

# Attachment and Associational Dimensions in the Architecture of Historical Building Conversion in Thailand Between 1997 and 2012

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## ABSTRACT

The research on The Initial Survey of Evolution of Adaptive Reuse of Historic Buildings in Thailand is aimed at constructing knowledge for the module named Reuse and Rehabilitation of Historic Buildings. This module is part of the curriculum of Bachelor of Architecture, which studies the role of architecture fabricated within historical buildings. In the era between 1997 and 2012 in Thailand, there was a notable transformation from conservation to contemporary conversion. A review of conservation perspectives indicates a combined multi-disciplinary cooperation between architectural design and conservation. To establish issues regarding the knowledge of conversion, a research question is raised: how do architectural elements play its role through adaptive reuse? Aimed at understanding the complexity among adaptive reuse ideologies, issues surrounding architectural elements of historical buildings are rationally explored. Based on significant adaptive reuse projects from 1996 to 2012, architectural elements were referenced as to how concepts and objectives were associated. Qualitative research was conducted through a study of primary sources; survey and classification of representative samples, and secondary documents, records and architectural drawings. The controlling significance of the buildings led to a discussion and an analysis of the architectural designs through new additions and amendments made on the historical fabric. Included in this discussion are the principles of conversion as they relate to the architecture of historic buildings and the ideology of the modification. It is found that understanding a change to architectural elements through an ontological perspective, that of attachment and associational approaches, could clearly reveal the construction programme that facilitates the historical building for which conservation or adaptation is determined. A dialogue on relevant contexts surrounding amendments of architectural elements demonstrated that a strong emphasis towards particular objectives of use could coincidentally harm the historical building's architectural dimension framework. This leads to the notion that architecture for adaptive reuse should include knowledge of the original construction, a balance among conditions of the existing building, its programming and further habitation.

**Keywords:** conversion, architecture of historic building, historical building, programme of use and architectural element

## INTRODUCTION

Conversion or changing of use is a method invented to create new functions for both redundant and outdated buildings. Rehabilitation, reuse, adaptive reuse, creative reuse and adaptation are similar in meaning and methods relevant to re-programming and redesigning the existing architecture (Boonprasong, 2016). From the literary review, it is concluded that the principle of conversion develops locally. It is generated in response to each locational context in terms of perspectives of heritage, building regulations, socio-cultural climate, etc. Based on the rationale of rehabilitation, the principles of conversion include typological, technical aspects, programmatic and strategic concerns providing integral arrangement to the historical fabric (Plevoets & van Cleempel, 2013). Starting from a replacement of vacant spaces to reinsertion of new programmes, conversion is developing through the idea of reuse and rehabilitation of historic stocks in a declining area during the 1970s (Tiesdell et al., 1996). Based on Cantacuzino (1975) and Cunningham (1988), vacant space of existing buildings needs to match contemporary programmes of use, providing a combination of specific procedures from surveying historical buildings to developing new architecture. Providing substantial processes and methods originate by understanding the existing building, the programming of a new use, implementing physical adaptation and occupancy (Cramer & Breitling, 2007). It is presumed that a project's procedures always respond to the owner's requirements of building elements, regardless of fabric or site (Latham, 2000) and project participants (Giebel et al., 2009). In fact, the new use is based on building typology, performance of use and strategic application (Plevoets & van Cleempel, 2011).

Conversion could also be seen as an intervention, i.e. our own time implicatio (Tomback et al., 2017). Architecture for conversion, as mentioned by Latham (2000) and Cramer and Breitling (2007), is considered as the physical remains and change. Through the heritage approach, architecture is as a palimpsest that confirms development of value and significance through time (Verheij, 2015). To create new extensions, different periods of

architecture are scrutinized in which old and new coexist (Madanipour, 2017). It is argued that the intervention would be recognized as a realm of existence in the long-term.

To understand the situation of historical building conversions in Thailand, the evolution of conversion in Thailand is reviewed. It was found that the period between 1997 and 2012 substantially represents an emergence of historical buildings' conservation. The adaptations were based on values and significance as defined by integration of an associative past towards future. Since then, procedures of conservation projects are therefore transformed to amalgamate with the architectural process. To understand this complexity, a study of architecture for conversion work was conducted. As emphasised in the Burra Charter, an understanding of architectural properties must be intensified by value and significance before any changes are rationally proposed. A clear perspective of conversion as a palimpsest of architecture will be discussed through an analysis of existing buildings and the creation of new programmes regarding behavioral and experiential dimensions. The research question raised is, what are the role of attachment and associational dimensions in the architecture of historical building conversions in the Thai context between 1997 and 2012? The proposed research framework is developed from examining conversion projects through an understanding of the building, the programming of new use, designing and planning for occupation and maintenance are assessed.

## Objectives

1. To understand the dimensions of architecture for historical building works
2. To analyze approaches to conversion that affects any amendments to the architecture of historical building
3. To discuss the concepts of architecture of historical buildings affecting the creation of intervention and any modification of historical building elements

## THEORETICAL FRAMEWORK

### Architecture for conversion

Change to the historical fabric is always relevant to the significance of a building (Mason, 2004). In fact, buildings with distinctive characteristics are always protected by special architectural procedures (Yıldız & Asatekin, 2016). Decisions as to methods employed for re-programming, re-architecture, re-planning and re-design are conducted through an analysis of existing conditions (Plevoets & van Cleempoel, 2011). When new standards of regulation, planning and improvement of building performance have become a thematic context, then designing a new addition should be discussed based on which approaches could enhance the new and preserve the old (Plevoets & van Cleempoel, 2012). Adding any substance to an historic fabric challenges an architect to compatibly create a process and methods of successfully uniting the new layer. Based on architectural values, requirements and the objectives of use are usually determined by building typology as opposed to its architectural value (Cullinane, 2012). With unique characteristics of space, proportion, construction, material, artifact and etc., conversion of particular building types should be concerned with the proposed cultural patterns of space, spatial connection and activities (Blagojevic, 1997).

### Architecture for historical building

The creation process of new architecture added to a historic fabric is different from designing a new building. With the distinctive characteristics merging with new values and meanings linked to individuals and groups of people, the new design should represent another chapter of history via contemporary impression (Cramer & Breitling,

2007) or palimpsest (Verheij, 2015). Although harmony is a favorite method of applying new material, a contrast is preferable to avoid confusion of age. This refers to use of texture, colour, size and pattern from the existing building (Feilden, 2003) or the creation of new elements that reflect the location; an assimilation through materiality and fragmentation, transparency, as found, continuation, and association (Cramer & Breitling, 2007).

