

**Creative Reuse of Western Style Buildings Constructed between 1851 and 1925 in  
Bangkok for Museum Uses: Design Interpretation and Procedure**<sup>\*</sup>

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สำหรับประโยชน์ใช้สอยพิพิธภัณฑ์ : การออกแบบ การสื่อความหมาย และกระบวนการ

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**Abstract**

To consider conservation as management of change approach, the study of adaptive reuse is correspondingly incorporated between the idea of building conservation and the appropriate intervention to historic fabric, which is controlled by utilisation. In fact, the western style in Bangkok, Thailand (from 19c to 20c), is frequently converted to cultural use as its significance, which provided the concept of conservation and public interpretation. The paper is to investigate the interrelationship of design procedure and interpretation when the integrated exhibition is applied to limited space in historic building. The research was derived from the observation, interviews and chronological study of four case studies in Rattanakosin Island - historic core of Bangkok, Varadis Palace, Bank of Thailand Museum (also known as Bang Khunphrom Palace), Ladawan Palace and Silpakorn University Art Center Tha Phra Palace Campus. The data was then examined by the diagram analysis between old and new spatiality in relation to design procedure and interpretation. It concluded that process of working especially in the initiation of the project – understanding of a place as dynamic manner such building evolution and future development is necessary to negotiate new integrated exhibition design, other supported service and the management approach.

**Keywords:** 1. Adaptive reuse 2. Conservation 3. Museum use 4. Western Style Buildings 5. Understand of a Place

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<sup>\*</sup> This paper is a part of research theme “The Evaluation of Western Style Buildings Constructed between 1851 and 1925 after Rehabilitation to Cultural Use”

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## บทคัดย่อ

เมื่อพิจารณาการศึกษาการปรับปรุงการใช้สอยในแนวทางการจัดการด้านอนุรักษ์สถาปัตยกรรม จะพบว่า การปรับปรุงการใช้สอยเป็นการศึกษาเรื่องศาสตร์การอนุรักษ์อาคารและการเสริมสิ่งใหม่ที่มีความเหมาะสมต่อรูปแบบการใช้งานที่เปลี่ยนไปจากเดิม ดังเช่น การปรับปรุงอาคารแบบตะวันตกในพื้นที่กรุงเทพมหานครเพื่อการใช้สอยทางวัฒนธรรม และด้วยเหตุผลของความสำคัญที่เกี่ยวเนื่องกับอาคาร การปรับปรุงเพื่อการใช้สอยทางวัฒนธรรมยังช่วยส่งเสริมแนวความคิดการอนุรักษ์และการสืบความหมายต่อสาธารณะ บทความทางวิชาการนี้ซึ่งเป็นส่วนหนึ่งของงานวิจัย ที่มุ่งหาความสัมพันธ์ของกระบวนการออกแบบ และการสืบความหมาย เมื่ออาคารประวัติศาสตร์ที่มีข้อจำกัดในเรื่องที่ว่างได้รับการออกแบบเพื่อการจัดแสดง งานวิจัยนี้ได้ใช้วิธีการสังเกต การสัมภาษณ์ผู้ออกแบบและผู้ใช้งาน และการศึกษาทางประวัติศาสตร์ของอาคาร กรณีศึกษา 4 แห่งที่ตั้งอยู่ในบริเวณเกาะรัตนโกสินทร์ คือ พิพิธภัณฑ์วังรดีศ อาคารอำนวยการ สำนักงานทรัพย์สินส่วนพระมหากษัตริย์ วังตลาดวัลย์ พิพิธภัณฑ์ธนาคารแห่งประเทศไทย วังบางขุนพรหม หอศิลป์มหาวิทยาลัยศิลปากร วังท่าพระ โดยการนำข้อมูลด้านโครงสร้างที่ว่างในอาคาร “ก่อนและหลัง” การปรับปรุง มาวิเคราะห์ในเชิงแผนภาพเพื่อทำความเข้าใจความสัมพันธ์ของกระบวนการออกแบบและการตีความ การวิจัยสรุปว่า กระบวนการดำเนินงานในช่วงเริ่มต้นของโครงการ คือ การทำความเข้าใจสถานที่ในแบบพลวัต คือเข้าในพัฒนาการทางประวัติศาสตร์และทิศทางของอาคารในอนาคต มีความจำเป็นต่อการวางแผนการออกแบบนิทรรศการ ส่วนสนับสนุน และการจัดการ

