an example that resides between these two points of the spectrum. They can be seen as buildings that try to fulfill their internal business as well as attend to the spatial and formal fabric of the city. These unseen nucleuses of the city blocks can be considered as spatial constructs that are built up simultaneously with the spatial network of the city. The boundaries of these buildings work both to define

its own space and redefine the spatial structure of their surroundings. Neither the idea of a self-contained body, nor the idea of a larger spatial enclosure precedes one another.   In many ways, these overlooked and seemingly un-designed buildings accomplished the double obligation of architecture towards both inner and outer demands.

These forgotten urban structures confirm that the city was not just a commodity.   It shows that the "subconscious artistic instincts"[3] have structured the city's space from the beginning of history.   They are determined both by the changing norms of historical cultures and by the stable psychic organization of man.[4]   They represent the idea of natural cities that conformed to the exigencies of human nature.

THE FACE OF THE ARCHITECTURE AND THE CITY

While architectural space is built up within the relationships between ensembles of boundaries, yet for the city, the story of spatial creation is different.   Despite the notion that the city is like some large house, and the house is like some small city, the city can hardly be a unified work of art. While architecture is consciously created as a self-contained spatial body, the city can hardly be similarly objectified.   The space of the city is neither artistically composed, nor shaped solely by impersonal factors.   Any attempt to compose the city's space is conditioned and pushed by many other factors.

Though the city consists of aggregated bodies of architecture, it is also made up of the in-betweens.   When the interior space of architecture is created, it is bounded and enclosed within its walls.   The space of the city, on the other hand, seems to be conditioned by what is unused, unoccupied and at times, unwanted.   The space of the city comes into being as architecture is conceived along with its structure.   In some cases, the city's space is objectified.   In other cases, it is left as a void.   Perhaps neither end of the spectrum will suffice.   While the space of the city is at times thought to be deliberately created, it is also a by-product, but it is the by-product that is being used and occupied.

Though the creation of the space of the city is not entirely in the architect's hand, the architecture of the city carries a double obligation.   The task of

architecture is to turn both ways by yielding parts of its self-contained body and lending itself to the spatial pattern of the city. When architecture fulfils both tasks, it may become a part of a city's spatiality. Rather than being a void, a left-over area in-between or a mere receptacle into which buildings are to be inserted, the space of the city may also be built up as soon as self-contained spatial bodies are placed together. The space of the city, thus, lies within the relationships between the ensembles of architectural bodies that lend materiality to its boundaries.

Perhaps two extremes of reality can be deduced. On one end of the spectrum, architecture participates in the spatial art of the city regardless of what it really is. Architecture takes into account the way the city is being used and occupied; it exists as the element of enclosure for the city. On the other end of the spectrum, architecture articulates its internal aspects regardless of the place it belongs; its walls exist only to demarcate its own boundary. Perhaps urban architecture needs to reside between these two points of the spectrum. It has to be a building that fulfilled its internal business as well as attended to the spatial and formal fabric of the city. It must be a spatial construct that is built up simultaneously with the space of the place. The boundary of such building works both to define its own space and redefine the spatial structure of its surroundings. Neither the idea of a self-contained body, nor the idea of a larger spatial enclosure precedes one another. Achieving this equilibrium, thus the building would accomplish the double obligation of architecture.

Building within the city, architecture inevitably performs double tasks, responding to both its internal demands and external obligation towards the public realm. These tasks are translated onto, and into the external surfaces of the buildings. In many ways, these surfaces serve as a tool to explore the power of architectural surface to shape and reshape the identities of both architecture and the place. Architecture as it appears in direct experience -- be it in its immediacy as a given texture, be it in its remoteness as an image -- gives us references and clues to the work of architecture itself and of the larger social, cultural and natural framework of its location. This two-way movement towards an inner and outer horizon endows architectural surface with the capacity to generate meaning and

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locates it in the crucial juncture by which it seems capable of transcending its own superficiality in many possible directions.

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[2] See the discussion of the nineteenth century city planning in Françoise Choay, *The Rule and the Model,* Cambridge, MA, 1997, pp. 255-267.

[3] Camillo Sitte, *Der Städtebau,* Wien, 1972, p. 23. Collins and Craesmann Collins, *Camillo Sitte: The Birth of Modern City Planning,* New York, 1986, p. 159. See also the discussion in François Choay, *The Rule and the Model,* pp. 255-267.