### Process of working with historical building

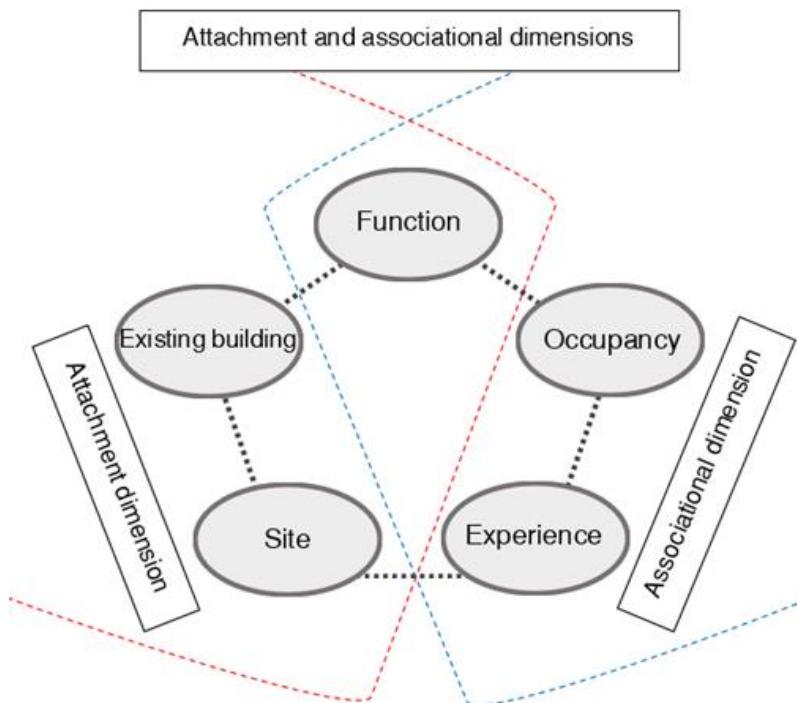
Architectural design for the conversion of historic buildings is comprehended through the meaning-given process in which the existing building, programming and inhabitation are assessed. According to Brand (1995), Cramer and Breitling (2007), Tombak et al., (2017), Latham (2000), Taggart et al., (2006), The Burra Charter (2013), conversion needs specific procedure from survey of historical building, method of analysis, and developing of new architecture providing a substantial process and method through understanding existing buildings, programming new use, implementing physical adaptation and occupation and management (table1).

As shown in table 1, the process of conversion combining conservation and architecture includes understanding existing buildings, constructing new programmes, conceiving architectural design and managing occupancy. Analysis of the conversion procedure demonstrates that particular works required at each stage are in relation to amendment of architectural elements. When examining this procedure through an ontological perspective, the architectural aspect can be divided into two important aspects - attachment and associational dimension. The former refers to elements that fabricate the historical structure, while the latter means stage of living and inhabiting within a historical building (figure 1).

**Table 1***Analysis of Attachment and Associational Dimensions in the Architecture of Historical Building*

<i>Conservation (Musikakhama, 1995)</i>	<i>Architectural conservation (Orbasli, 2008)</i>	<i>Architectural design (Voordt &amp; Wegen, 2005)</i>	<i>Conversion (Latham, 2000)</i>	<i>Architectural elements (Tomback et al., 2017)</i>	<i>Dimensions in the Architecture of Historical Building</i>
Predesign and research phase	Understanding	Exploratory phase	Understanding existing building	Existing building Site; Previous function	Attachment
Design-development phase	Appropriate use	Programme of requirements	Architectural programming	Re-programming	Association
Outline specification; Bidding; Negotiation and construction contract phase	Implementation	Design; Implementation	Design; Consolidation; Implementation	Issues intertwined with existing fabric: comfort, contemporary standard, regulation, safety; New design	Association
Fieldwork	Evaluation	Use and management	Occupation and management	Space Pattern of use Decoration	Association

*Note.* This table demonstrates developing key issues of dimensions in the architecture of historical building conversion through analysis among processes of conservation, architectural conservation, architectural design, and conversion. It is found that the two aspects of historical buildings are 1) aspects related to the existing building and 2) issues that related to construction of new use.

**Figure 1***Framework of architectural dimension*

*Note.* This figure demonstrates the relationship between attachment and associational dimensions. The former refers to existing buildings and sites, whereas the later refers to occupancy and experience. However, attachment and associational dimensions denote function that links between existing, building, occupancy and experience.

## Developing theoretical framework

For reuse, tracing the appropriate new function in terms of compatibility and durability is always important to the premise. Ontologically, the comprehension of architectural aspects based on a procedure of conversion, clearly represents two stages - the existing building and its inhabitation (Tomback et al., (2017); (Latham, 2000). These two aspects include the original values of the historical building- existing building, site and previous function (Latham, 2000), and the new programme - occupancy (Tomback et al., (2017) and experience (Rasmussen, 1964). In fact, the existing building is a centre of historical fabric including skin, structure, space plan and other physical elements that are attached to the historical building (Giebel et al., 2009). Site is a geographical setting which Brand (1995) claimed that it was a fixed component representing location, boundary and context. Function is in a

form of utilization (Boonprasong, 2017). In conversion, previous typology of the historical building reflects capacity and availability of existing space (Latham, 2000). Occupancy is a prospect living condition which is considered as everyday living as well as planning. In programming, occupancy is planned in a form of prospect user and habitation (Voordt & Wegen, 2005). Experience is divided into two types – patina of time (Orbasli, 2008) and construction of atmosphere. This is to enhance perception of users (Trisuriyathamma, 2016).

Construction of figure1 is based on classification of two aspects related to the architecture of historical buildings which are attachment and associational dimensions.

## DEVELOPING AN EVALUATIVE METHODOLOGY

### Assumption

From the analysis of the attachment and associational dimensions in table 1 related to the initial review of conversion development in Thailand, it is anticipated that changes to architecture of historical buildings are due to notions of new uses.

Amendments to historical fabrics depend on the relationships of the ideology of conversion and idea to the architecture of historic buildings. According to conversion procedures, architecture of historical buildings demonstrates an ideology among relationships of an existing building, its programming of use and habitation through attachment and associational dimensions. Emphasis on the architectural aspects is due to its meaning-given to the desired utilization. An important building may be considered for a conservation purpose, while an inferior one may be used for gaining further benefits, such as investments, routine activities, and strategic planning.