**คำสำคัญ** 1. การปรับปรุงการใช้สอยใหม่ 2. การอนุรักษ์ 3. การใช้สอยพิพิธภัณฑ์ 4. อาคารแบบตะวันตก 5. ความเข้าใจในสถานที่

## Introduction

In the past few decades, the transformation of *Western style buildings* to house a museum use has shown the new idea of adaptation, which interpretation of values and significance has integrated as a key concept in the design idea. Values associated to the place are firstly examined through the documentary research and survey before the project started. To understand the relationship of design process and interpretation, it is necessary to scrutinize the process of adaptive reuse in the Thai context as well as the factors directed to the final design.

Adaptive reuse of historic building for cultural manner in Thailand has not yet been a clear concept in conservation process. The proposed work to the historic fabric is therefore involved in repair and restoration, then re-decoration to fit with future use. This is because Thai conservation concept is much based on archaeological process, and also the funding availability from the government is another aspect divided the project into 2 parts or more. To

do so, the concept of adaptive reuse must be comprehended under the concept of conservation by means of meaning, degree of use, idea of use and relevant issues on changes.

### Meaning

*Adaptive reuse* or conversion or adaptation or creative reuse is one of modern conservation method allowing architectural legacy to be dynamically protected as an exhibit premise, when urban context is changing. It is architecturally intertwined among conservation of values by the arrangement between design of new space and functions, which fulfils contemporary requirements, building regulations and supported technology (Giebel, 2009: 10, 14-15). New intervention is sometimes controlled by the historic building appropriateness rather than profitable revenues (Latham, 2000: 111).

### Degree of Use

The degree of change in adaptive reuse is always relevant to conservation philosophy. Noted in the Venice Charter (ICOMOS, 1964) “*Preferable use should be for socially useful purpose by preserving the lay-out or decoration of the building and only limited change must be authorized*”. Apart from the consideration of previous changes, space per person, organisation...(Latham, 2000: 97), the contexts related to existing building are representing a sense of place, and so the characteristic of the locale is retained (Latham, 2000: 12-13). Fisch (2009: 84) pointed that “*It is necessary to find such a use that handle the existing element carefully and preserve the original concept plus the architectural and artistic statements*”. Also suggested by Cramer and Breitling, (2007: 119), adaptation is a creative transformation and alteration of the building into new uses without changing its general form and esteem of overall volume.

### Idea of Reuse

The Higher Expectation of benefit in economic value in conversion has always been a discussion whether significance and values of the existence should be altered or not. The modification and extension to the existing fabric are always alternatively anticipated to ensure other extensive values (Cramer and Breitling, 2007: 115). Uses of heritage could be scarified in various approaches, as the benefits...differ from the intangibility of heritage to society and cultural distinctiveness to assessable economic and environmental improvement (Orbasli, 2009: 1). The process was developed by analysis of both physical matches between functions and existing spaces, and the desired spatial relationships between the functions to be located (Aylward, 1979: 1-11). In summary, intervention is usually formulated on the basis of existing

structure availability, values from society, and locational context, including aspiration of benefits.

### **Change: Authenticity, Interpretation and Presentation**

Changes in building often naturally occurred without any inordinate concerns which one building can alter to another use without contentious in principle of cultural heritage (Pendlebury, 2009: 179). To manage changes in conservation theoretically, authenticity through attached values is universally comprehended as significant aspects to pass on for the next generation. Nara Document (1994) was identified that authenticity could be considered through the examination of the artistic, historic, social, and scientific dimensions, through “*form and design, materials and substance, use and function, traditions and techniques, location and setting, and spirit and feeling, and other internal and external factors*”. Ethnically, authenticity could be examined as a part of the working procedure (Mason, 2004: 70-71) in which cultures may have different methods of expressing diverse productions such as truth and authenticity (Jokilehto, 2006: 3).