[4] See Choay, *The Rule and the Model,* pp. 255-259

Chapter 6

RESEARCH CONCLUSION

Throughout the history of architecture, the question of how the building will look is among the fundamental issues architects must deal with when designing a building. Yet, not all architecture is conceived with façade concern. The notion of architecture having a representational planar face only emerged during the Renaissance, and became particularly intense during the nineteenth century. Since then such overriding façade concern has transformed the face of our architecture as well as the city.

Yet at a closer look, the seemingly common practice of façade design presents a paradox. Buildings are not and have never been flat pictures, which means they are rarely seen straight on they way their façades are designed? Peculiarities of location as well as the exigencies of building use usually prevent us to experience buildings the way their façade designers do. But since the nineteenth century, the overwhelming concern that buildings are meant to be seen, each building must be designed to have their face has led architecture to neglect local peculiarities. Since the nineteenth century façade compositions on flat surfaces take for granted the neutrality of their background for they are composed against the white of the paper much like a painting hung against the wall. This presents a sharp contrast between figure and ground that can never occur once the building has been built because there can never be an empty context no matter nondescript or banal the location might be.[1]

When every built design is meant to stand apart from its surroundings because each is supposed to hold its own identity, whether such identity is much similar or different from its vicinity, it causes each and every building to compete with each other as well as with their surroundings. When buildings of the nineteenth and the twentieth century are composed as if they are to appear on a tableau, the notion of context and location thus become subordinate to the representational face.

Thai architecture before the advent of modernism, on the other hand, reflected the practice emphasizing on operational dimension that has prevailed until the Renaissance and faded since the nineteenth century. Even though elements of most traditional Thai architecture are conceptually and methodically fabricated as surfaces, buildings as a whole have been born out of, and can still be enmeshed in the settings that surround them. The consequences of this reflect both the perception and the ways the building works within its context. It is the type of architecture that does not present itself with overpowering representational face, but always with representational-operational equilibrium that makes the building both explicitly identifiable and implicitly practical.

However, this representational-operational balance of Thai architecture has shifted with the advent of western urbanism. With buildings seen as an enclosure lining the streets, the practice of composing the façade as a flat tableau arises. Once we start composing a façade as flat surface on a white paper, we immediately assume this practicing as independent, thus we already neglect our experience of the cities and towns to which buildings belong. The cities is thus lined with representational faces, each of its parts strives to assume for itself freestanding self-expression, often at the expenses of the operative relationship of the whole setting. Results are that even if the self-expressive, orderly and uniformed facades on papers have been built, the forces of the whole urban ensemble would not allow them to remain independent. The driving force of daily usages behind each and every façade would cause it to transform. And without a visionary framework for possible future façade alteration, the sense of commonality and congruence eventually disappear after the facades have been transformed.

Today we tend to view architectural facades as composed pictures. But consider most traditional Thai architecture, whether domestic or religious, the fronts of those buildings were not necessarily meant to be viewed as such. Traditional Thai domestic buildings were often enmeshed in the prosaic activities of their surrounding settings. The enclosing walls of domestic buildings were not seen as an aesthetic work that bears an author's signature, but more as an instrument of "operates" as a part of the constituent ensembles of the place.

Although most sacred buildings were designed to have facades in a way that their fronts were distinguishable from their backs, these buildings were to be seen more as constituents of a topography that supported them. The boundary between the sacred and the secular were only occasional and always topographical. In other words, the temple façade was both a front and a back-drop for a wide range of affairs, either religious or prosaic.[2] Thus, the traditional Thai architecture was hardly a fine art because it was inextricably caught up in mundane affairs. Such is a balance between representational and operational dimensions of architecture that allows buildings to attend to their own internal affairs as well as answer to external demands.

A question we must ask is: as out cities grow, arriving at such equilibrium is increasingly difficult, what can we learn from our traditional architecture? Certainly we cannot turn back time and live nostalgic lives of the eighteenth century Thailand. Perhaps only through searching and researching again the conceptual and methodical ways in which Thai architecture once created a sense of representational identity that has never been explicit, yet allow it to become enmeshed within its prosaic context, we can come to an understanding of our own architectural and urban future. All parts of buildings and cities need to operate, or interwoven into practical situation. When relationship of this kind ceases to exist, architecture becomes only an aesthetic object failing in its necessary operative tasks. But with overemphasis on practical functions, architecture remains in the same category as utilitarian objects lacking inherent semantic dimension that gives meaning to all architecture. A building's representational and operational balance is partially held within the thin layer of its surface.

References
[1] David Leatherbarrow, *Uncommon Ground: Architecture, Technology and Topography,* Cambridge, MA, 2000, pp. 71-118.