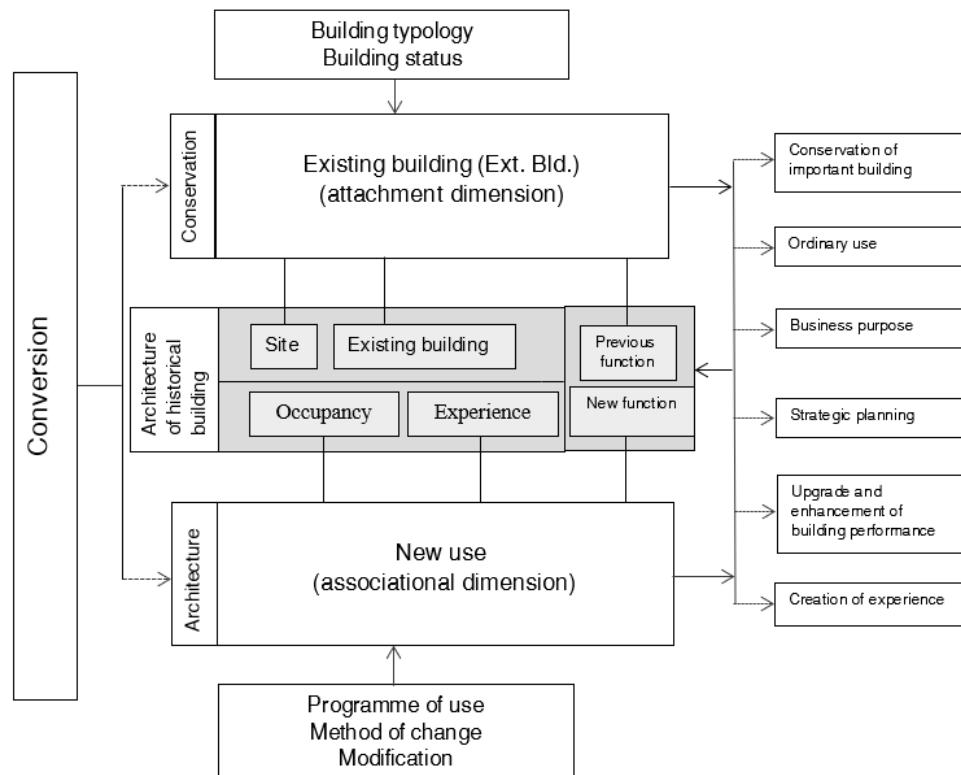
### Method of analysis

From the literature review, it is seen that conservation involves the safeguarding historical buildings from amendment and change (Feilden, 2003). In contrast to conceiving intervention to the historical fabric, construction of the programme is implemented through implication of the method and process (Giebelter et al., 2009). Controlled by new use, amendments to these elements evolve through the pattern of use, shaped by occupancy (Latham, 2000). Other attractive elements, determined by a user's impulse, may be added to the historic building and generate further experiences. With this relation, architecture of intervention is developing to meet with the objective of uses from conservation of important building, ordinary use, business purpose, strategic planning, upgrade and enhancement of building performance to creation of experience. This leads to construction of an evaluative framework that demonstrates the relationship of attachment and associational dimensions regarding conversion.

By content analysis, the discussion will focus on the approach of conversion and the changes to historical buildings after conversion to which architectural elements are conserved and amended (figure 2).

**Figure 2**

*Relationship of attachment and associational dimensions regarding conversion*



*Note.* This figure emphasises the attachment and associational dimensions of how new functions intertwine within the existing building, site, occupancy and experience. With these circumstances, approaches of conversion are encouraged by the condition of the existing building – building typology and building status and the actions generated from new uses – programme of use, method of change and modification.

## CONVERSION OF HISTORICAL BUILDING IN THAILAND BETWEEN 1997 AND 2012

Conversion of historic buildings in Thailand before 1997 consisted of using a redundant building for new programmes by the replacement or changing of the existing space. In 1961, an intervention of international collaboration from UNESCO influenced the concept and principle of Thai conservation and safeguarding national heritage. At that time, the first Act of Historic Places, Historic Objects, Artifacts and a National Museum was promulgated. The concept of using historic buildings was clearly seen when there was a conversion of the Royal Coin factory to the National Art Gallery 1967, and later, the conservation of other important buildings located

on Rattanakosin Island during 1982. Thus, conservation became a tool of restoration and revitalization that escalated the use of historical buildings to generate further benefits, especially for cultural and educational purposes. This trend continued as seen through a number of conversion projects such as the conversion of Bangkunphrom Palace and Jim Thompson's House. This trend changed suddenly after the recession in 1996, when Thailand's economy converted to become more small and medium enterprise dominated. Hence, this was reflected in the use of historic buildings as capital resources. At this point, historical buildings became a heritage concern that should be handed on to future generations.

The basic working concept of historical buildings' reuse was continuing from the former period of conservation of historic buildings. Therefore, conversion after 1997 was still based on

conservation through repairs and restoration before applying a new function. At the same time, there was an increase of projects involving proposed functions. Architecture played an important role in which decisions could be made in design and in implementation. An example that represents clear procedures by conservation and architecture-integration are the conversion of Phraya Chonphum Phanit Villa to a four star hotel in 1996, and the later conversion of Laddawan palace to become the head office of the Crown Property Bureau in 2001. An example of further advancement of the method was the concept of a learning district that was designed to conserve Rattanakosin Island in 2002. Although the architecture of buildings was considered part of conservation, the proposed works, such as extensions and additions for historical buildings, were not officially accepted until the refurbishment of shophouses on Phra-athit Road in 2008. At that time, the new façade was redesigned to conceal condenser units, while the extension at the back was adjoined to increase the area of use. Interestingly, in 2002, a new café providing a restaurant and gallery was opened in the declining industrial area north of Yowarat; hence, it launched a new chapter of using an old buildings for further use. While conservation of historic buildings was developing based on the idea of restoration for new use, a small community along an important river was revitalized through the process of community development due to increasing households' income. Generating the reuse of old wooden houses occurred at the same time as selling local products was being promoted to attract both Thai and foreign tourists. This occurrence induced a yearning feeling for past daily experiences that later awoke a stream of nostalgia in Thai society. Later, this emerged to become the trend of using historical buildings for different purposes, from accommodation to leisure facilities such as local museums, restaurants, and cafés.