Moreover, the interpretation of a place means to communication and enhancement of site understanding. As pointed in The ICOMOS Charter for The Interpretation and Presentation of Cultural Heritage Sites (2008) that “*Interpretation refers to the full range of potential activities intended to heighten public awareness and enhance understanding of cultural heritage site, which are electronic publications, public lectures, on-site and directly related off-site installations ...*” Besides, “*presentation*” was noted that “*it is the carefully planned communication of interpretive content ... and interpretive infrastructure at a cultural heritage site. It can be conveyed through a variety of technical means, including, yet not requiring, such elements as informational panels, museum-type displays...*”.

### **Research Methodology**

The research methodology was set to encounter the objective – comparison of values in historic building both “before and after” adaptive process in relation to project procedure, design and interpretation. Four case studies are selected by major conditions: period of construction, former use, building style and construction, including recent use. According to the limitation of accessibility and other relevance, Varadis Palace, Bank of Thailand Museum (also known as Bang Khunphrom Palace), Ladawan Palace and Silpakorn University Art Center Tha Phra Palace Campus are finally selected.

The principal methods are comprised of observation, chronological study and interviews. The data collection was included documents, drawings and photographs from

secondary sources. Then the data was tabulated in order to understand the relationships of each dependent variable – procedure and typology of displays. Finally the data was examined by the diagram analysis between old and new spatiality in relation to design process and interpretation after the rehabilitation.

### Case studies

The case studies have shown the comprehension historic palace's conversion for cultural use such as museum and art gallery in order to compare and contrast of the interrelationship of conversion idea, design procedure and interpretation.

#### Varadis Palace

Varadis Palace, Damrong Rajanupharb's private museum was formerly residence of Prince Damrong Rajanupharb. The mansion was constructed completely in 1911. After his death in 1943, in September 1977, his lineages converted this palace to house a private museum commemorating his honour and fame.



Figure 1. Layout of Varadis Palace



Figure 2. Varadis Palace (Present)



Figure 3. (right) Fitting of Prince Damrong Rajanupharb's working space

Main alteration of the mansion can be divided into 2 periods; 1911-1976 for residential use, and from 1977 to present for museum use. Apart from housekeeping method of repair and maintenance, substantial conservation was held in September-November 2007 (Matichon, 2007). To retain the original appearance, new building system, active cooling system and lighting system; hadn't been installed.

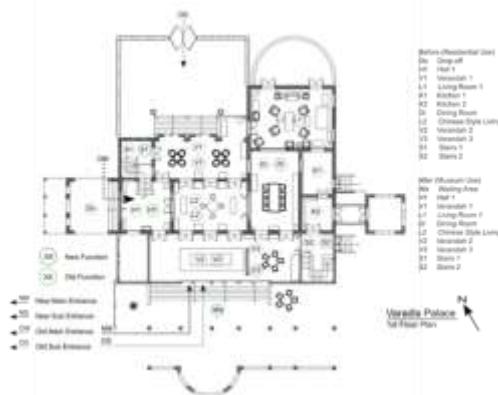


Figure 4. 1<sup>st</sup> Floor Plan of Varadis Palace



Figure 5. 2<sup>nd</sup> Floor Plan of Varadis Palace

The purpose of exhibited theme is about Prince Damrong Rajanupharb's biography, life style, writing, art and culture, Thai history and Buddhism. Most space in the mansions has been conceived to imitate former uses when Prince Damrong Rajanupharb's alive such as family room, dining room and working room. Other exhibitions have been exhibited with historic household such as clothing, cupboard and painting. The exhibition techniques are pictures, standalone exhibited material, showcase, and fittings to avoid disturbing of existing fabric. All displayed equipment is movable and not permanently fixed to the historic wall. According to minimum changes, the mansion is well kept and presented the originality apart from the relocation of the main entrance to the backyard. Major interpretation of the site is description of the place by a tour guide.