[2] David Leatherbarrow, *The Roots of Architectural Invention: Site, Enclosure, Materials,* Cambridge, MA,1993.pp.82-92.

ILLUSTRATIONS

Fig 2.1 Pre-Renaissance Architecture

Fig 2.2 Dante Square, Verona, Italy

Fig 2.3 Renaissance Façade

Fig 2.4 The Ringstrasse

Fig 2.5-2.8 The Ringstrasse architecture of the Nineteenth Century
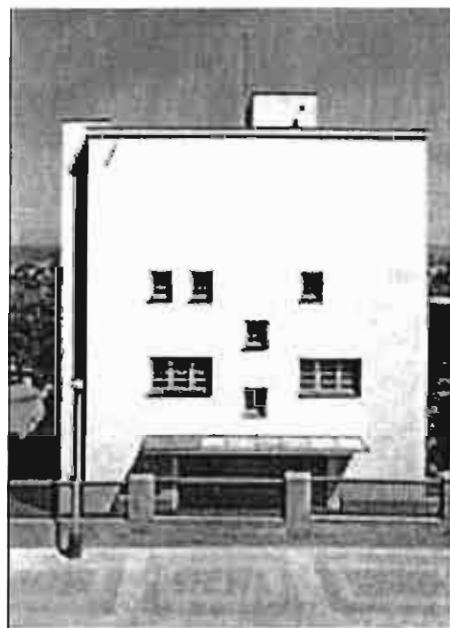
Fig 2.9 Adolf Loos, Villa Müller, Prague   Fig 2.9 Adolf Loos, Losshaus, Vienna
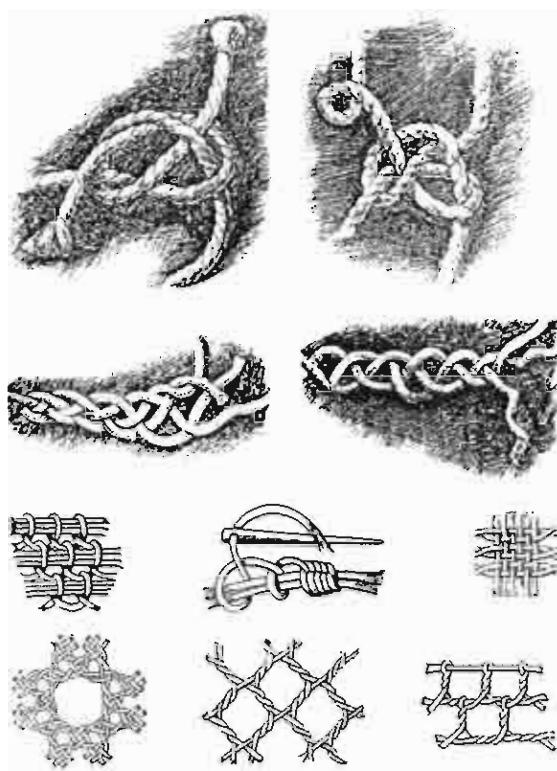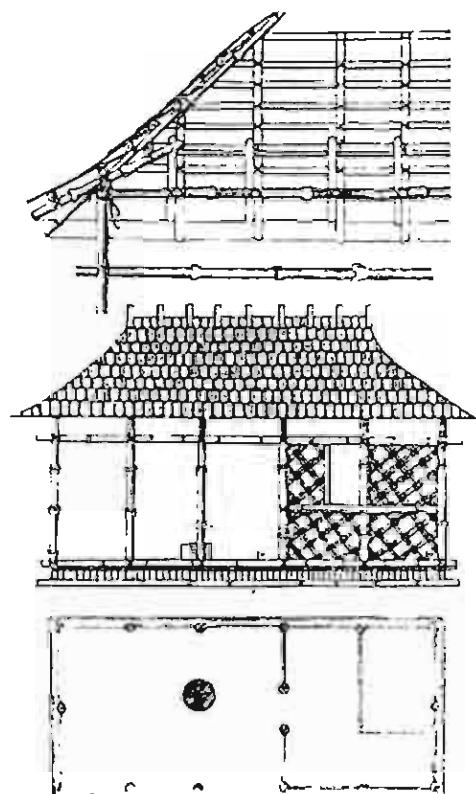
Fig 3.1 Gottfried Semper, Caribbean Hut   Fig 3.2 Weaving, Binding, from Semper, Der Stil

Fig 2.9 Adolf Loos, Villa Müller

Fig 4.1 Marc Antoine Laugier, The Primitive Hut

Fig 4.2 Traditional Thai House on Stilts   Fig 4.3 Thai Vernacular House with mat-like enclosure