As a qualitative research conducted on chronological study, selective case studies are based on distinctive conversion projects that impacted the development of architecture-based conservation methods. From the survey of important projects between 1997 and 2012, it was found that there are six main objectives of historic building conservations which are 1) conservation of important buildings, 2)

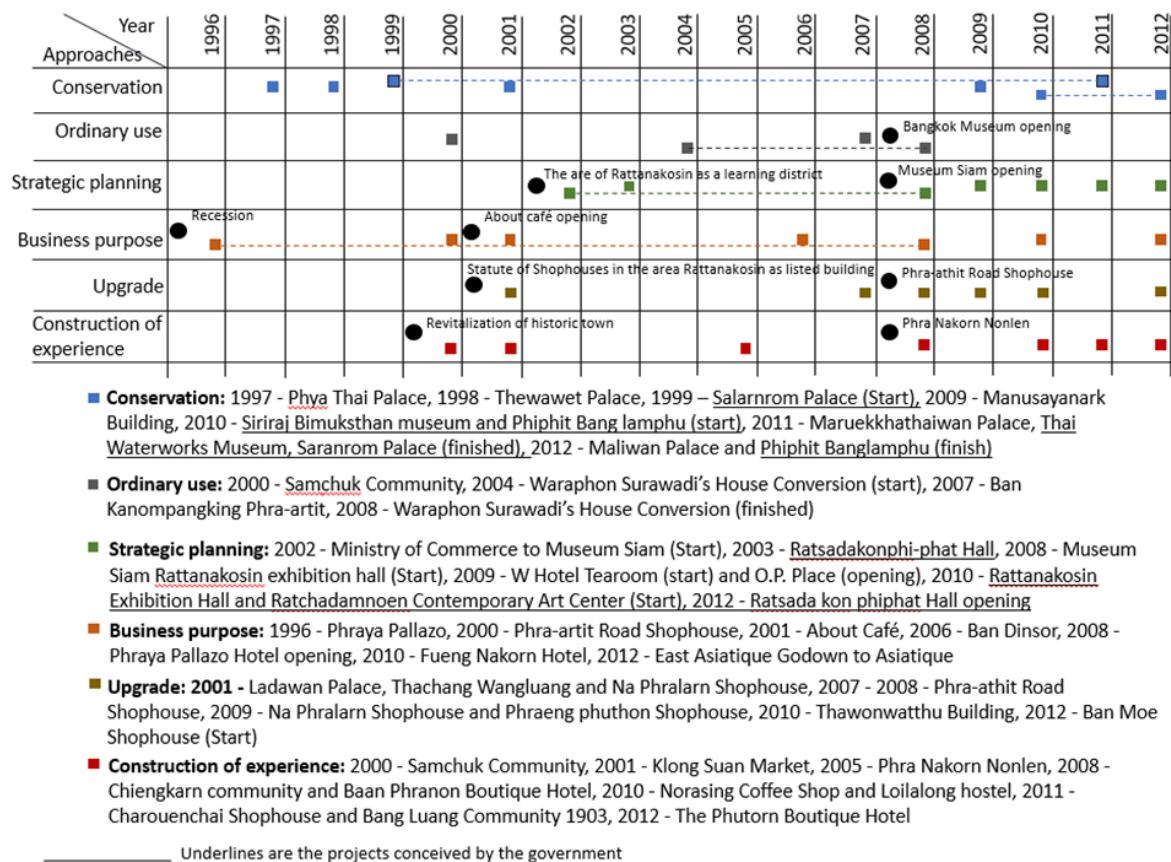
conversion of historic buildings for ordinary uses, 3) conversion of historic buildings for strategic planning, 4) conversion of historic buildings for business purposes, 5) upgrade and enhancement of building performance, and 6) conversion of historic buildings for creating new experiences (figure 3).

## **Conservation of important building**

Conversion of historical buildings after 1997 was continuing from previous trend of conservation and restoration of important building for cultural uses such as museum and art gallery. These samples include the conversion of previous John Sampson & Son store that used to be occupied by the Department of Public Works to the King Prajadhipok Museum, the upgrade of previous The Ministry of Commerce building to the active learning museum, and the conversion of Laddawan Palace to an administration building of The Crown Property Bureau. These types of projects were based on repair and restoration directed by the Fine Art Department. In particular, building structures were consolidated, restored to the first built stage and upgraded to fit with proposed use (Musikakhama, 1995).

## **Conversion of historic building for ordinary use**

While buildings with important characteristics were still proposed for cultural programmes, the ones with common value were desired by the requirements of owners' use. Allowing for room size and loading capacity, a new programme was usually incorporated based on limitations of the existing building's capacity. Conversion for everyday use helped obsolete buildings to be upgraded and meet current standards such as disable access, safety, improvement of building image, and etc. Examples of these are previous shophouses that were converted to accommodate a mixed-use function such as residence mixed with commercial enterprises and residence mixed with production. The conversion of shophouses in old communities such as those in the Chiengkarn community which serve both locals' and outsiders' needs.

**Figure 3***Timeline of Conversion of historic building in Thailand between 1996 and 2012*

**Note.** The timeline summarizes key projects occurring throughout the period of study. It is noticed that there are two significant periods of conversion during the studying period. One was after 2000, when the 1996 recession was recovering. A policy of promoting cultural tourism was announced at the same time as the revitalization of the historic town was embarked upon. The other was after 2008, when the historical buildings were widely used for diverse purposes. At the same time, intervention to historical buildings was accepted through expansion and modification

## Conversion of historic building for strategic planning

In 2002, the government wanted to improve the major conservation area of Bangkok, specifically that of Rattanakosin Island for cultural and educational purposes (ASTV Manageronline, 2005). Therefore, the application of conversion promoting social benefits led to a number of important buildings being converted to host exhibitions and develop learning spaces. Granted by the municipal works, this plan was well organized by Smithsonian and other supported experts. However, work related to the historical

buildings in Thailand was still being shaped by concepts of conservation. The working process was definitely separated between restoration and exhibition design in which historic fabric was threatened. The building space had become only a display, since each exhibition was designed by the idea of a closed atmosphere. Samples are the conversion of the Ministry of Commerce to Museum Siam in 2003, the conversion of former Kurasapa Publishing House to Banglamphu Museum, and the conversion of Ratchadumnern Building to a house art gallery, museum and library in 2011.