#### Bank of Thailand Museum (also known as Bang Khunphrom Palace)

Bang Khunphrom Palace or Bank of Thailand Museum was granted by King Rama V to his son; Prince Paribatra Sukhumphand, Prince of Nakhon Sawan in 1899. This building was occupied by him and his family for 26 years. After that, the possession of this palace changed for 5 times. 3 significant types of uses are residential in 1906 – 1932, office 1932 – 1992, and museum since 1993, respectively. Two essential conservations (Bank of Thailand Museum, 2008) were operated in 1942 and 1978.



Figure 6. (left) Aerial Photograph of Bang Khunphrom Palace (Cherdasti, 1922)



Figure 7. (right) Bang Khunphrom Palace

Designed by Carl Sandreczki (Bank of Thailand, 2006: 32), and later in charged by Mario Tamagno, an Italian architect. Bank of Thailand (2006: 56-58) claimed that the mansion is Neo-Baroque style. However, Chungsiriarak (2010: 141-142) pointed that the house significantly illustrates Baroque style. Moreover, the decoration as shown in concave wall of North porch is Borromini style, while windows are in Palladian style.

The recent transformation idea of Bank of Thailand for the Museum use is to preserve the original appearance of the building as much as possible. Proper changes on parts of existing appearance, called renovation by Bank of Thailand (2006: 328) are allowed, depended on building values and the documentary evidence. The procedure is comprised of following steps: building and site survey, building addition part demolition, structural improvement, dampness improvement, interior restoration, building system design and installation, and landscape design. New building systems such as active cooling system and lighting system were installed, according to the security concern and concept of exhibition.



Figure 8. 1<sup>st</sup> Floor Plan of Bang Khunphrom Palace

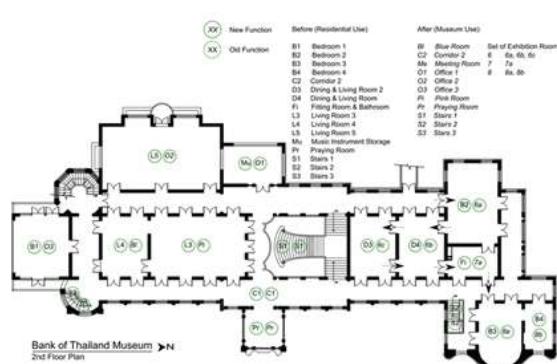


Figure 9. 2nd Floor Plan of Bang Khunphrom Palace

Exhibited themes are separated into 3 main sections; the evolution of Thai currency; Bank of Thailand, history, roles and responsibilities, and Prince Paribatra Sukhumphand, biography and activity. The exhibition occupied on both 2 floors area are devided into 5 sets of space (8 rooms) and 1 lecture room on 1<sup>st</sup> floor, and 5 sets of space (9 rooms) and 2 meeting rooms on 2<sup>nd</sup> floor. Six types of equipment were used in this museum as follows; fixed graphic panel, table showcase, wall showcase, multimedia, figure, and fittings. The fixed displays due to the security concern and public interpretation have directed the exhibition to alter the comprehension of the historic fabric such the 2<sup>nd</sup> floor right wing (International Capital display). However, the tour guide is available for the group visitors as they may require further interpretation to the palace.

### Ladawan Palace

Designed by G. Bruno - an Italian architect, The Crown Property Bureau (2005: 47) claimed that Ladawan Palace illustrates mixed style of building characteristic mainly in Italian Villa and European mansion; arch on top of window, pilaster, and rustication. The palace was primarily used as a residence of Prince Yugala Dighambara, Prince of Lopburi (Suksri, Krittikakul, and Kaewmuang, 1982: 470) in 1908. Until his death in 1932, his family left the palace. The Crown Property Bureau has then occupied the mansion since 1946. Three main uses can be divided into 3 periods respectively: residential in 1908 – 1945, office in 1945 – 2003, and exhibition and office (mixed use) since 2004.