Fig 4.4 Monolithic Structure

Fig 4.5 Prang, Chedi and Mondop

Fig 4.6 Ceremonial Hall and Ordination Hall

Fig 4.7 Mosaic and painted cladding on Monolithic constructs
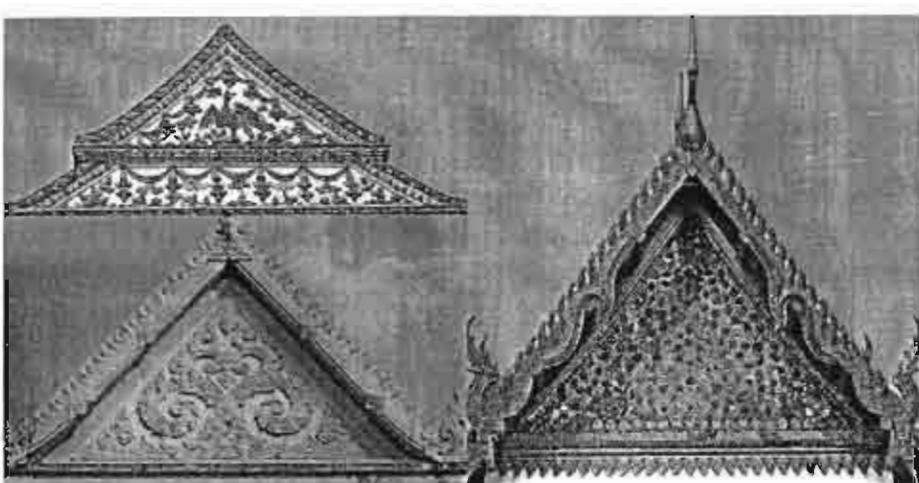
Fig 4.8 Clad pediments
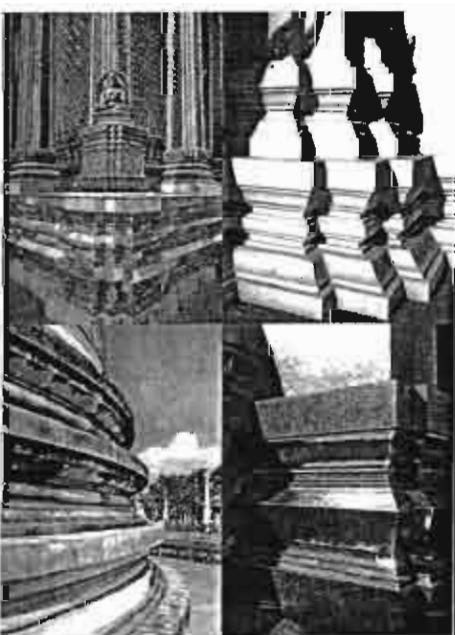
Fig 4.9 Clad bases and footings