## Conversion of historic building for business purpose

After the 1996 recession, declining areas, where rental prices are low, have become opportunities for establishing new businesses. One of these was a conversion of shophouses in the historic district of Bangkok that were assessed for their prime location targeting businesses related to tourism. In fact, a number of restaurants, bookshops, souvenir stores were generated. At the same time, culture-led revitalization was launched via a weekend market along a walking street or thanon khon doen (in Thai). On Phra-athit Road, for example, a number of businesses were invited to reoccupy vacant shophouses. This trend was also occurring at a number of declining historical port towns along major waterways throughout Thailand.

Later, the Fine Arts Department also promulgated more of the listed buildings, especially the shophouses on the Rattanakosin Island. These buildings were not only conserved, but also generated higher incomes from the vibrant context. Various solutions and protections of these monuments were created to balance commercial and conservation. Developers who had seen the opportunity of reuse for further benefits might convert existing buildings that have prime location, striking characteristics, and a history. In fact, conversion of Phraya Chonphumphanit Villa to Praya Palazzo Hotel was refurbished and upgraded to meet contemporary requirements. The buildings were first restored to their original state before adding new service systems and decorations to fit with new uses and meet the needs of particular types of use such as hotel rooms, restaurants, and seminar rooms.

## Upgrade and enhancement of building performance

An in-use historical building may frequently need upgrading and repairs for comfort, energy consumption and new standards of health and safety. Historical buildings were constructed by previous technologies and construction methods that may not support contemporary lifestyles.

Therefore, upgrades and interventions of service systems and technology are needed. Not only standard service systems need to be improved, but also universal design may be installed. In Thailand, this can be seen through repairs and upgrades of service systems during the conversion process such as the conversions of shophouses on Phra-athit Road and the conversion of Ladawan Palace. These procedures upgraded the historical buildings' performance to meet with new building standards and updated building regulations. So, integrated systems of sanitary systems, electric capacity, air-conditioning, were installed to serve new functions.

## Conversion of historic building for creation of experience

The promotion of cultural tourism after 2000 was geared to using cultural resources, such as old significant buildings, to encourage revitalization in historic communities. Consequently, a number of nostalgic weekend markets were invented to boost obsolete communities by promoting sales of local products. The experience of a place was uplifted by enhancing nostalgic design via using old components – furniture, furnishings and décor elements. Amphawa floating market, Sam Chuck and Bang Luang's 1903 Market were revitalized by the conversion of old houses into hostels, homestays and tourist facilities.

Furthermore, age-old businesses, that were not recognized for conservation, were also rebranded and reimaged for raising a higher awareness and attracting both locals and tourists. In reality, new façades were installed to give a new look and combined with changing methods of retail. A Chinese tea store in Yowarat, for example, was modified to serve a new target group by extending the front of the shop for a tearoom serving traditional sweets with Chinese tea giving new tasting experiences.

In conclusion, the conversion of historical buildings in Thailand after 1997 found that the approach of re-programming followed the principles of conversion; preserving buildings' characteristics, projecting new uses, and upgrading the building to fit with contemporary

requirements. Moreover, the use of historic buildings is relevant to constructing experiences to enhance comprehension between among the public about the building.

## CHANGE TO HISTORICAL BUILDING AFTER CONVERSION

This discussion will include the change of physical elements, contexts embracing building typology, building status, programmes of use, methods of conversion and modification are scrutinized.

### Building typology

Buildings were usually constructed in response to their purpose of use, thus reflecting the architectural design of the times. This was accomplished through design characteristics, space, form and construction methods of their own time (Giebel et al., 2009). Various types of buildings in Thailand, such as residential, infrastructure, office, industrial buildings provide diverse forms and spaces for new functions. These can be architecturally divided into three main categories which are open-plan spaces, room types and wooden buildings, each offering different potential for reuse. The study of historical buildings conversions in Thailand after 1997 indicated that the architectural additions were geared towards retaining the space and volume of the existing building by allowing only a minimal change to the historic fabric. This could be seen through the conversion of listed buildings and important buildings for museums' use such as the conversion of Rattanakosin Exhibition Hall and Waterworks Museum. The new designs were initiated due to previous, existing typology as well as prospective behaviour tracing within the existing premise. In fact, an addition to the existing structure, demolition of a sub-wall for a larger space, and the sub-partition of large space were proposed in contradiction to the building's former function. In the case of further extensions, an understanding of the building's morphology is crucial. Needing to be addressed are concerns of future style

integration amid the original structure, material, loading capacity and building science. This contrasts to the conversion of wooden buildings in which only additional supports are required for safety.

### Building status

The number of listed buildings during the 1990s was expanding to include a cluster of historic shophouses and other types of infrastructure and categories responding to a revised conservation plan of Krung Rattanakosin Island in 1999. Therefore, historic buildings located in the old town have become a tool in revitalization so that rehabilitation could invent new activities for boosting societal and economic means. In fact, Thailand's conservation framework can be divided into three sections: listed buildings, important buildings and old buildings. The following plan of action was taken: First, the building was always repaired and reconstructed by guidance under the Act of Ancient Monuments, Ancient Objects, Artifacts and a National Museum of 1992. This means conversion of listed buildings usually involved the replacement of existing space providing minimum change to the historic fabric. Second, buildings with unlisted conditions were converted for new uses related to its surrounding context as well as educational purposes such as museum, art gallery and learning space. Minor amendments occurred through upgrading building service systems. Third, changes to old buildings were due to the prospected uses in which patina of age became beneficial for the project. Use of old houses such as O.P. Place, Loilalong Hostel and shophouses in Charouenchai district, including wooden rowhouses in the Amphawa and Bang Luang communities, represented how old elements escalated their unique atmosphere. These were treated differently from the conservation of the listed shophouses on Naphralarn Road that was implemented under the idea of consolidation and restoration (figure 3).

### Programme of use

Long-term use through construction of well-crafted programmes helps to increase the life

expectancy of historical fabrics. From the study, it can be seen that the programme of use is always decided by the owner of the building, apart from the use of historical buildings for strategic planning. Based on building regulations, safety standards, and technology upgrades, new programme requirements were determined by building size, location, context, including feasibility. While old buildings were used for cultural and commercial purposes, important buildings of higher value and significance were converted to educational purposes and public access, like museums. Through repair and refurbishment, a new programme might be based on the condition of the historical building as well as its associative history. By using a heritage approach, new exhibitions were designed by the condition of available spaces and loading capacity. The exhibition halls of Museum Siam, King Prajadhipok Museum and Siriraj Bhimuksthan Museum, for example, were generated by specific themes refined to fit within existing spaces. In contrast, the building may be analyzed by capital constraints. So, prospect income versus investment had become key concerns of use enhancement. At this stage, a feasibility study was achieved to predict future returns. Additionally, developing experiences were addressed with the view that the numbers of customers will increase. Phra Nakorn Nonlen Hotel, for example, was converted based on the concept of generating a pleasant stay rather than just a place for overnight accommodation.