Figure 10. Layout of  
Ladawan Palace  
(Modified from The Crown  
Property Bureau, 2005)



Figure 11. Ladawan Palace



Figure 12. (right) Fitting of  
Ladawan Palace's exhibition

According to the conservation work through the economic crisis, the project was divided into 2 phases: architectural and treatment list in 1997 and the continued conservation program in 2002, completed two years later. The Crown Property Bureau (2005: 62) claimed that the operation was based on National historical heritage method, under the advice of the expert from the Fine Art Department. Preservation idea was on the basis of architectural, historical, functional, and aesthetic value, which was controlled by the efficient cost. The process was set up following to conservation approach by the data supported: survey of existing condition and chronological data, selection of the treatment methods, drawing of conservation work, and installation of service system, respectively.

With part of use as exhibition, 4 main themes are history of the building, Chinese culture, Buddhism, and Chakri Dynasty, occupied 2 main spaces on the 1<sup>st</sup> floor and 4 main spaces on the 2<sup>nd</sup> floor. Moreover, the mansion is available in 6 functions for private and public uses: office, meeting, research and library, waiting area, ceremonial activity, and dining space, on 1<sup>st</sup> floor and also 2<sup>nd</sup> floor for 4 main spaces and 6 main spaces, respectively. Six types of equipment are pictures (standalone and wall hanging), permanently walled showcase, exhibited materials (standalone and wall hanging), multimedia, and fittings. Even the building is preserved nearly it was before; the presenter is still required by reason of high security.



Figure 13. 1<sup>st</sup> Floor Plan of Ladawan Palace  
(Modified from The Crown Property Bureau, 2005)



Figure 14. 2nd Floor Plan of Ladawan Palace  
(Modified from The Crown Property Bureau, 2005)

### Silpakorn University Art Center Tha Phra Palace Campus

Tha Phra Palace was firstly constructed in the reign of King Rama I. It had been used as a residence of 4 princes for 75 years, before granted to Prince Narisara Nuvadtivongs (Silpakorn University, n.d. a). Accordingly, parts of the palace were demolished hence three new buildings were built: Throne Hall (called Thong Pra Rong in Thai), and the centre mansion

(called Tam Nak Klang in Thai) and Pannarai mansion, respectively. After Prince Narisara Nuvadtivongs moved out to his new palace, the place became the property of School of Arts in 1933. The school was later promoted to Silpakorn University in 1943.

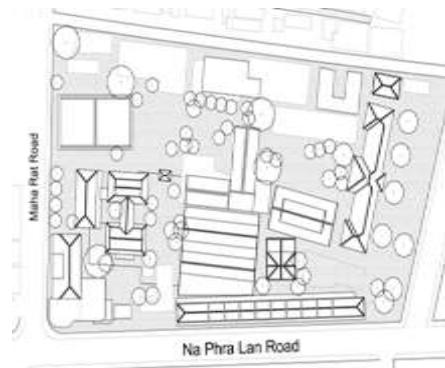


Figure 15. (left) Layout of Tha Phra Palace



Figure 16. (upper right)  
The Centre Building of  
Tha Phra Palace



Figure 17. (right) Sample of  
inserted partition

Designed by Joachim Grassi, an Italian architect, the centre mansion is attached to the north side of the Throne Hall and linked with Pannarai mansion by a bridge on its west, demonstrated in Palladianism Chungsiriarak (2010: 111). Formerly, when it was occupied by Prince Narisara Nuvadtivongs, the interior of 1<sup>st</sup> floor in the centre mansion was opened-plan hall, which no dividing partition, as a dinning space and art gallery (Division of Art and Culture, Silpakorn University 2010: 44). Later, the interior space of these two mansions was divided into room type to function as classrooms.