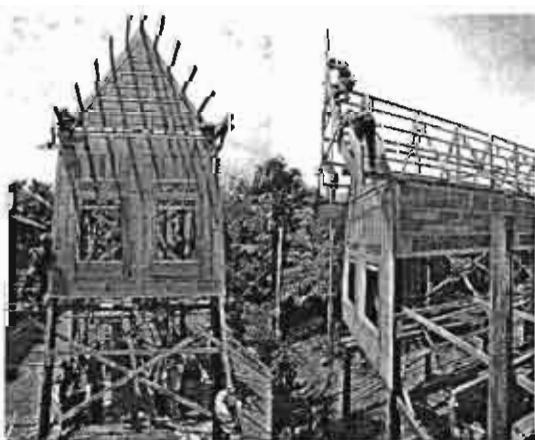
Fig 4.10 Wall panels put into place
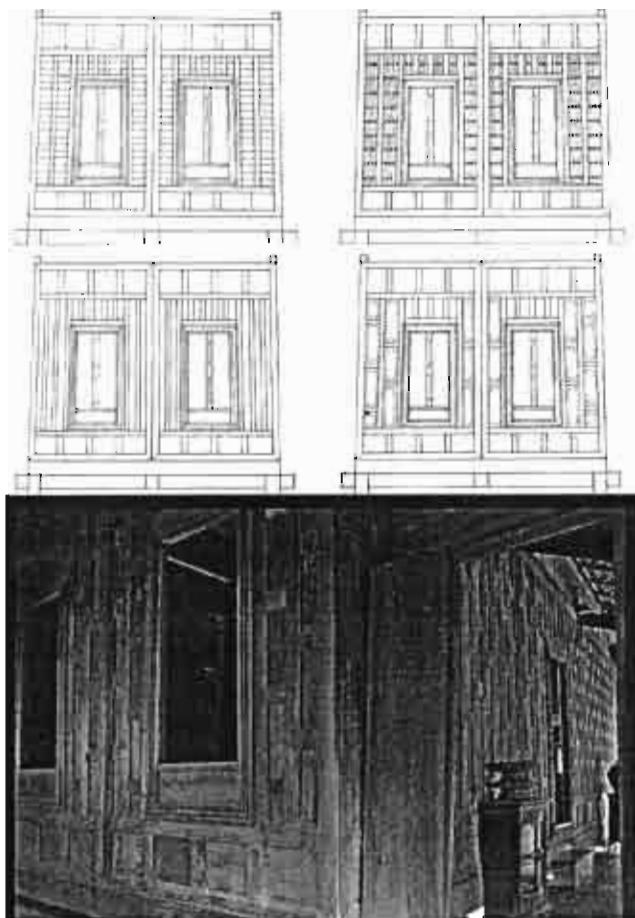
Fig 4.11 Textural quality of prefabricated wall panels
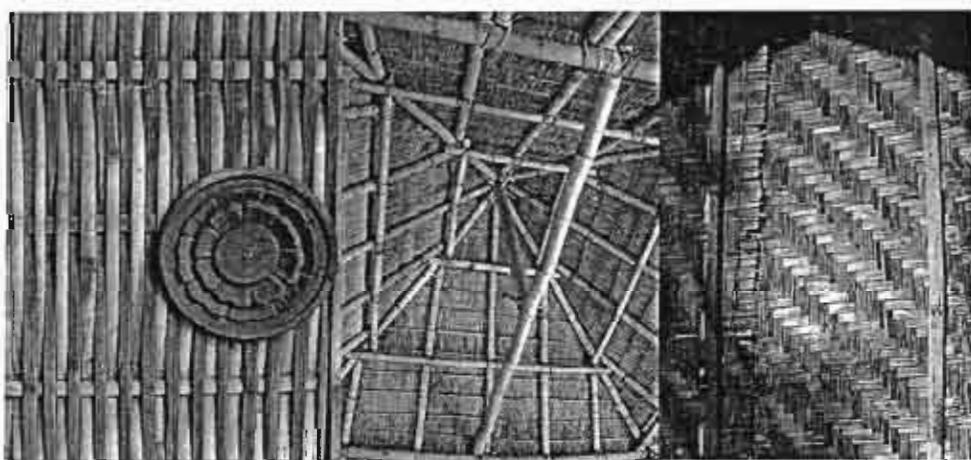
Fig 4.12 Woven mat spatial enclosure
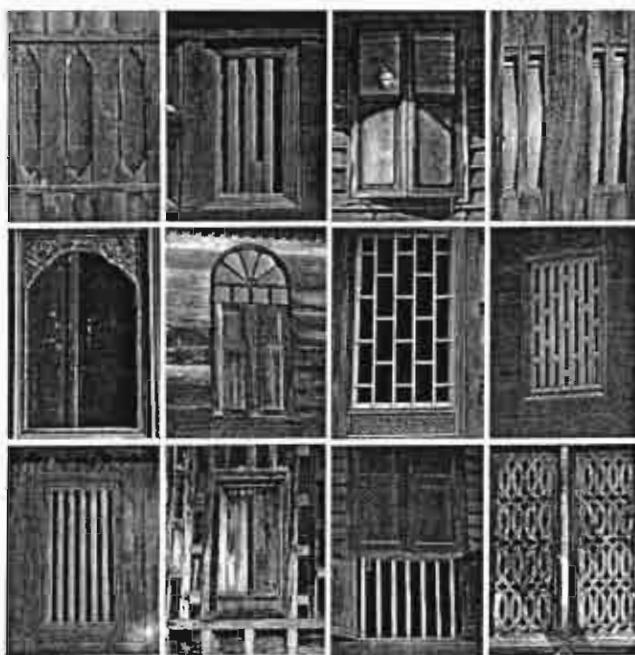
Fig 4.13-4.14 Planar Door and Windows