## Method of conversion

Based on conservation methods, from replacement to adaptive reuse and conversion, most projects achieved between 1997 and 2012 were usually preceded by repairs and restoration techniques before implementing new functions and decorations. For in-use buildings, the existing structure was preserved while new functions were initiated at the time of upgrading service systems. The Museum of Past Prelate at Bowonniwetwihan Temple, established in 2009, was scheduled for repairs and an upgrade to accommodate an exhibition of the previous prelate. This example represents the architectural process involved since the project was started; making a survey, generating an analysis of the existing building, determining the

potential, developing an assessment and including construction of a new programme. Also, context, prospective user, costs, and legal conditions were regularly examined on which significance and values of the building are anticipated. This is seen through the adaptive reuse of redundant godowns of East Asiatique company to a night market that provides small retail kiosks for an experiential walk through. Other examples involved replacing the buildings' spaces are the conversions of Phya Thai Palace, Phiphit Banglamphu, and Chao Bangkok Museum.

## Modification of architectural elements

The modification of historical buildings for a new use always involves minor changes due to repairs made to damaged areas and upgrading to current building regulations, technology and performance (Giebel et al., 2009). In the case of listed buildings and important buildings, limitation of change, new extension and intervention are proposed by the idea of juxtaposition, transparency, and by the principle of harmony and assimilation (Strike, 1994). This process can be seen through the extension and modification of Ladawan Palace, using the concept of assimilation, new partitions were added to divide a large space into a number of rooms that respond to programme requirements. Interestingly, conversion during this period was mostly working on conservation concepts by repairing and refurbishing, even though it was designed for commercial purposes. Hence, the destruction of memory was diminished by restoration and reconstruction. Therefore, a construction of the reminiscence was elevated through the antique decorations during the stage of occupancy. Café Narasingh at Phya Thai Palace, for example, was decorated with old furniture and household appearances.

In summary, scrutinizing the principles of conversion shows that architectural change depends on the purpose of further uses by posteriority of building values: listed building, important building and old building respectively. Conversion between 1997 and 2012 was principally based on conservation regarding protection and enhancement of historic fabric.

While façades and interior spaces were transforming the past experience, association

and experience were created to link the existing history of the building with its new occupation.

**Figure 4**

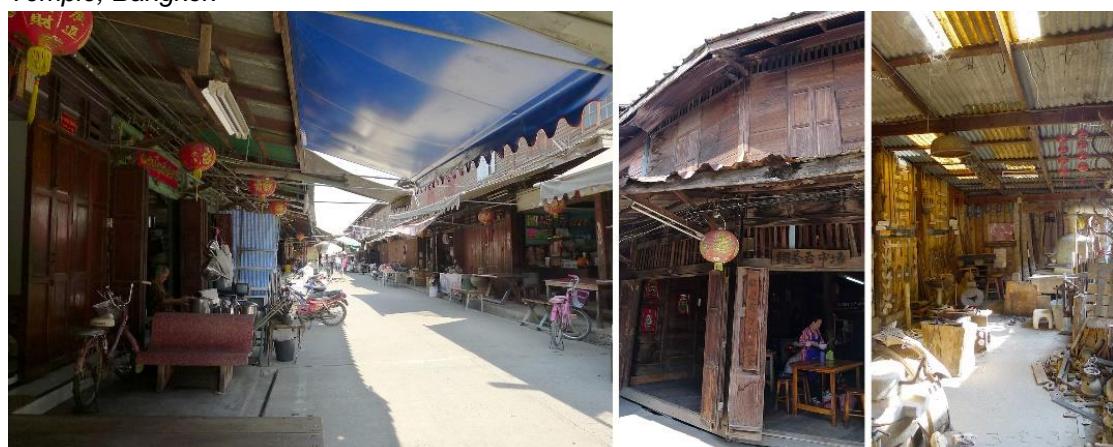
*Samples of Conversion through Building Status*



*Listed building: Cafe Narasingh at Phya Thai Palace, Bangkok Thailand*



*Important building: Manusayanak Building housing a museum of past prelate, Bowonniwetwihan Temple, Bangkok*



*Old building: Bangluang Community, Banglane, Nakornprathom Province, Thailand*

*Note.* This figure demonstrates samples among conversions of listed buildings, important buildings and old buildings

## DISCUSSION

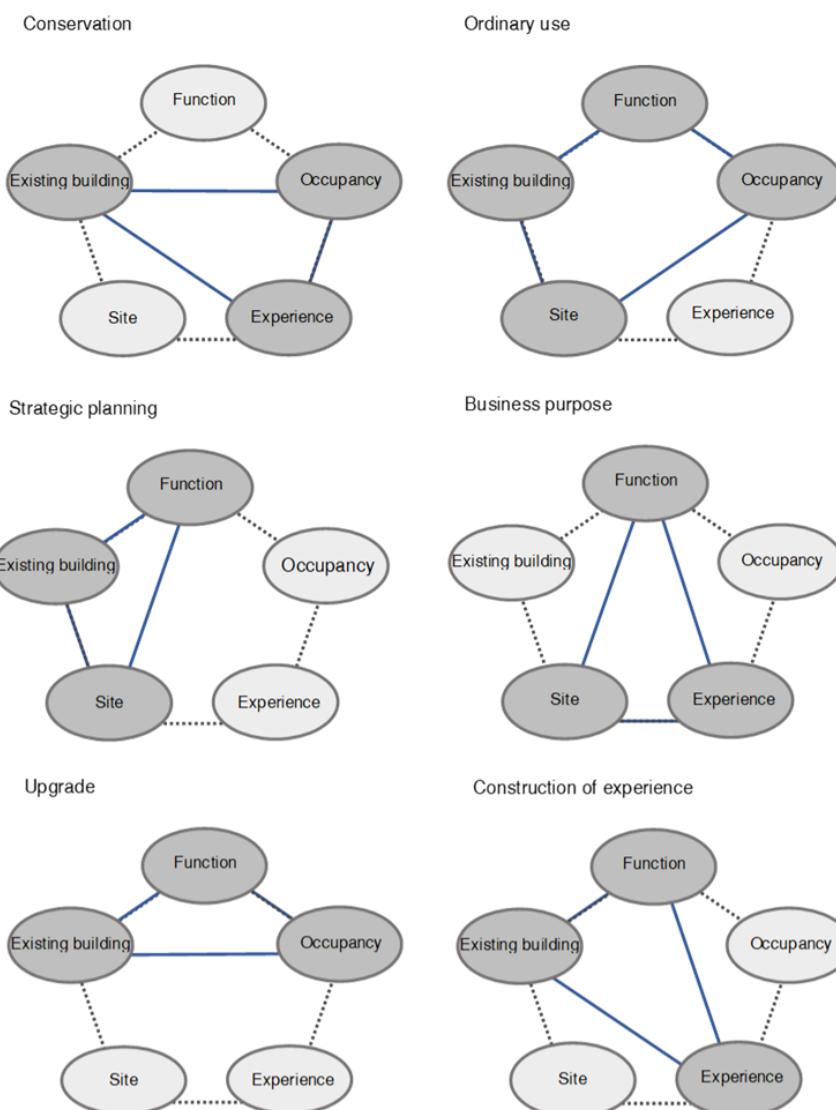
This study of architectural change is a result of the conversion concept being determined by prospective methods of conservation, reuse, reinvestment, revitalization, upgrading and reminiscing. This analysis brings to the discussion of interventions which architecture of historical buildings should be inclined. The issues for the discussion are in the following order: 1) principle of conversion, 2) architectural design for conversion of historical buildings, and 3) attachment and associational dimension as the realm of existence.