Three alterations of previous uses can be divided into 3 periods: 1883-1932 for residential use, 1933-1978 for educational use (office and study room), and since 1979 for art gallery use. Silpakorn University (n.d. b) pointed that two times of essential conservations were held in 1986 and 1997. The former was operated after Silpakorn University founded University Art Center Tha Phra Palace Campus. The later was performed in 1997 in order to alter the existing space for multi-purposed uses: exhibition, seminar, and workshop. In addition, the conservation process was comprised of parts: chorological investigation, consolidation of building stabilisation, and service installation.



Figure 18. 1<sup>st</sup> Floor Plan of Silpakorn University Art Center Tha Phra Palace Campus

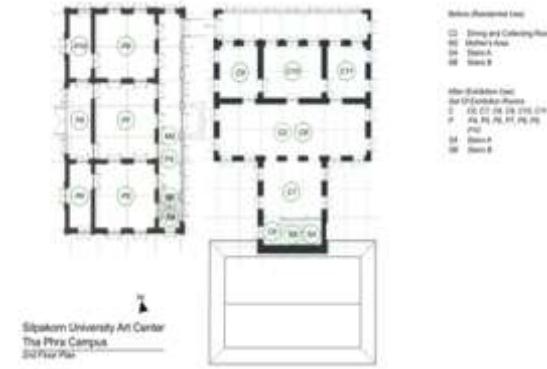


Figure 19. 2<sup>nd</sup> Floor Plan of Silpakorn University Art Center Tha Phra Palace Campus

Due to the temporary display, the exhibited theme is mostly house art collection. Most exhibitions are accommodated all spaces of the centre mansion and some exhibitions are housed on 2<sup>nd</sup> floor space of the Pannarai mansion. The 1<sup>st</sup> floor space of Pannarai mansion is now served as an administration office and book shop while the back of the centre mansion is operated for gallery storage. All exhibited equipment is temporary and movable such as wall partition, standalone showcase, and standalone exhibited material.

With the security control, the indoor circulation was amended. The visitors can enter to the centre mansion through the front entrance of the Throne Hall only. Besides, some fenestrations have permanently been shut according to the installation of active cooling system. New sets of glazed windows were installed beyond the outer wooden shutters allowing view from outside surroundings. The last task was the extension of interior fitting such lighting and other supported service system for display use. Since most collections are displayed without touching the historic fabric, the building appearance is much in a fine state.

## Result

The comparisons are shown in the 2 tables below: The table 1 illustrated the Degree of change by means of conservation methods in each project, while the 2<sup>nd</sup> one demonstrated the Level of changes regarding display idea.

Table1: Degree of Changes in Conservation Methods

Case Studies	Conservation Methods					Annotation
	Maintenance Level-1	Modernisation Level-2	Modification Level-3	Extension Level -4	Adaption Level-5	
<i>Varadis Palace</i>	House keeping	■ Addition of security system and electrical system	Addition of partition and door closing	-	-	1,2,3
<i>Bank of Thailand Museum (also known as Bang Khunphrom Palace)</i>	Repair and fixing	■ Addition of electrical system, security system, fire protection, sanitary system, air-conditioning and improving accessibility	■ Alteration of physical characteristic to fitting with new insertions such as display, service system and accessibility	■ Addition of loading support for public building	■ Adaptation of interior space to support conventional museum such as luggage, office and waiting area. ■ Change of spatial organization	1,2,3,4,5
<i>Ladawan Palace</i>	Repair and fixing	■ Addition of electrical system, security system, fire protection, sanitary system, air-conditioning and improving accessibility	■ Alteration of physical characteristic to fitting with new insertions such as display, service system and accessibility ■ New entrance in relation to parking ■ change of door access	■ Addition of loading support for public building ■ Lift installation	■ Adaptation of interior space to support conventional museum such as office, conference room and library etc. ■ Addition of whole range kitchen and royal restroom ■ Change of spatial organization	1,2,3,4,5
<i>Silpakorn University Art Center Tha Phra Palace Campus</i>	Repair and fixing	■ Addition of security system, electrical system and air-conditioning	■ Alteration of physical characteristic to fitting with new insertions such as display technique and service system	-	■ Adaptation of interior space to support conventional art gallery facilities such as office, storage, souvenir shop etc.	1,2,3,5