Fig 4.15 Surface Roof Planes

Fig 4.16 Thatch Roofs, weaving and binding method.
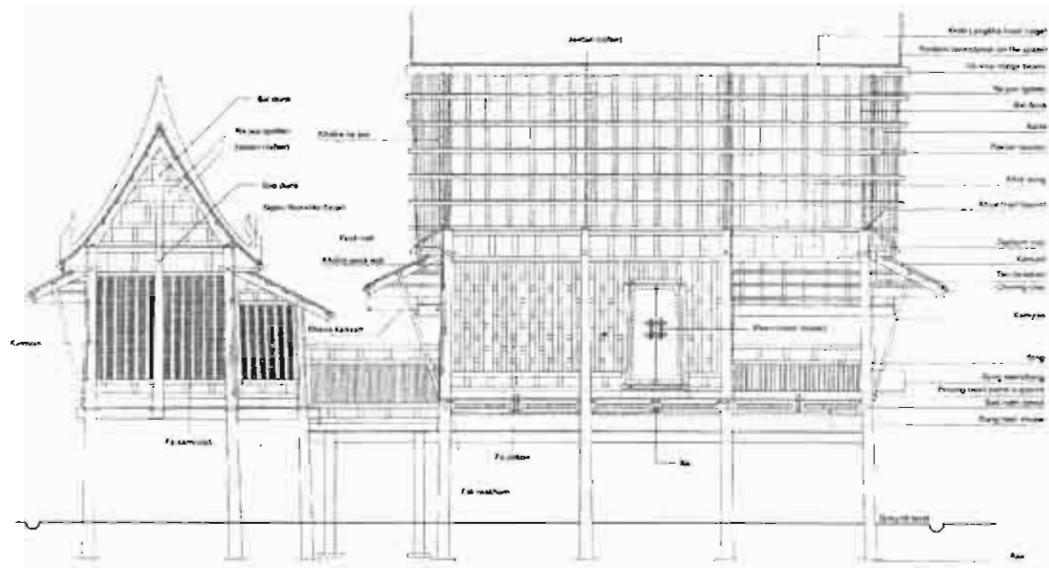
Fig 4.17 Planarity of the traditional Thai house

Fig 5.1 Uniformed façade of Rattanakosin Ancient City
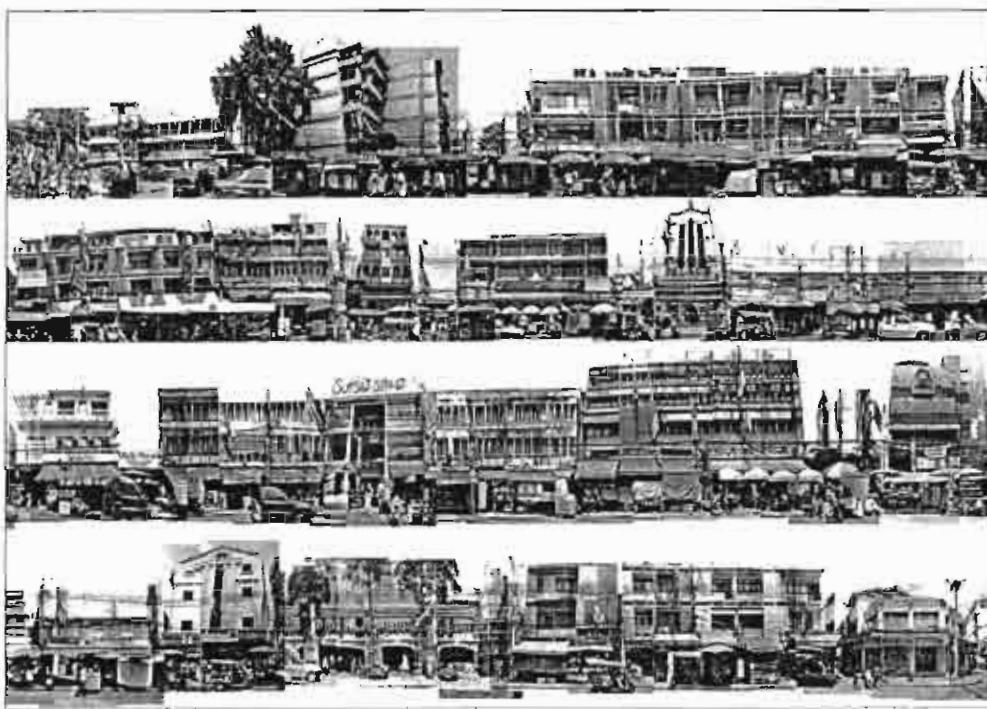
Fig 5.2 Façade Transformation