### Principle of conversion

Based on the existing building and prospect uses for which the protection is desired (figure 2), the consequence of these decisions gives meaning to architecture of historical buildings. Focused on building typology and building status, conservation encourages existing buildings to be retained by an unawareness of further revenue and profit. Although the programme of use is proposed, significance and values of the buildings are major concerns through protection and safeguard. Besides, ordinary use of the existing fabric may be concerned with replacement and minor change in the current condition such as a structure's weakness or the deterioration of building materials. Conversions for the other purposes including strategic

planning, upgrades and the construction of experience may retain the existing building as part of the protection purpose. In these cases, programmes of use and change are a major focus. For instance, conversion by strategic planning may be determined by an official masterplan in accordance with listed buildings and land-use consents. These are different from conversions for business purposes that are expected to generate revenue. While upgrading for performance involves the reality of occupation based on function, constructing experiences is relevant to creating exceptional feelings based on physical characteristics and the constructed atmosphere.

Figure 5 shows that the principal approach of conversion reflects differently on architecture of historical buildings. The concept of protection in conserving the historical fabric of historic, important and old buildings is based on protection concerns. Conversion of historic buildings for ordinary use is concerned with existing components. This occupational conversion for strategic planning intensifies only the existing building, site and function. In contrast, the conversion of an historical building for creating experiences, a dramatic space and scene are created by enhancing the existing building. By the objective of use, this study demonstrates that the conversion of historical buildings involves new useful functions by conserving, adapting, planning and upgrading, all of which include conceptualising intervention.

**Figure 5***Diagram of architectural components regarding approach to conversion*

*Note.* This figure demonstrates the comparisons among six approaches of new uses through emphasizing existing buildings, functions, occupancy, sites and experience. This demonstrates that the architecture of historic buildings is focused differently due to its prospective use. Remarkably, existing building and function are crucial aspects in conversion, while site, occupancy and experience are seldom found. This confirms that conversion is composed of dimension of existing building and new use.

## Architectural design for conversion of historical building

Through five aspects of architecture of historical building which include the 1) existing building, 2) site, 3) building function, 4) occupation, and 5) experience, it can be concluded that the principles of conversion play important roles in

amending architectural dimension. First, the existing building is the main concern of any approach to conversion, except for business purposes. Second, the site approach focuses on conversion for ordinary use, strategic planning and business purpose. Third, typological approach may be ignored by use of historical buildings for conservation when the design of utilization occurs afterwards. Fourth, enhancement of occupational approaches may lack flexibility when the conversion is facing

conservation and strategic planning since the possible use must follow the masterplan, and fifth, an experiential approach has become a crucial concern when conversion involves conservation, use of business purpose and construction of experience (table 2).

Furthermore, change to architectural elements is a consequence of methods of conversion in relation to modification of architectural elements. Based on ideologies of conversions, use of historical buildings for conservation focuses on chronological study. Change of elements is based on replica and restoration. Therefore, the design of a new intervention is conceived by the idea of harmony and repetition through the use of new techniques and replacement of materials. For ordinary use, the existing building is kept in its original state, since the addition is mostly constructed by temporary materials. Minimum changes are proposed. By strategic planning, the existing building is usually restored and replaced by use specified by the masterplan, therefore

enhancement of architecture may be overlooked for future occupation and construction of experience. The historical building used for business purposes may ignore the importance of the existing building and attention to maintenance. In contrast to upgrade and enhancement of building performance, alteration to the existing building to suit future user and minor repairs are always proposed. Hence, there are minimum mandates for historical buildings. Finally, the construction of experience refers to both radical and fantasy decoration leading to misunderstanding of age and use of the historical building to enhance special experience. However, these two approaches employ addition of activity and decoration and creation of atmosphere (table 2).

In conclusion, architecture of historical buildings is sympathetically changed from its utilization by concern of historic fabric as well as proposed programme of use.