Table 2: Level of Change and Display

Case Studies	Function for cultural use				
	Purposes of Cultural Use (Exhibition Theme)	Display	Additional Tools	Changes	Level of Change
Varadis Palace	Imitation of the previous existence * historic building led presentation	<ul style="list-style-type: none"> <li>■ Control of security</li> <li>■ Assistance to enhance interpretation</li> <li>■ Imitation of the past</li> <li>■ Limitation of accessibility</li> </ul>	<ul style="list-style-type: none"> <li>■ Lighting</li> <li>■ Fire protection</li> <li>■ Sanitary system</li> <li>■ Other utilities</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical Appearance</li> <li>■ Spatial Connection</li> </ul>	1,2,4
Bank of Thailand Museum (also known as Bang Khunphrom Palace)	Capital of Thailand * display controlled design	<ul style="list-style-type: none"> <li>■ Control of lighting, comfort and security</li> <li>■ Assistance to enhance interpretation</li> <li>■ High level of presentation</li> <li>■ Limitation of accessibility</li> </ul>	<ul style="list-style-type: none"> <li>■ Control cupboard</li> <li>■ Sound effect</li> <li>■ Video</li> <li>■ Mock up</li> <li>■ Imitational Scenery</li> <li>■ Lighting</li> <li>■ Air-conditioning</li> <li>■ Fire protection</li> <li>■ Sanitary system</li> <li>■ Other utilities</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical Appearance</li> <li>■ Spatial Connection</li> <li>■ Ventilation System</li> <li>■ Loading</li> </ul>	1,2,3, 4,5
Ladawan Palace	Imitation of the previous existence and office use * historic building led presentation	<ul style="list-style-type: none"> <li>■ Control of lighting, comfort and security</li> <li>■ Assistance to enhance interpretation</li> <li>■ High level of presentation</li> <li>■ Limitation of accessibility</li> </ul>	<ul style="list-style-type: none"> <li>■ Control cupboard</li> <li>■ Sound effect</li> <li>■ Video</li> <li>■ Mock up</li> <li>■ Imitational Scenery</li> <li>■ Lighting</li> <li>■ Air-conditioning</li> <li>■ Fire</li> </ul>	<ul style="list-style-type: none"> <li>■ Physical Appearance</li> <li>■ Spatial Connection</li> <li>■ Ventilation System</li> <li>■ Loading</li> </ul>	1,2,3, 4,5

			protection ■ Sanitary system ■ Other utilities		
Silpakorn University Art Center Tha Phra Palace Campus	Art Gallery * Vary to Curator	■ Control of lighting, comfort and security ■ Limitation of accessibility	■ Lighting ■ Air-conditioning ■ Fire protection ■ Sanitary system ■ Other utilities	■Physical Appearance ■Spatial Connection ■Ventilation System ■Loading	1,2,3, 5

According to the examination, it is concluded that value from public after adaptive reuse is up to the method of conservation as well as exhibition interpretation. As shown in table 1 and table 2 that interpretation on values is relevant to *the presentation of historic building, the aspiration of the comfort needs, and the theme of exhibition such alteration of building spatiality during the design procedure*. Besides, the separated process between consolidation of fundamental deterioration and management of prospect use afterwards has brought about disconnection between the existing building and new insertion. Also the lack of initial information on historic fabric, then it is hard for the designer to propose the appropriate design.

## Conclusion

In summary, the decision on the right conservation method is important for the final appearance of the historic fabric. This means that adaptive reuse is not only preservation of the extraordinary existence, but also management of changes to the legacy. The importance aspect for the designer is therefore proposing fine balance between the old and the new assertion, and the method of interpretation to the public. To do so, values such physicality and relevant processes should be understood as a dynamic manner, in fact, *the evolution of the building and the future possible development* since at the beginning of the project. Latham (2000: 200) suggested that it was important to know such future activity and the way of experience in the space since during the design process. With regard to interpretation, the building should be given the means to be curiously appreciated and understood (Latham, 2000: 196).

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