Fig 5.3 Uniformed Façade of Rattanakosin Ancient City

Fig 5.4 The Face of Shop-house   Fig 5.5 The Face of Shop-house
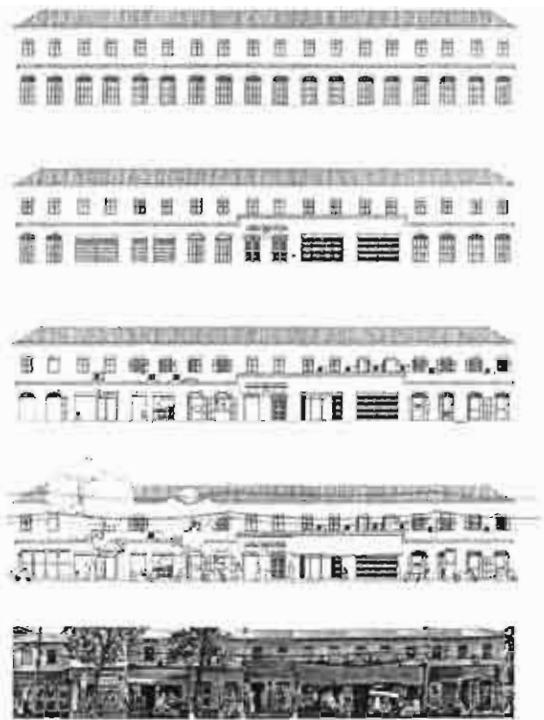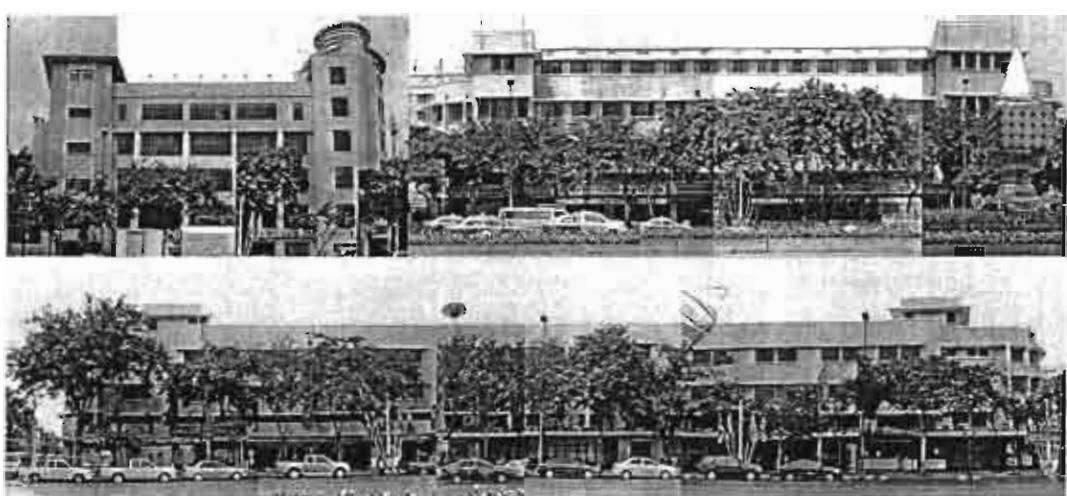
Fig 5.6 Rachadamneon Boulevard