**Table 2**

*Approach to architectural amendments regarding conversion of historic building in Thailand*

<i>Conservation (Musikakhama, 1995)</i>	<i>Architectural conservation (Orbasi, 2008)</i>	<i>Architectural design (Voordt, 2005)</i>	<i>Conversion (Latham, 2000)</i>	<i>Architectural elements (Heritage Works: The Use of Historic buildings in regeneration: a toolkit of good practice 2013)</i>	<i>Dimensions in the Architecture of Historical Building</i>
Predesign and research phase	Understanding	Exploratory phase	Understanding existing building	Existing building Site Previous function	Attachment
Design-development phase	Appropriate use	Programme of requirements	Architectural programming	Re-programming	Association

**Table 2 (Continued)**

<i>Conservation</i> (Musikakhama , 1995)	<i>Architectural conservation</i> (Orbasli, 2008)	<i>Architectural design</i> (Voordt, 2005)	<i>Conversion</i> (Latham, 2000)	<i>Architectural elements</i> ( <i>Heritage Works: The Use of Historic buildings in regeneration: a toolkit of good practice</i> 2013)	<i>Dimensions in the Architecture of Historical Building</i>
Outline specification Bidding Negotiation and construction contract phase	Implementation	Design Implementation	Design Consolidation Implementation	Issues intertwined with existing fabric: comfort, contemporary standard, regulation, safety  New design	Association
Fieldwork	Evaluation	Use and management	Occupation and management	Space Pattern of use Decoration	Association

*Note.* This table demonstrates the relationship between the concepts of architectural amendment, principles of conversion and architectural modification that impact modifications of architectural elements. Emphasis on the part of historical fabric is a consequence of the conversion principle. Whereas change to architectural elements is as a result of the implementation process, such methods of change and modification are determined by the programme of use that applied to the historical fabric in terms of the existing building and its site. For example, construction of experience is not necessarily for conversion of the historical building for ordinary use; this is in contrast to conversion of important buildings where aspects related to site and function are overlooked.

## Architecture of historic building as realm of existence

The ideology of architecture of historical buildings is a consequence of making decisions regarding the meaning given to historical fabrics. Three architectural dimensions are discussed: 1) architectural dimensions regarding the physical elements of the existing building and site, 2) architectural dimensions regarding association relating to occupancy and experience, and 3) function.

## Attachment dimension

**Existing building.** The objective of conserving an historical building is to protect its physical character from being lost whilst enhancing the patina of time and age value. Consideration of architectural repair and modification is therefore not only concerned about harmonization, but is also concerned about the craftsmanship regarding authentic materials and methods of construction. Besides, the building fabric, as a historical premise, inscribes story, value and faith. Therefore, understanding the existing building should include building style, construction techniques, design, and other

influences reflecting the morphology and revolution of the building. It is also necessary to understand the condition of existing structures and load capacity for further safety reasons.

**Site.** Although the site is the most permanent aspect of a building (Brand, 1995), the surrounding areas are changing all of the time due to development and relocation. A number of old communities in Thailand, for example, were erected during the maritime transportation era. Once their surrounding contexts were declining, a number of buildings were left empty and became outdated. As a part of the historic landscape, these buildings and settings were recognized as a living heritage that offers potential for redevelopment. To extend these buildings' lives, the purpose and meaning of the buildings were revised by adaptability, adaptation and rehabilitation. Wooden row houses in Samchuk community, Supanburi Province and Loylalong Hotel are examples representing use of location to create integrated experiences of site, building and activities.

## Associational dimension

**Occupancy.** Long-term occupancy and management are the best way to protect historic buildings (Feilden, 2003). Apart from everyday care, cleaning and repairing, the maintenance programme of listed buildings is always organized by a proposed quinquennial plan. For significant buildings, a condition survey may be occurring at the same time as habitation and utilization. In fact, housemaids at Maruekkhathaiwan Palace have been trained to survey any defects occurring from erosion. The occupation includes conducting a further programme to generate higher income like house tours, souvenir shops, and annual special events. Furthermore, the building was also improved to fit with contemporary requirements such as the installation of a compatible service system, universal design, etc.

**Experience.** Personal associations with historical buildings happen through understanding the architectural dimension that each composition represents. By conservation and ordinary use, historical premises encourage visitors and occupants to cherish the building through its expression. However, immense transformation to

historic fabrics may extinguish the association between the user and the building. Because buildings communicate with the public, constructing a remembrance of decoration and furnishings can result in a superior impression of a business's purpose. This can be seen through reclaiming past activities in the conversion of row houses in the Samchuk community and redecoration at Phya Thai Palace. Furthermore, experience may conceal, in the form of intervention, as a palimpsest of the building that new design should harmonize and extend to the old (Feilden, 2003).

## Attachment and associational dimension

**Function.** A previous function and proposed use are always questioned as to what is the best compatibility between premise and further use. Although activity is usually generated through the occupants' requirements, the condition and constraints of historical buildings need to be considered when introducing new programmes. Not only is new use based on limited space, but also the form of characteristics and style of the buildings. For instance, a school building providing a number of rooms may not be suited for a proposed large hall, but would be appropriate for private spaces, like accommodations. This is different from subdividing an open-plan building into a number of rooms using temporary construction, like lightweight partitions. The conversion of Saenyanukonwitthaya School into the Fuengnakorn Hotel, for example, was altering and upgrading its function to meet hotel standards. For other cases, replacement of space is preferable, since adaptation of activities, business and products is always initially involved (Boonprasong, 2017). Furthermore, new use may be shaped by location and its relevant context through the requirements of prospect of users. In fact, some events at Museum Siam were launched by the integration of its neighbouring community – Tha Tien. Once mismatched use is anticipated, a revised programme should be reposed. Linking a historic building's function, with tracing past and plotting future entwines the social, culture, economic and environmental spheres.

## CONCLUSION

This study of historical buildings' conversions during 1997 – 2012 found five significant points: 1) principle, 2) procedure, 3) programme, 4) occupancy, and 5) construction of experience. First, the working procedures of historic building conversions in Thailand employ methods that recognize conservation ideology and architectural practice. These methods address the following: essential conservation principle and guidance, building regulation, owner requirements and study of relevant contexts related to new programme of use. Second, the design of historic buildings is consequent to the reconstruction of symbolic aspects based on a revival of the original construction. Therefore, construction of adaptive programmes should come afterwards. Third, re-programming should always originate on the basis of the existing building, rather than an expansion and decoration of the original form. Fourth, the historical building, after the conversion process, is shaped by the occupants rather than the architect. Fifth, enhancing experiences through extensions of a historical building can be confusing as to its authenticity of age and patina of its time. In summary, attention to architectural dimension, attachment and associational dimension are interdisciplinary to the understanding of buildings' layers through historical trace and contemporary occupation.

To enhance the knowledge of historical existence and protection, the following recommendations are endorsed: 1) understanding of an existing building through the building's morphology of both tangible and intangible aspects, 2) understanding locational dimensions regarding the dynamism of social, culture and economic contexts affecting the creation of architectural programming, 3) creating dimensional use that comes from reality rather than a construction one (Rasmussen, 1964) in order to promote respect for history, 4) proposing new use that is based on occupancy and maintenance of the building, and 5) understanding the true experience which is part of the behavioural process, rather than constructing by aesthetic and impressions based on imagination.

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