Fig 5.7 Façade Representation, Uniformity and Order
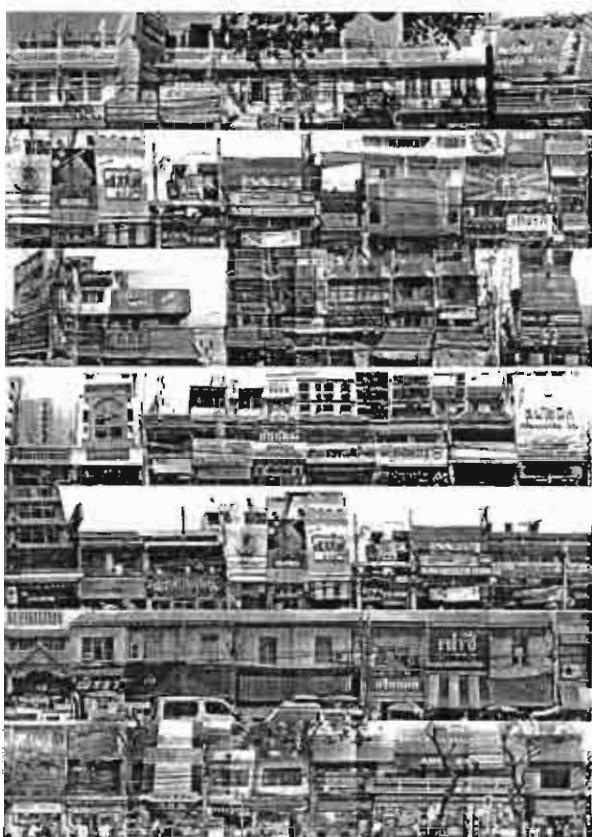
Fig 5.8 Façade Appropriation, Transformation and Adaptation
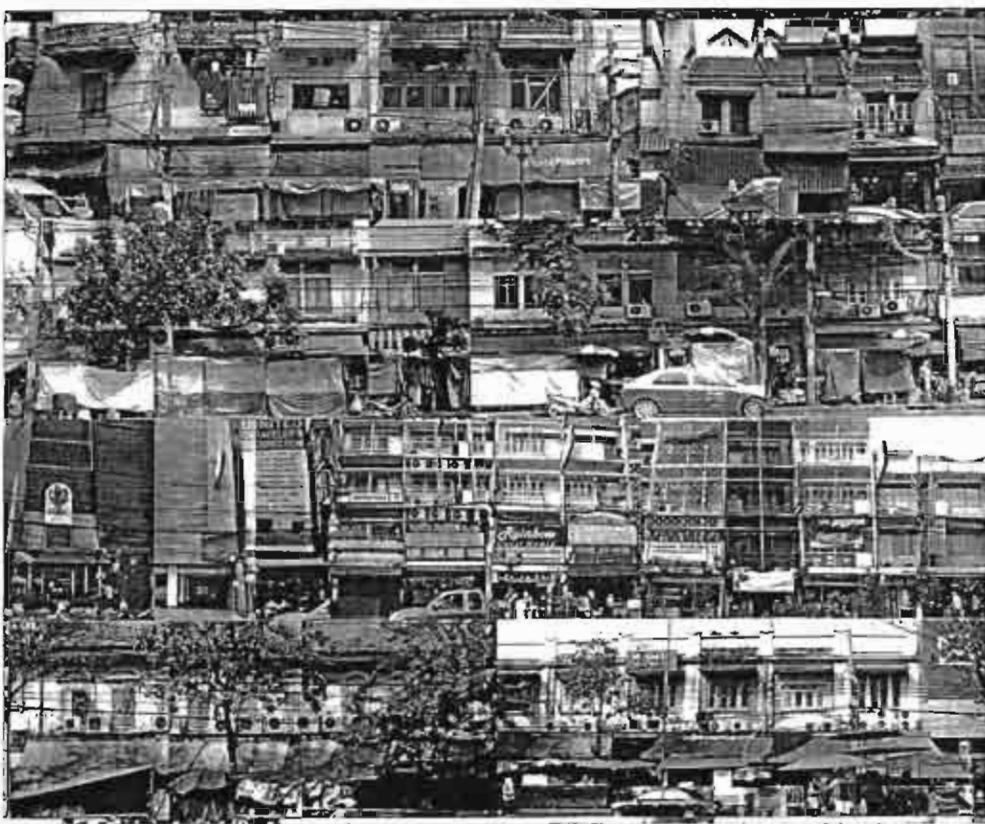
Fig 5.9 Can representational order resist the operational transformation?

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APPENDIX I

Research Output

International Conferences and Proceedings

Parts of the research results and findings have been presented at two international conferences related to the topic. Results and commentaries from these presentations are documented for further development of the inquiry.

1. Panin, Tonkao, "The Hidden Face of the City: Architectural Surface and Territorial Transformation," A paper published in Proceedings of Symposium BMB 2005: Identity and Globalization, Design for the City, Bordeaux, France, April 2005.

2. Panin, Tonkao, "Urban Spectators: The Transformation of World Class Cities Through the Eyes of Urban Tourists" A paper published in Proceedings of UPE International Conference: World Class Cities, Kasetsart University, Bangkok, Thailand, January 2007.

Other Publications

Related studies in the filed of architectural theory have also been published:

3. Panin, Tonkao "On the Surface: The Purposes of Architectural Enclosure," Article published in Na-Jua, Journal of the Faculty of Architecture, Silpakorn University, Bangkok, 2007.

4. Panin, Tonkao "The Passage of Time: Le Camus de Mezieres and the Times of the Day Traditions," Article published in Na-Jua, Journal of the Faculty of Architecture, Silpakorn University, Bangkok, 2004.

5. Panin, Tonkao, "TEN: The Dialectic Between Communal and Individual Living," Article published in On Site: Design At Work, issue 13, 2005, The Canada Council For the Arts, Makeda Press, Calgary, Canada.

6. Panin, Tonkao, "Once Upon a Time: Le Corbusier's Apartment at 24, rue Nungesser et Coli," Article published in On Site: Design At Work, issue 15, 2006, The Canada Council For the Arts, Makeda Press, Calgary, Canada.